Coastal Wetlands Planning Protection & Restoration Act

32nd Priority Project List

Region 1

Regional Planning Team Meeting

Lead:
Kent Bollfrass, CPRA

February 10, 2022

Announcements

- PPL 32 RPT meetings to accept project nominees:
  - Region IV, Feb. 8, 2022, 9:30 am
  - Region III, Feb. 9, 2022, 9:30 am
  - Region II, Feb. 10, 2022, 9:30 am
  - Region I, immediately following Region II

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**

RPT Meetings

- Project proposals should be consistent with the 2017 State Master Plan.
- A project can only be nominated in one basin except for coastwide projects
- Proposals that cross multiple basins shall be nominated in one basin only, based on the majority area of project influence.
- If similar projects are proposed within the same area:
  - RPT Lead will call for a break
  - RPT representatives will then participate in a “breakout session” via WebEx to determine the path forward

RPT Meetings

- All proposals submitted in advance will go in the order indicated on the agenda.
- A request for all other proposals will occur after advance submissions.
- Limit project proposals to 5 minutes.
- Public comments on project proposals will be accepted verbally during the RPT meetings and in writing by February 17, 2022.
- Limit comments/questions during meeting to PPL 32 subject proposals and processes.

Coastwide Projects

- Proposes a proven technique applicable across the coast (e.g. vegetative planting)
- Nominated at any RPT meeting
- Engineering/Environmental Workgroups will validate that coastwide projects fit CWPPRA Standard Operating Procedures criteria
- All coastal parishes & agencies will vote on selection of one coastwide nominee

Demonstration Projects

- Demonstrates a coastal wetlands restoration technique or material that can be transferred to other areas of the coastal zone
- Engineering/Environmental Workgroups will validate that demos fit CWPPRA Standard Operating Procedures criteria
- All coastal parishes & agencies will vote on selection of up to 6 demos.
- Previous demo candidates must be ***re-nominated*** for PPL 32.

Coastwide Electronic Vote (Feb. 24th) 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

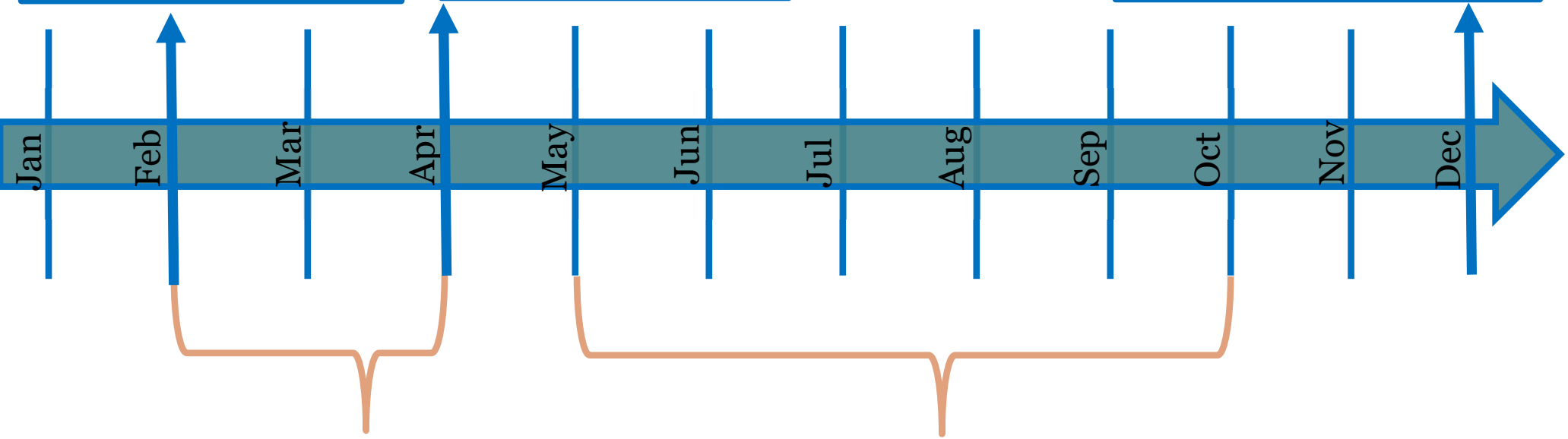
& up to 6 demos

PPL 32 Timeline

Coastwide Electronic Vote (24 Feb)
- 21 Basin
- 1 coastwide
- Up to 6 demos

April Technical Committee Mtg
- 10 candidates
- Up to 3 demos

December Technical Committee Mtg
- Recommend up to 4 projects for Phase 1 funding



March – April 2022
- Agencies assigned to projects
- Fact sheets developed
- Workgroup review
- Workgroups may recommend that no demos move forward

May – October 2022
- Site visits
- Workgroup evaluations

Written Comments

- Send written comments on projects & demos proposed today to the CWPPRA program manager
- **Deadline: February 17, 2022**

Sarah Bradley
U.S. Army Corps of Engineers
CEMVN-PM-R, RM 331
7400 Leake Avenue
New Orleans, LA 70118

Email: Sarah.C.Bradley@usace.army.mil

(this information has been provided via CWPPRA Newsflash and posted on the USACE CWPPRA webpage)

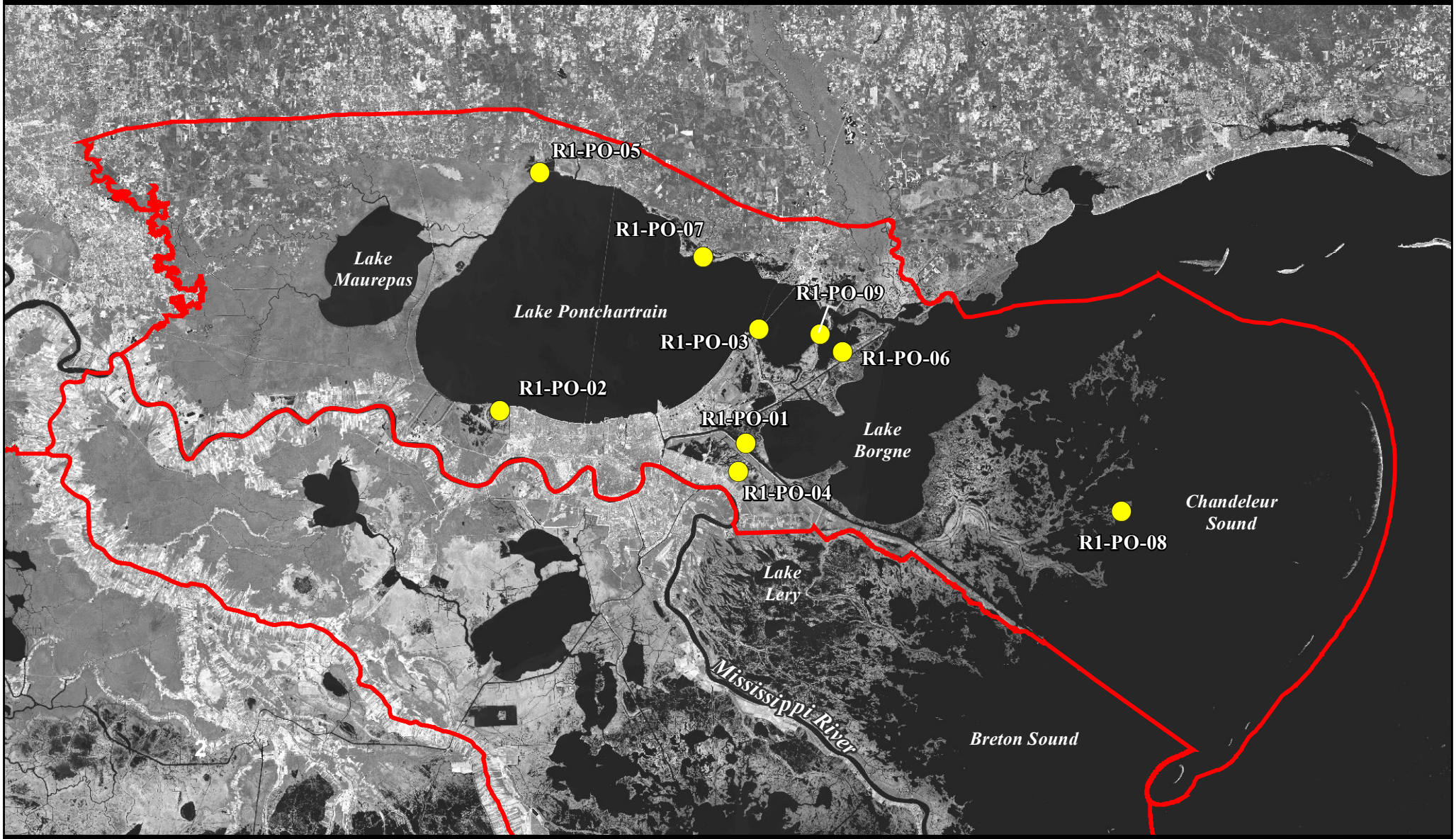
For more info, please visit lacoast.gov or contact Alice Kerl at Alice.P.Kerl@usace.army.mil

Region 1

Pontchartrain

Agency	Region	Basin	Project ID	Project Name
NRCS	1	PO	R1, PO-01	Bayou Ducros Marsh Creation
NRCS	1	PO	R1, PO-02	Duncan Canal Marsh Creation & Critical Shoreline Protection
FWS	1	PO	R1, PO-03	Bayou Sauvage Marsh Creation
EPA	1	PO	R1, PO-04	Central Wetlands Hydrological Restoration and Marsh Creation
EPA	1	PO	R1, PO-05	Guste Island Marsh Creation & Living Shoreline
NMFS	1	PO	R1, PO-06	Miller Bayou Marsh Creation
NMFS	1	PO	R1, PO-07	Bayou Lacombe Living Shorelines & Terraces
NMFS	1	PO	R1, PO-08	Biloxi Archipelago Living Shorelines
NMFS	1	PO	R1, PO-09	New Orleans East Living Shorelines

Region 1 PPL32 Nominated Projects



Louisiana

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Pontchartrain Basin Project

R1-PO-01	Bayou Ducros Marsh Creation
R1-PO-02	Duncan Canal Marsh Creation and Critical Shoreline Protection
R1-PO-03	Bayou Sauvage Marsh Creation
R1-PO-04	Central Wetlands Hydrologic Restoration and Marsh Creation
R1-PO-05	Guste Island Marsh Creation
R1-PO-06	Miller Bayou Marsh Creation
R1-PO-07	Bayou Lacombe Living Shorelines and Terraces
R1-PO-08	Biloxi Archipelago Living Shorelines
R1-PO-09	New Orleans East Living Shorelines

Coastwide Project

None

Demonstration Project

DEMO-01 Reefbud: Pursuit of Happiness Farms

Region 1 PPL 32
Regional Planning Team Meeting
Virtual Meeting
February 10, 2022
Background Image:
2014 Landsat OLI 8 Mosaic

CWPPRA RPT Region 1

Pontchartrain

PPL 32 PROJECT FACT SHEET
February 10, 2022

Project Name
Bayou Ducros Marsh Creation

Master Plan Strategy
Master Plan 2017: Marsh creation .06a concepts

Project Location
Region 1, Pontchartrain Basin, St. Bernard Parish, Golden Triangle near Bayou Ducros and adjacent to the Mississippi River Gulf Outlet (MRGO).

Problem
Marsh loss near Bayou Ducros is due to manipulation of the tidal prism from multiple canals and lack of sediment input from the Mississippi River. The Mississippi River Gulf Outlet (MRGO) was completed in 1968. Construction of this ship channel combined with oil exploration and conveyance canals have increased the tidal prism of local waterways. The increase in the tidal prism led to salinity spikes as high as 35 ppt that destroyed the freshwater and brackish marsh environments along Bayou Ducros. The MRGO was officially closed in 2008 and salinities have stabilized to around 3-4 ppt, but the area still suffers from lack of sediment input from the Mississippi River. The land area change rate determined by Couvillion et al (2017) between 1932-2016 is -0.53%/year. The subsidence in the area is estimated to be 4.4 mm/yr in a moderate scenario.

Goals
Restore 403 acres of estuarine marsh south of Bayou Ducrose within the Golden Triangle marsh. Approximately 281 acres (70%) will be created, and 122 acres (30%) will be nourished.

Proposed Solution
Approximately 281 acres of marsh will be created and approximately 122 acres of marsh will be nourished (403 acres total) using sediment dredged from Lake Borgne. Portions of the MRGO shoreline along the project area has riprap bank protection but earthen containment is proposed for the entire area. Upon completion earthen containment will be degraded as necessary to re-establish hydrologic connectivity with adjacent wetlands.

Preliminary Project Benefits
This project will restore approximately 403 acres of brackish marsh that serves as a natural buffer within the Golden Triangle area, an area identified by several restoration plans as a priority for restoration. These marshes offer important wildlife, fish, and shellfish habitat and recreational opportunities. The proposed project will have significant synergistic effects with the Golden Triangle Marsh Creation, NRDA Lake Borgne Phase 3 and institutes components of the MRGO Ecosystem Restoration Plan. The Bayou Ducros Marsh Creation project also serves as a structural line of defense for communities in St. Bernard and the greater New Orleans area from highly destructive storm surge events.

Preliminary Construction Costs: The estimated construction cost with 25% contingency is approximately $20-$25 million.

Preparer of Fact Sheet:
Blaise Pezold, Meraux Foundation, 504-264-8125, Blaise@merauxfoundation.org

USDA

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

Data Source: ESRI FEBRUARY 2020

Map Date: JANUARY 21, 2021

PPL 31
BAYOU DUCROSE
MARSH CREATION
ST BERNARD PARISH, LA

N
W E
S

0 2,000 4,000 Feet

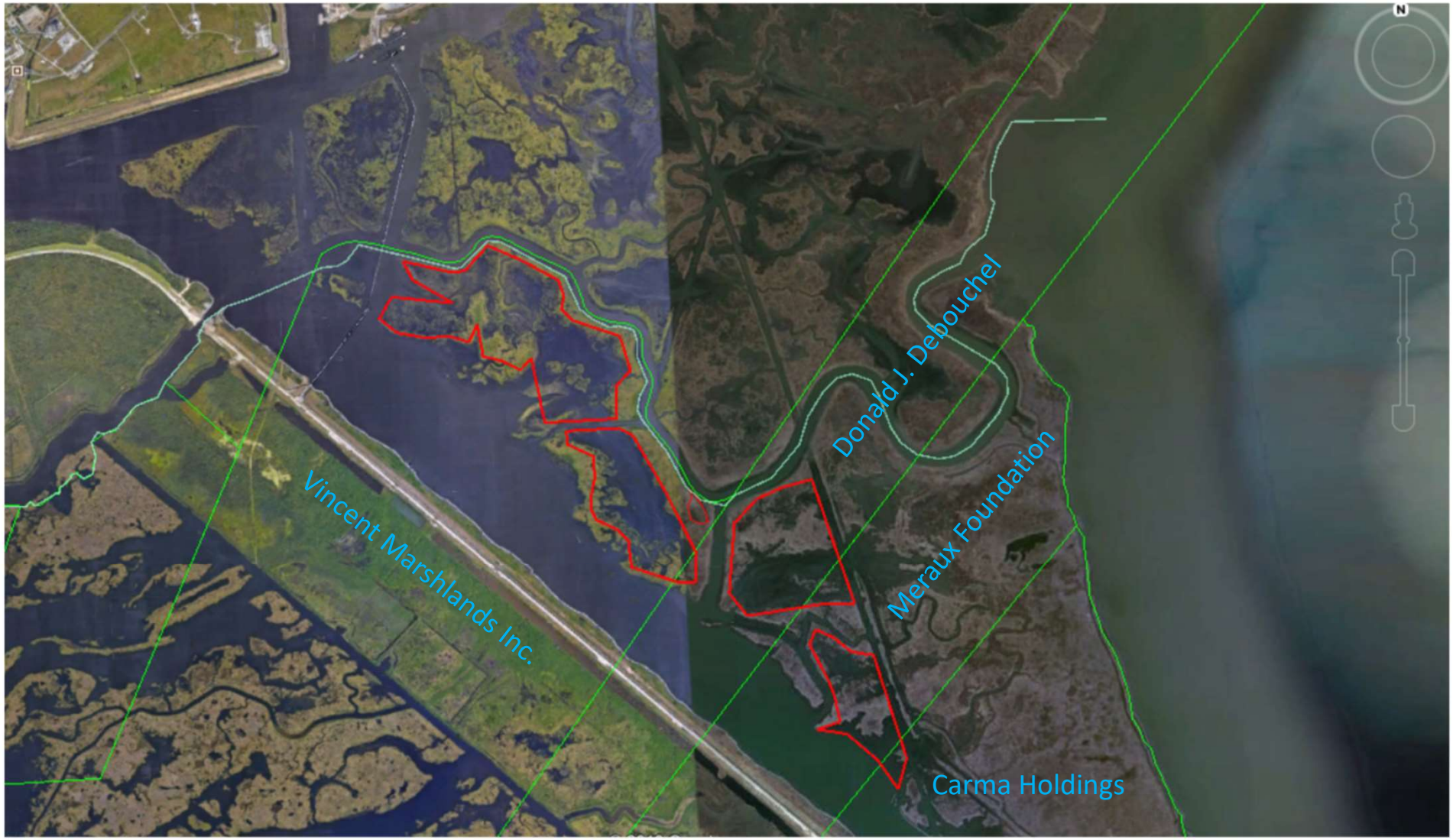
Legend

- MARSH_CREATION
- BORROW_AREA

Bayou Ducros Marsh Creation and Nourishment

USDA NRCS/Meraux Foundation

Blaise Pezold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Donald J. Debouchel
Meraux Foundation
Carma Holdings
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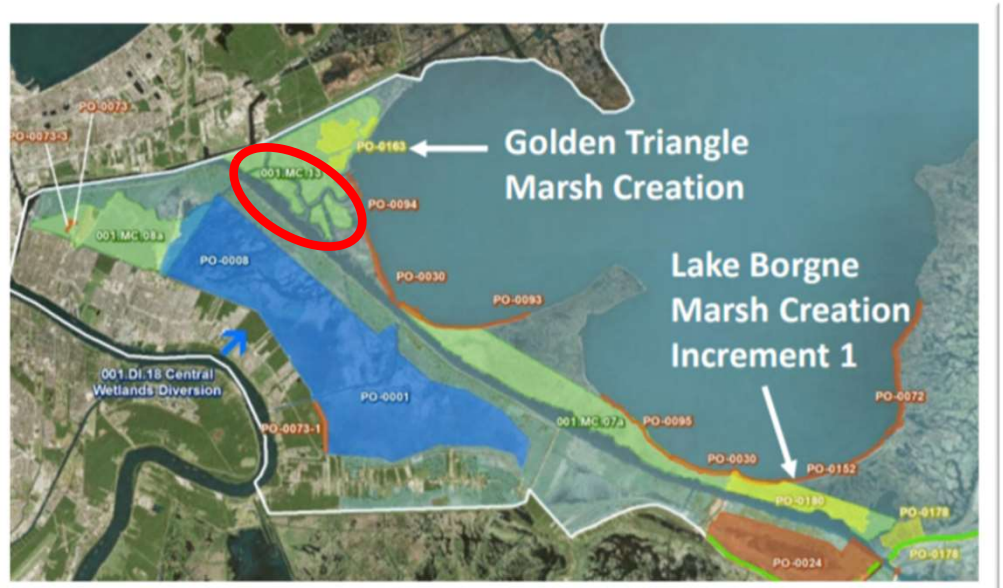
Golden Triangle
Marsh Creation
Lake Borgne
Marsh Creation
Increment 1
001.DI.18 Central
Wetlands Diversion
PO-0163
PO-0094
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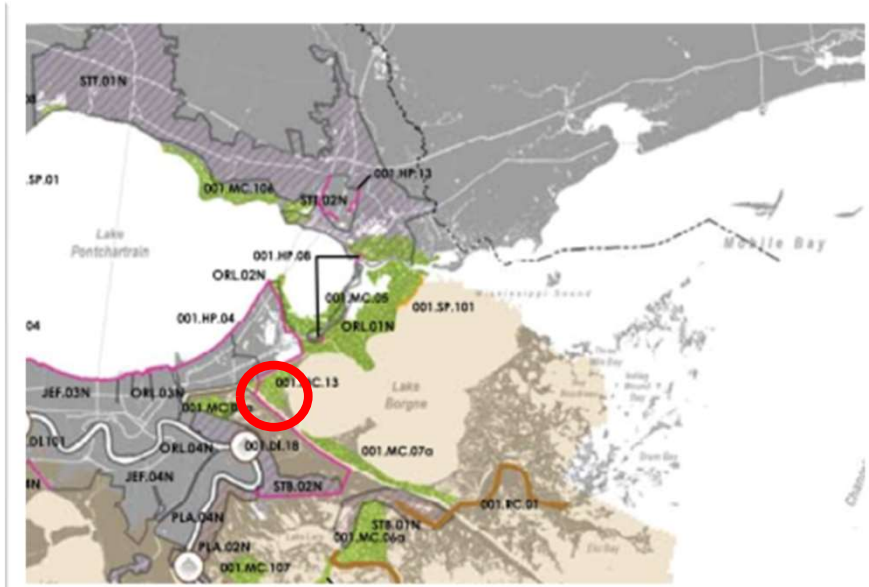
SYNERGY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LS1
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Shoreline Protection
Oyster Reef Restoration
MRGO Protection
Marsh Creation
Marsh Nourishment
Marsh Restoration
Ridge Restoration
Swamp Nourishment
Swamp Restoration


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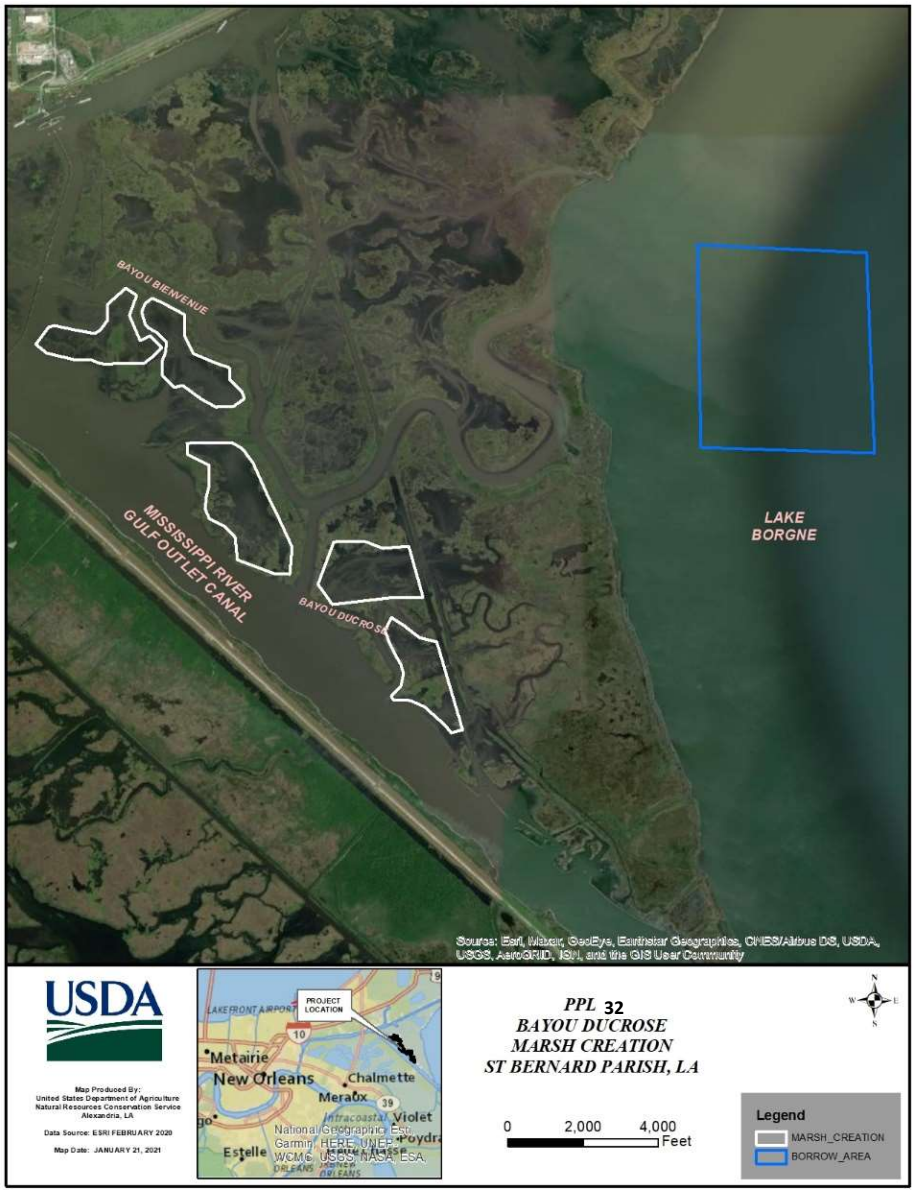


Bayou Ducros MC

Marsh Creation

- 281 acres total

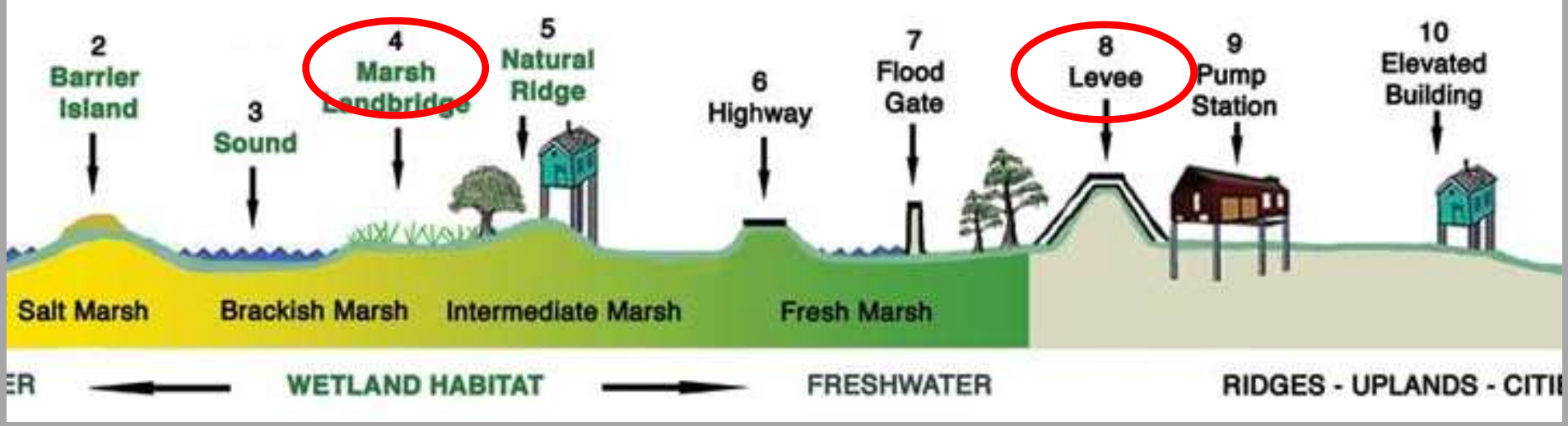
Marsh Nourishment

- 122 acres total

Total Cost + contingency =

$20-25 million

Any questions?



PPL32 PROJECT FACT SHEET
February 10, 2022

Project Name
Duncan Canal Marsh Creation and Critical Shoreline Protection

Project Location
Region 1, Pontchartrain Basin, St. Charles Parish, south shoreline of Lake Pontchartrain northeast of the Labranche wetlands.

2017 Master Plan Strategy
001.SP.104: Labranche Wetlands Shoreline Protection

Problem
The Labranche Wetlands serve as not only a crucial coastal marsh wetland in St. Charles Parish, but also as a protective barrier from Lake Pontchartrain to crucial infrastructure in the parish including 1-10, LA HWY 61, and multiple levee systems. The majority of the Labranche Wetlands has shoreline protection along the lake; however, the eastern portion near the St. Charles line remains unprotected. This shoreline has retreated about 200 to 1,400 feet from 1998 to 2021, which equates to about 190 acres of marsh lost. The shoreline as well as the interior marsh was also impacted by Hurricane Ida in 2021, resulting in increased loss.

Goal
The goal of this project is to establish a protective barrier between the current shoreline and Lake Pontchartrain by installing a shoreline protection feature. The interior marsh will also be restored directly through marsh creation.

Proposed Solutions
The project will install approximately 12,164 linear feet of shoreline protection along the shoreline of Lake Pontchartrain. The project will also create/nourish 393 acres of marsh using hydraulically dredged material from Lake Pontchartrain.

Preliminary Project Benefits
The project will result in about 140 acres of marsh protected via shoreline protection and an additional 393 acres of marsh created/nourished using hydraulically dredged material from Lake Pontchartrain, yielding a total of 533 acres of preliminary benefits.

Considerations
This project could have potential sturgeon and oil/gas pipeline considerations.

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

Preparer(s) of Fact Sheet:
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Ron Boustany, NRCS, (337) 291-3067, ron.boustany@usda.gov
Alton James, NRCS, (985) 331-9084, alton.james@usda.gov

USDA

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

Data Source: ESRI - DECEMBER 2020 IMAGERY

Map Date: JANUARY 31, 2022

PPL 32
DUNCAN CANAL MARSH CREATION AND CRITICAL SHORELINE PROTECTION
ST CHARLES PARISH, LA

N
W E
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Legend

MARSH_CREATION

CRITICAL_SHORELINE_PROTECTION = 12,163 LF

PPL32
Duncan Canal Marsh Creation and Critical Shoreline Protection

Region 1, Pontchartrain Basin, St. Charles Parish

USDA NRCS

United States Department of Agriculture
Natural Resources Conservation Service

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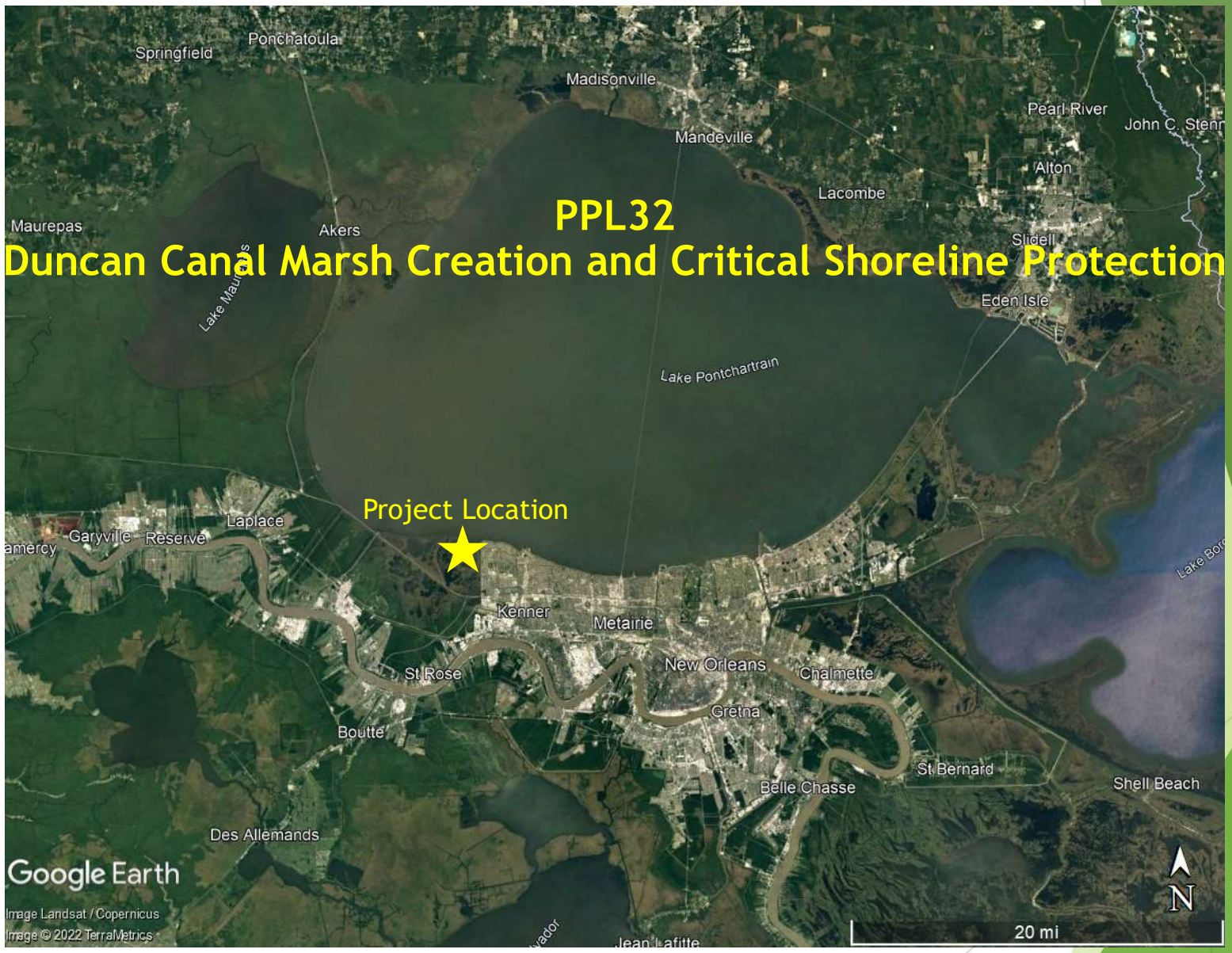
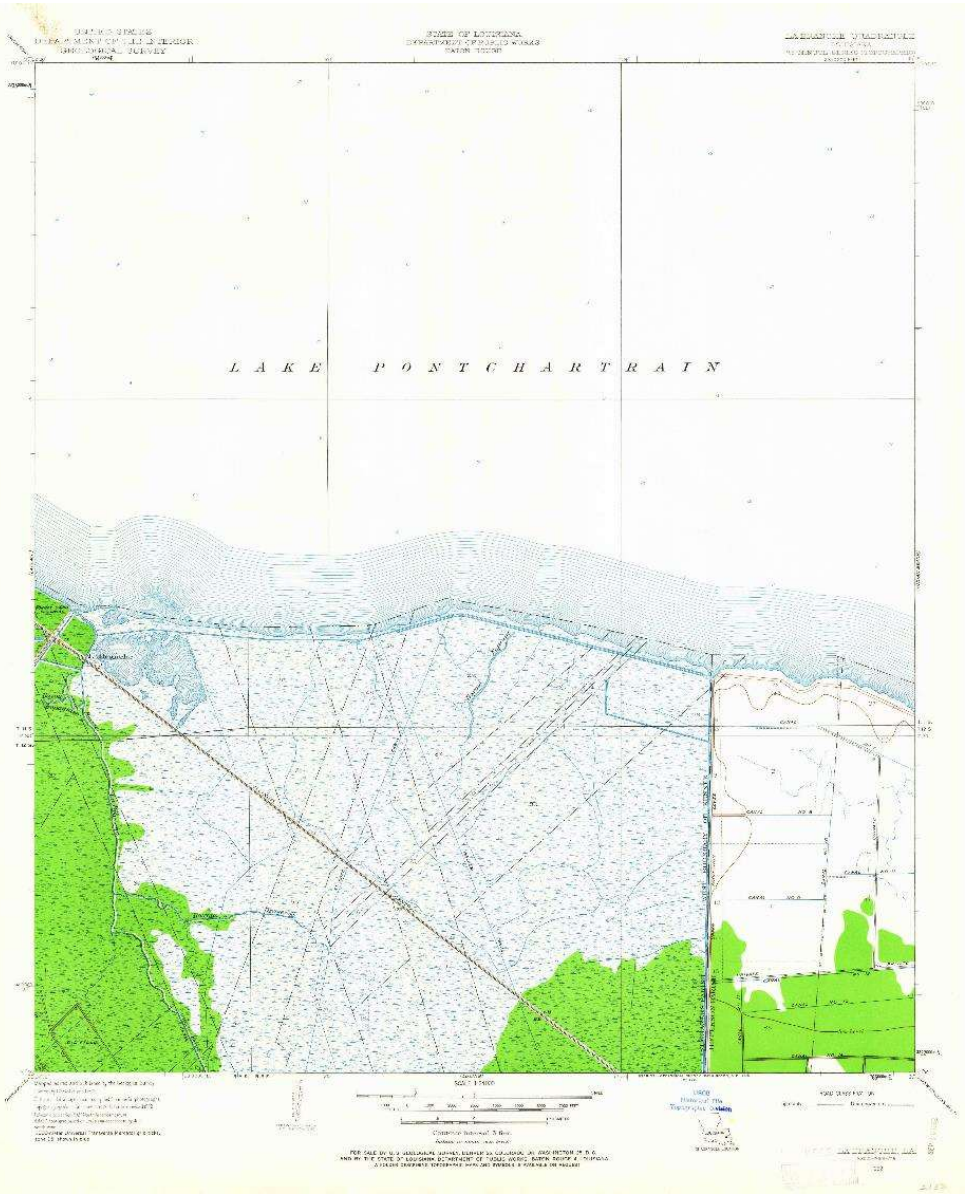
Ron Boustany, ron.boustany@usda.gov, (337) 291-3067
Alton James, alton.james@usda.gov, (985) 331-9084

PPL32
Duncan Canal Marsh Creation and Critical Shoreline Protection




Project as depicted in 2017 State Master Plan:
001.SP.104: Labranche Wetlands Shoreline Protection

Historical map - 1952



Shoreline loss 1998-2021

NRCS

NRCS

PPL 32
Duncan Canal Marsh Creation and Critical Shoreline Protection

Project Objectives

- Protect the last remaining exposed shoreline segment which is experiencing significant erosion
- Restore interior marsh

Project Features and Benefits

- Install **12,164 LF of shoreline protection** to protect 140 acres of marsh
- **Create/nourish** an additional **393 acres** of marsh using hydraulically dredged material from Lake Pontchartrain

Estimated construction cost w/ contingency: **$25M - $30M**

PPL32 PROJECT NOMINEE FACT SHEET
February 10, 2022

Project Name
Bayou Sauvage Marsh Creation

Project Location:
Region 1, Pontchartrain Basin, Orleans Parish

Problem:
Bayou Sauvage 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 has experienced extensive loss of interior emergent wetlands and severe damage to the lake shorelines from Hurricanes Katrina and Ida passing directly over the area in 2005 and 2021 respectively. 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. Based on LA Land Change Trends 1985-2020 analysis conducted by USGS, loss rates near the project area are estimated to be -0.16% per year.

Goals:
The primary goals of this project are to create interior low salinity marsh with placement of material hydraulically dredged from Lake Pontchartrain and restore and protect a portion of the Lake Pontchartrain shoreline.

Specific Goals: 1) Create approximately 200 acres of marsh and nourish an additional 10 acres of marsh with material dredged from Lake Pontchartrain, 2) restore 2,700 LF of Lake Pontchartrain shoreline, and 3) protect 10,000 LF of Lake Pontchartrain shoreline with articulated concrete mats.

Proposed Features
Hydraulically dredge material from Lake Pontchartrain and pumped via pipeline to create/nourish approximately 210 acres of marsh. The proposed design is to place the dredged material to a height suitable for intertidal marsh after adjusting for dewatering and compaction of dredged sediments. Containment dikes will be constructed to fully contain material. Containment dikes will be gapped/degraded after 3 years. This project would also place articulated concreate mats along 10,000 LF of the Lake Pontchartrain shoreline.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
   This total project area is 245 ac (210 mc + 35 sp).

2) *How many acres of wetlands will be protected/created over the project life?*
   Approximately 232 (197mc + 35 sp) net acres would result after the 20-year project life.

3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74%, and >75%)?*

The anticipated land loss rate reduction throughout the area of direct benefits is 50% to 74% over the project life.

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*
This project would protect a section of the New Orleans East Hurricane Protection Levee, restore a portion of the Irish Bayou bankline as well as a portion of the eastern shoreline of Lake Pontchartrain.

5) *What is the net impact of the project on critical and non-critical infrastructure?*
This project would help protect New Orleans East Hurricane Protection Levee, Highway 11, railroad, Interstate 10, several businesses along Irish Bayou, and several camps and houses.

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 PO-22 (Bayou Chevee), PO-169 (obtained Phase II construction funding), PO-179 (currently in Phase I E& D), and a nearby Corps mitigation site.

Preliminary Cost
The construction cost plus 25% contingency is estimated to be between $15 and $20M.

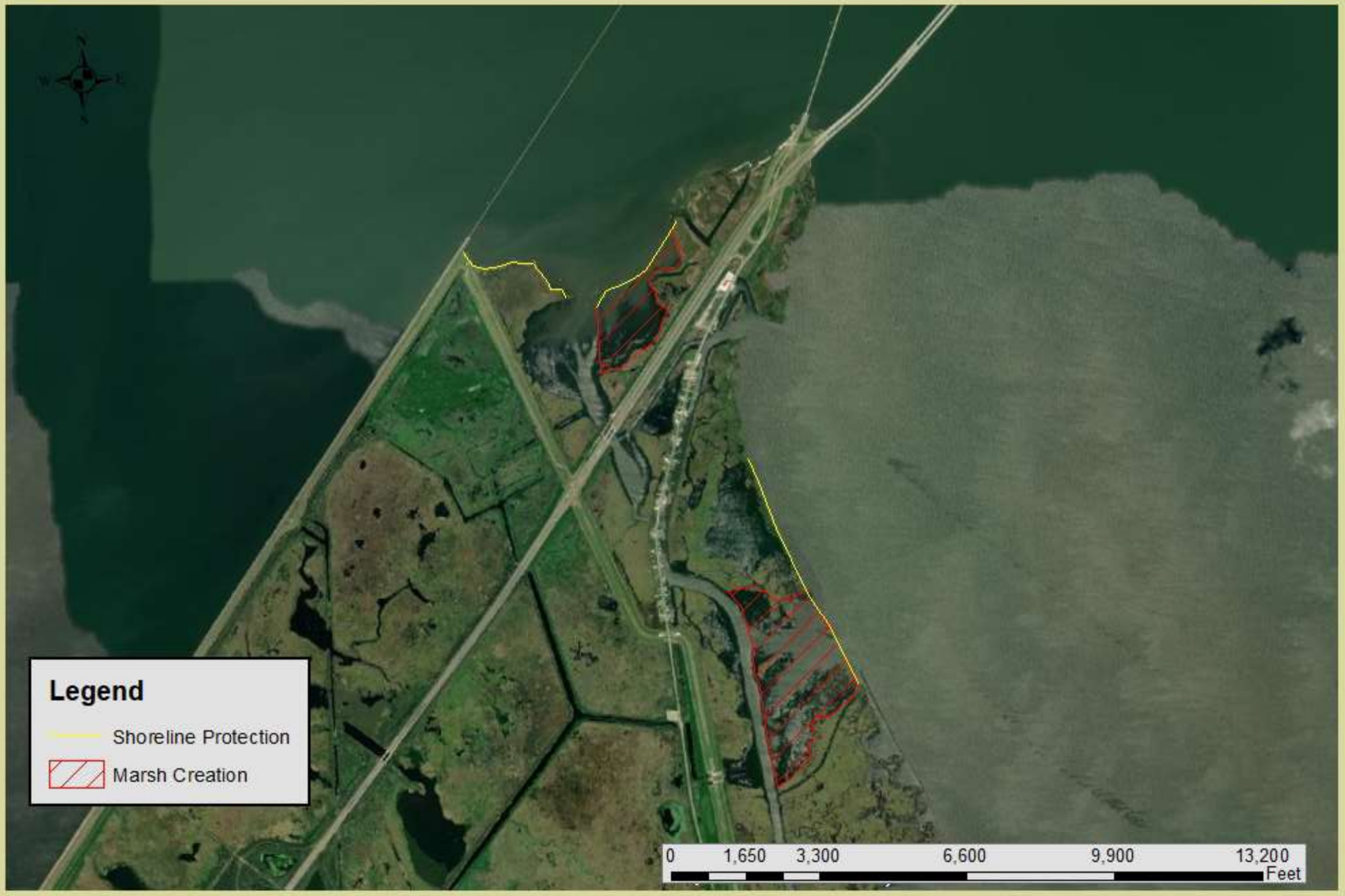
Preparer(s) of Fact Sheet:
Robert Dubois, U.S. Fish and Wildlife Service, 337-291-3127, Robert_Dubois@fws.gov

U.S. Fish & Wildlife Service

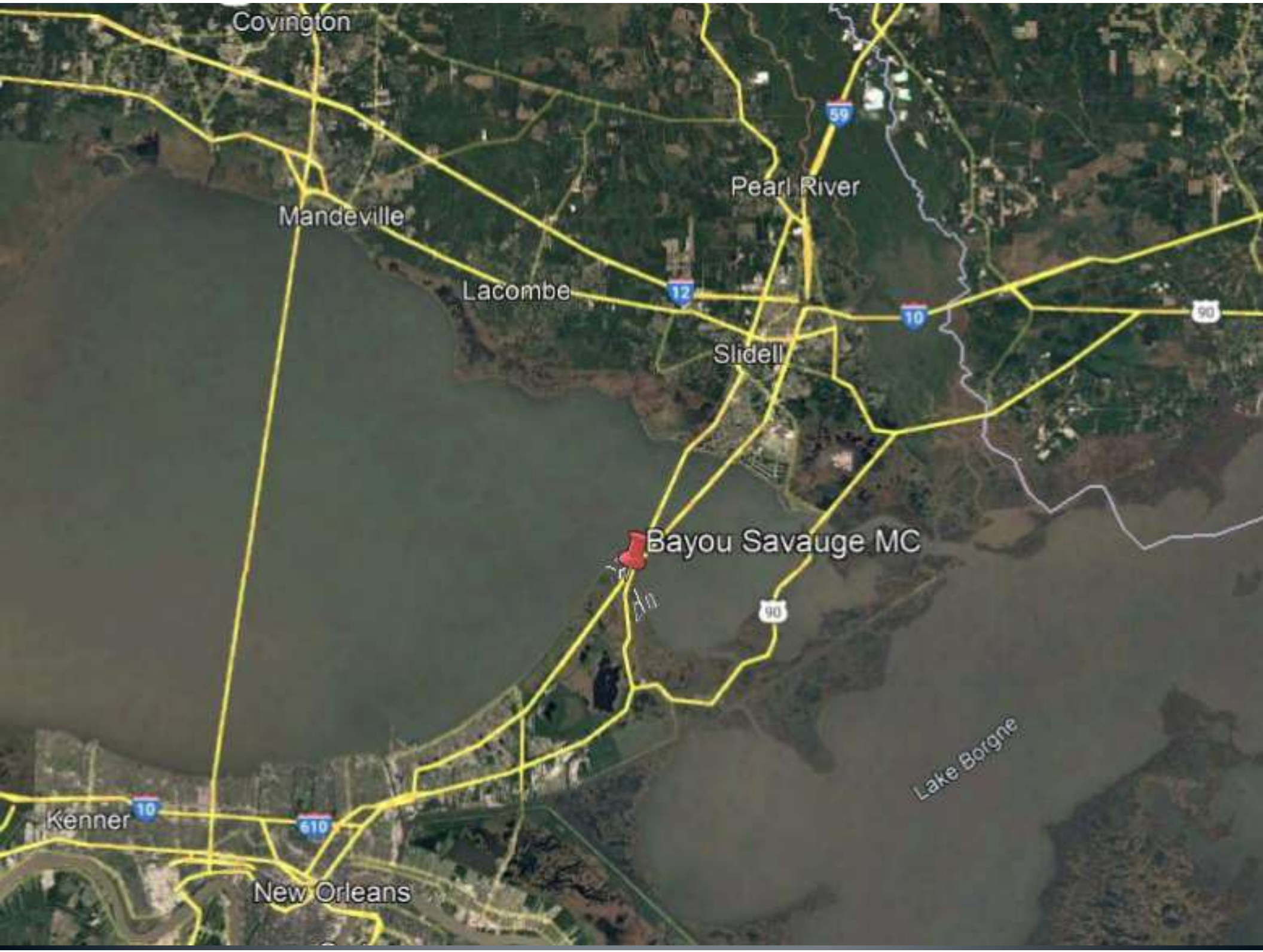
Louisiana Ecological Services Field Office

Bayou Sauvage Marsh Creation and Shoreline Protection

National Wildlife Refuges



BAYOU SAUVAGE MARSH CREATION AND SHORELINE PROTECTION


Covington
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Kenner
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Lake Borgne
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Bayou Sauvage Marsh Creation

Problem:

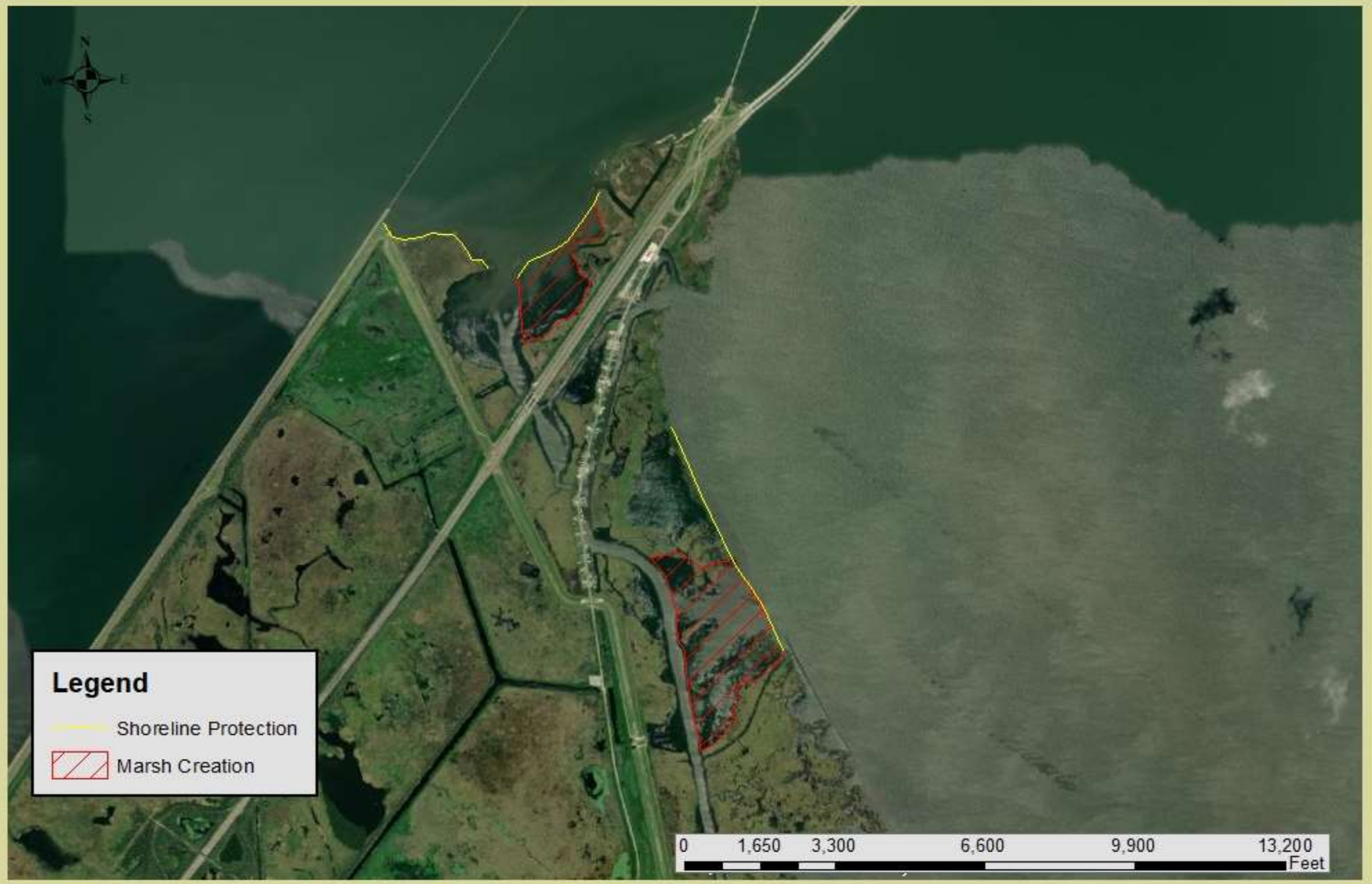
- Mechanical scouring of marsh from Hurricane Katrina and Ida have probably been the cause of most of the recent marsh loss in the project area
- Wind generated waves along the weakened Lake Pontchartrain shoreline contribute to the high shoreline erosion rate.
- The project area has lost most of the marsh between Lake Pontchartrain and Irish Bayou where the shoreline protection stops.
- The New Orleans East Hurricane Protection Levee, businesses and camps along Irish Bayou, a RR, I-10, Hwy 11 and other utilities are all in need of some type of protection.

U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

Bayou Sauvage Marsh Creation and Shoreline Protection

National Wildlife Refuges

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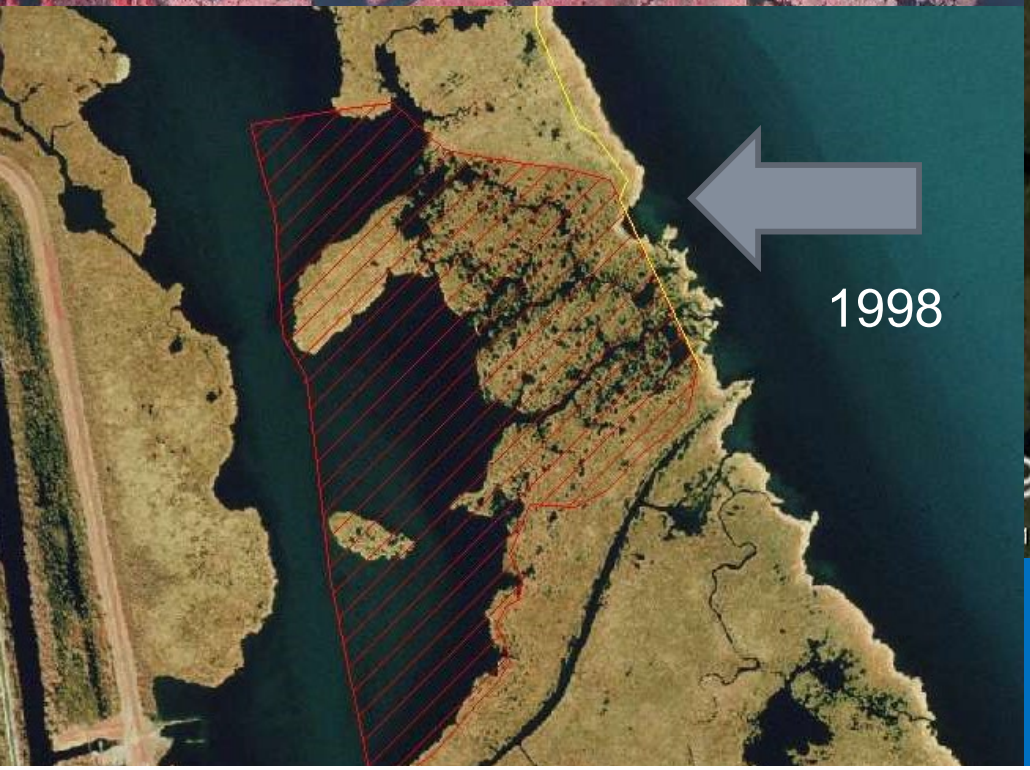
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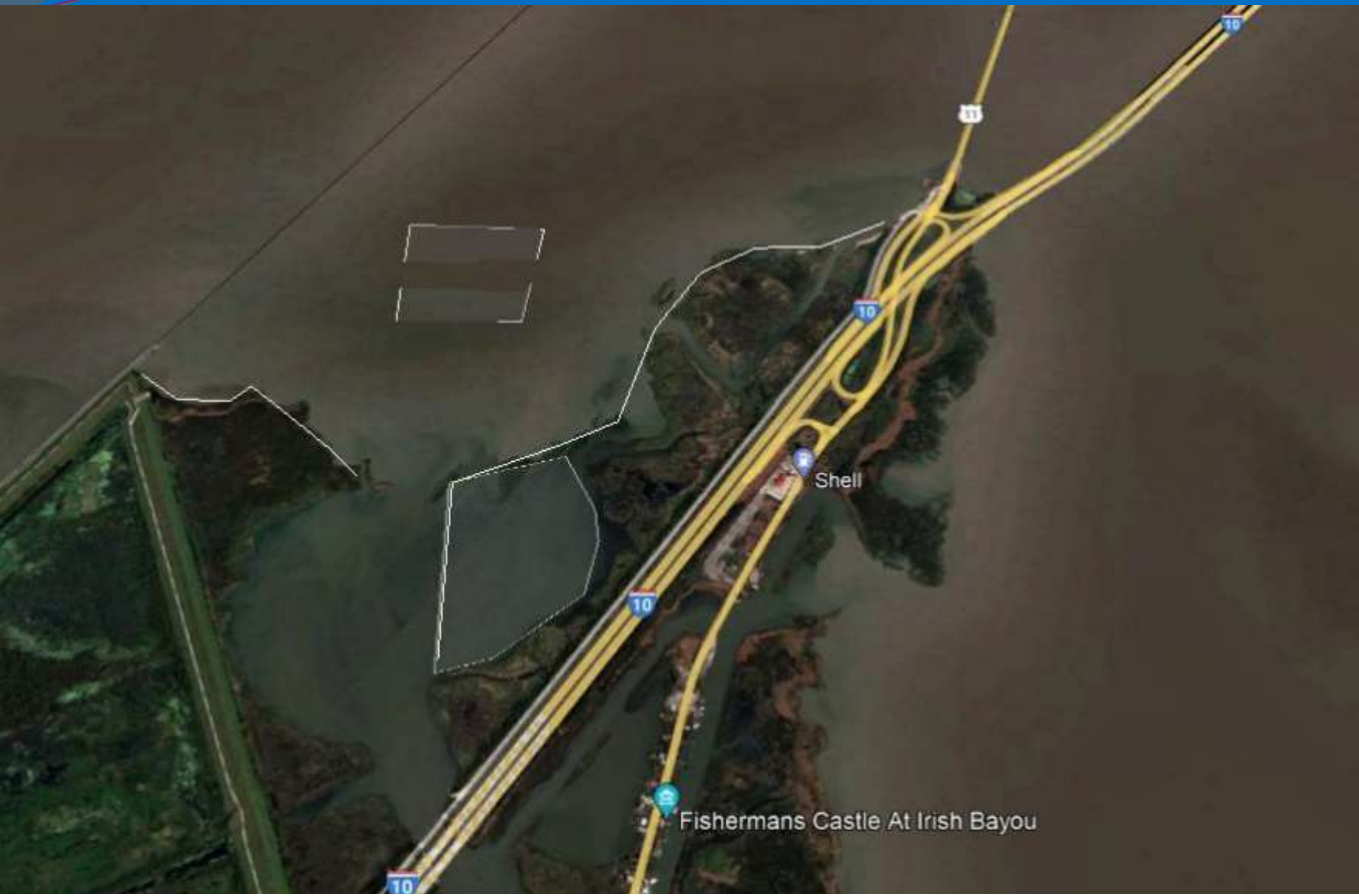
10
11
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Shell
10
Fishermans Castle At Irish Bayou
10

Bayou Sauvage Marsh Creation

Goals:

- Install 10,000 LF of ACM along Lake Pontchartrain shoreline
- Protects 3,000 LF of the New Orleans East Hurricane Protection Levee.
- Hydraulically dredge material from Lake Pontchartrain to create 200 acres of marsh and nourish 10 acres of broken marsh.

Net Acres:

- Total acres benefited 200-250. This includes approximately 40 marsh acres would be protected adjacent to levee and I-10.

Identification of Potential Issues:

- Borrow site is located within Gulf sturgeon critical habitat

Preliminary Construction Costs:

- The estimated construction cost plus 25% contingency $15-$20 M.

Species of Concern and Rare Species

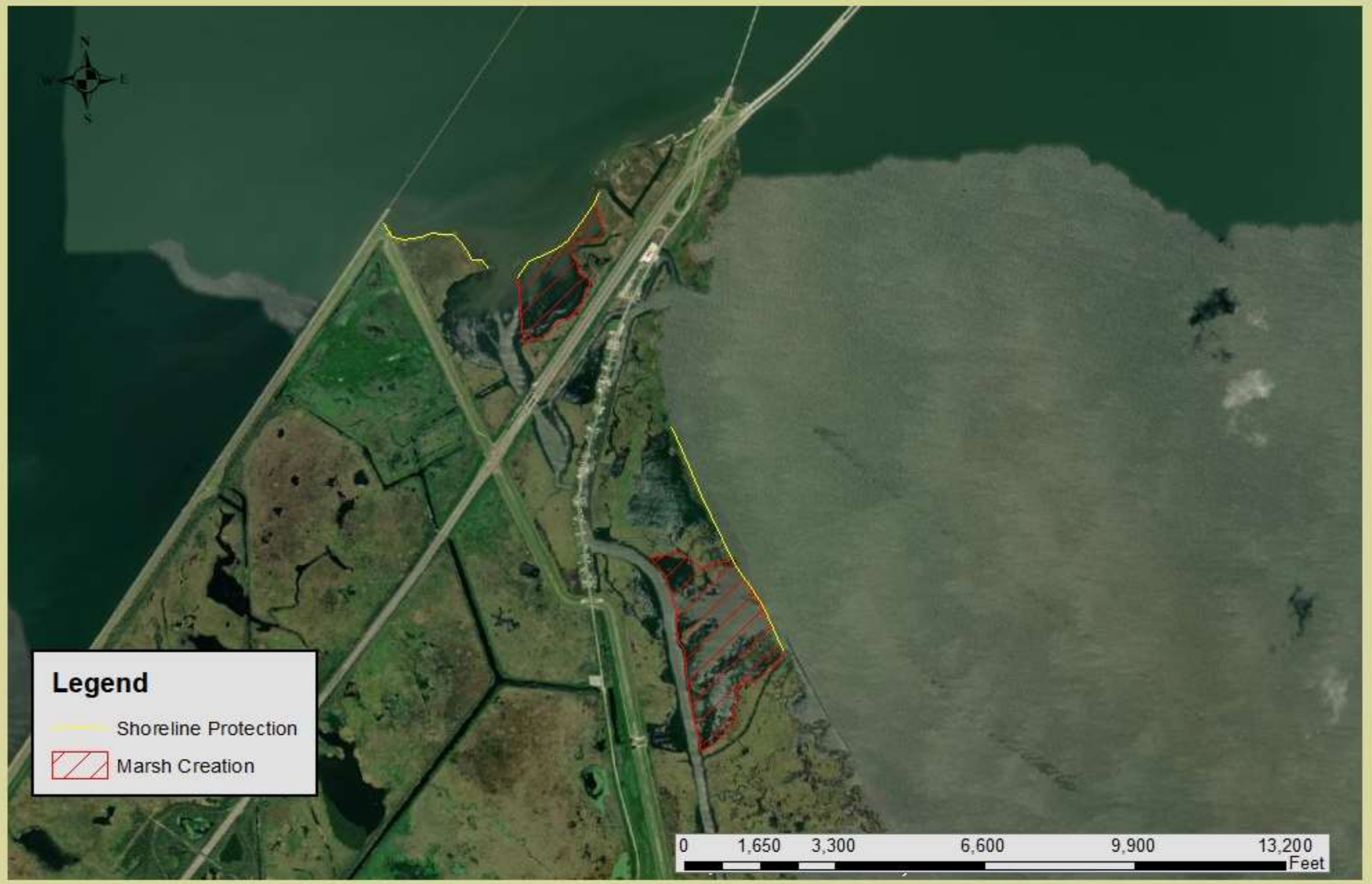
- Least Bittern
- Mottled Duck
- Saltmarsh topminnow
- King Rail

U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

Bayou Sauvage Marsh Creation and Shoreline Protection

National Wildlife Refuges



PPL32 PROJECT FACT SHEET
February 10, 2022

Project Name
Central Wetlands Hydrological Restoration and Marsh Creation

Master Plan Strategy
Programmatic Considerations: Small-Scale Hydrologic Restoration. Hydrologic restoration, as a technique for improving marsh health, seeks to restore natural hydrologic patterns either by conveying fresh water to areas that have been isolated by man-made features, relieving unnatural impoundments, or by preventing the intrusion of salt water. The state recognizes that there are many small-scale hydrologic improvements that could benefit existing wetlands and work synergistically with existing and planned restoration projects.

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

Project Location
Region 1, Pontchartrain Basin, St. Bernard Parish

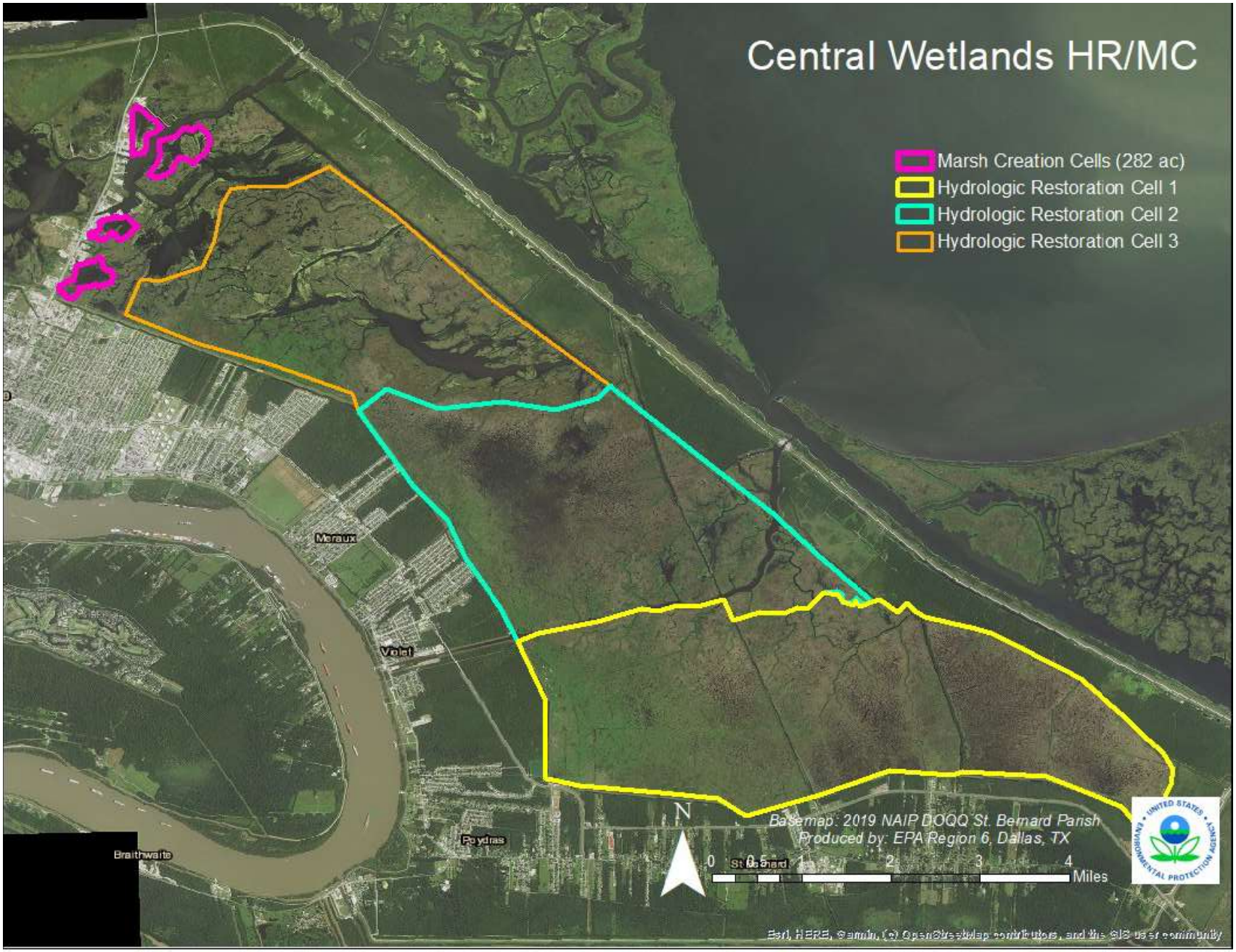
Problem
Over the past decades, the wetlands and wetland function in the area have been lost because of altered hydrology due to impoundment, subsidence, and saltwater intrusion. Spoil banks associated with logging, navigation, and oil and gas canals created impoundments which restricted tidal exchange and increased saltwater intrusion caused by the MRGO. Due to the spoil banks, minimal fresh water and sediment from the Violet Canal reached the nearby wetlands. Historically, Mississippi River water and sediment was not deposited in side canals and tributaries due to the spoil banks and hydrologic efficiency towards the MRGO. Much of the area is impounded and experiencing declining vegetation, soil erosion, and conversion to open water. (LPBF 2015).

Proposed Solution
Dedicated dredging of sediments from the Mississippi River will be used to create 282 acres of marsh and nourish existing marsh remnants. Restoration of the hydrology by making strategic cuts in the spoil banks would benefit the wetlands by restoring tidal exchange and increasing soil strength. Additionally, vegetation would benefit from periods of drying to allow the vegetation time to recover from waterlogged conditions.

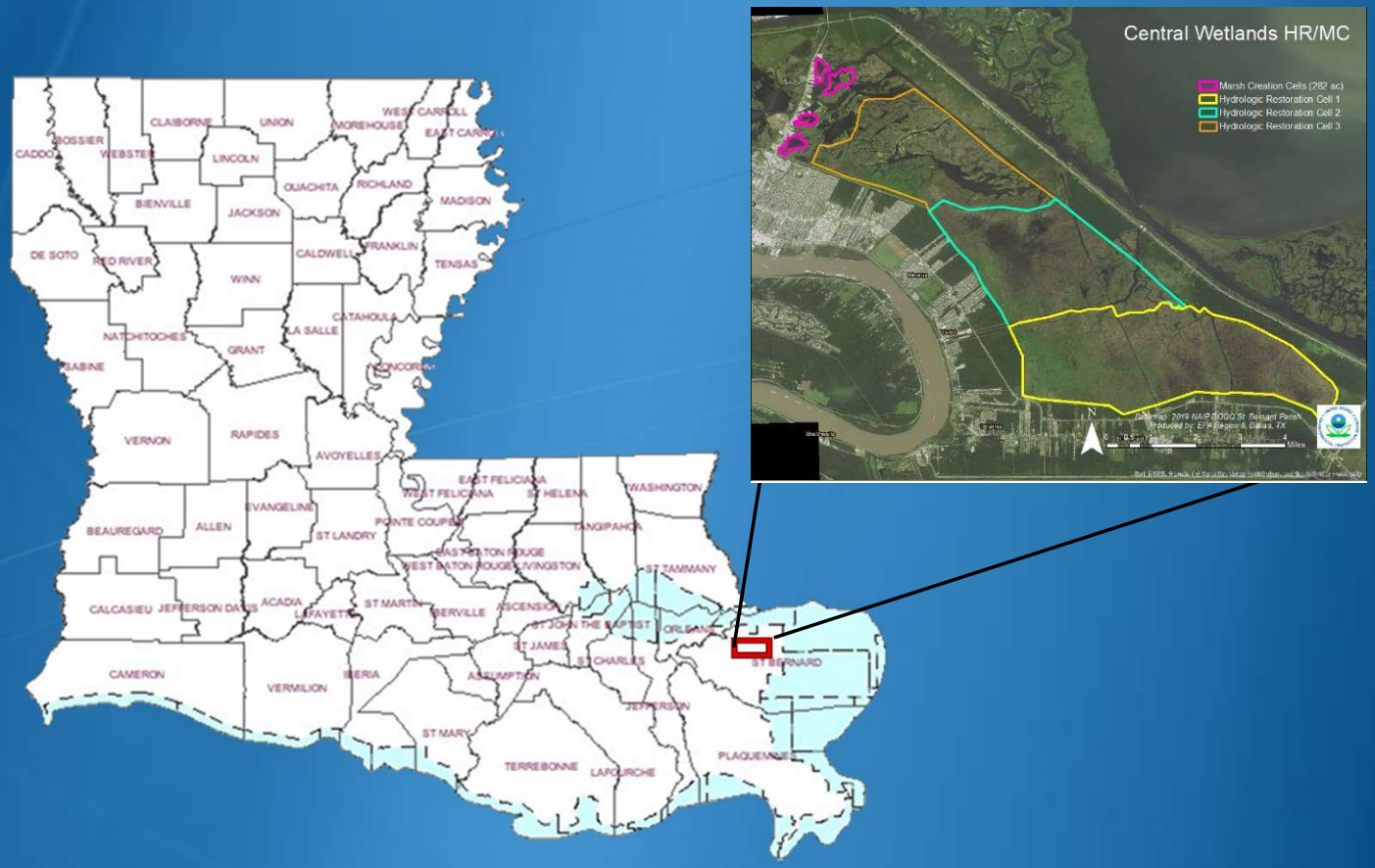
Project Benefits
Hydrologically restore approximately 15,898 acres of marsh by creating gaps in nearby canal spoil banks and create/nourish approximately 282 acres of marsh (254 acres of marsh creation, 28 acres of marsh nourishment)

Project Costs
The estimated construction cost including 25% contingency is $25-$30 million.

Preparer(s) of Fact Sheet:
Sharon L. Osowski, Ph.D.; EPA; (214) 665-7506; osowski.sharon@epa.gov


Central Wetlands HR/MC
Marsh Creation Cells (282 ac)
Hydrologic Restoration Cell 1
Hydrologic Restoration Cell 2
Hydrologic Restoration Cell 3
Meraux
Violet
Poydras
Braithwaite
St. Bernard
N
0
0.5
1
2
3
4
Miles
Basemap: 2019 NAIP DOQQ St. Bernard Parish
Produced by: EPA Region 6, Dallas, TX
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Central Wetlands Hydrological Restoration & Marsh Creation

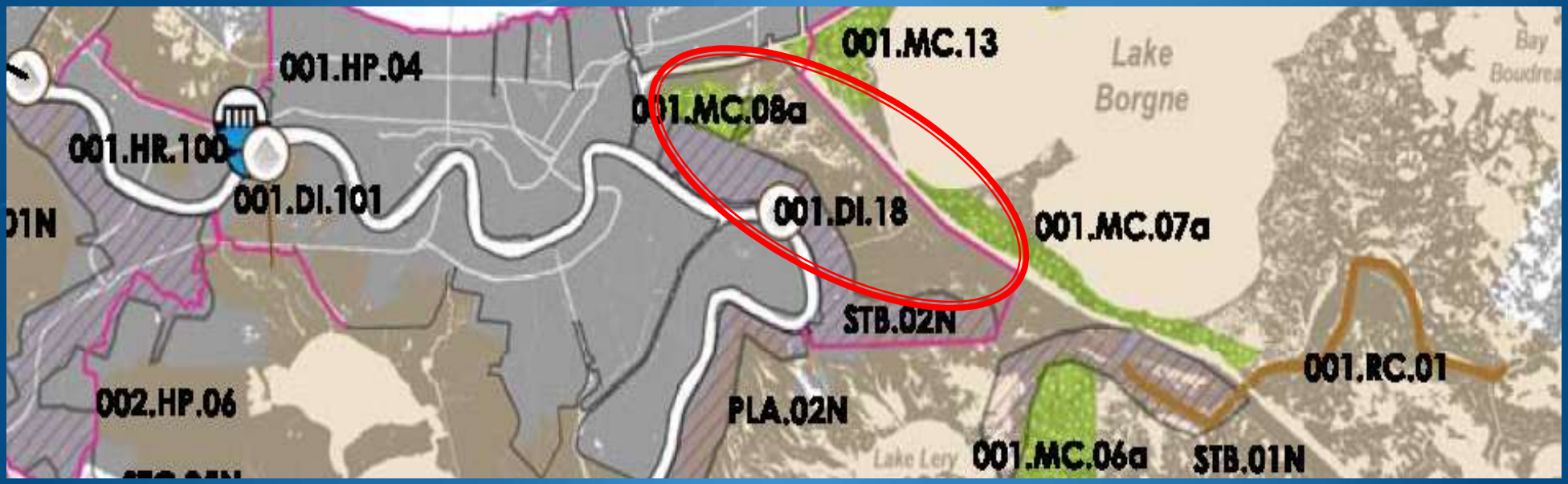


Coastal Wetlands Planning, Protection and Restoration Act

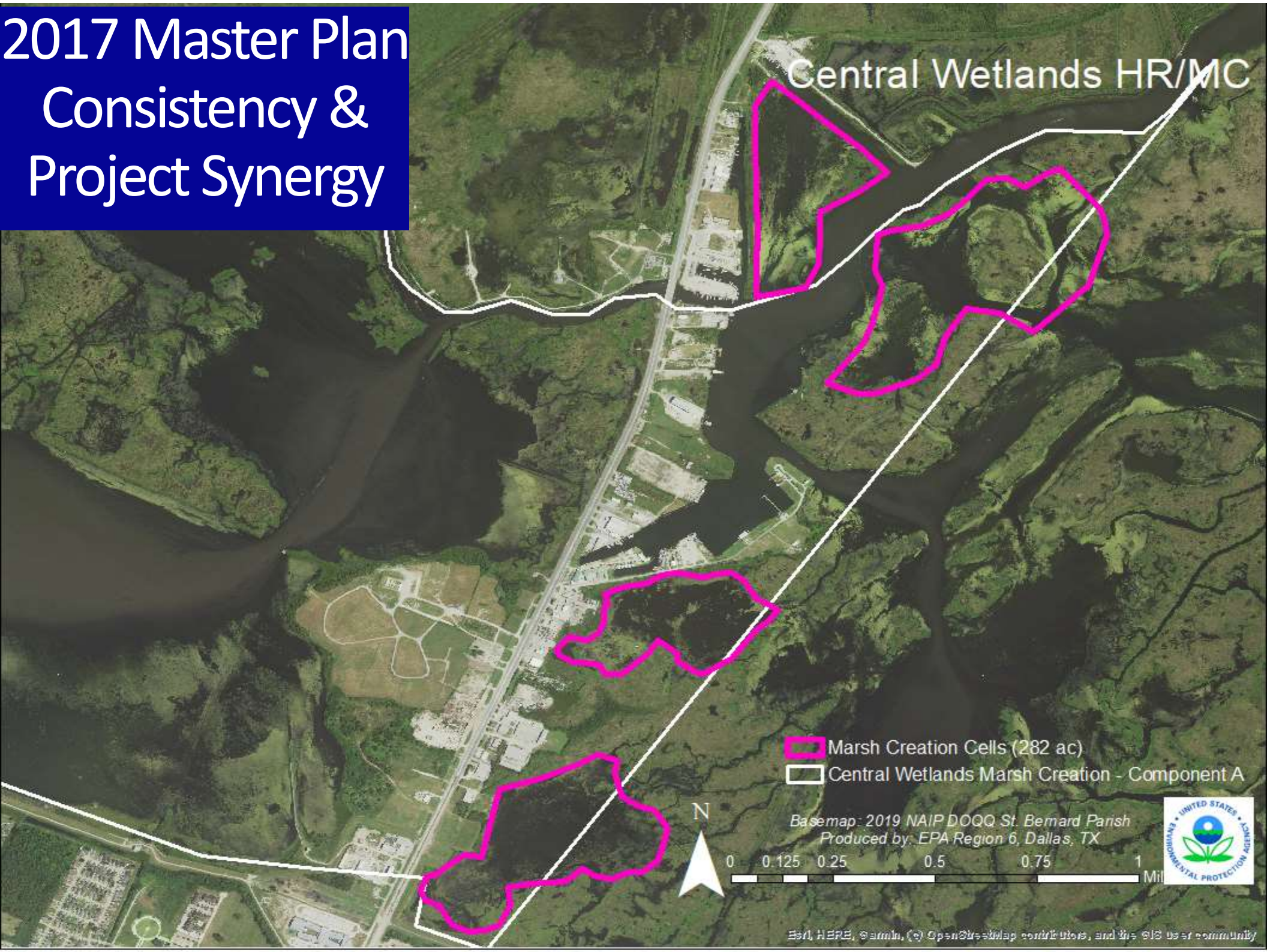
2017 Master Plan Solution

Programmatic Considerations: Small-Scale Hydrologic Restoration. Hydrologic restoration, as a technique for improving marsh health, seeks to restore natural hydrologic patterns either by conveying fresh water to areas that have been isolated by man-made features, relieving unnatural impoundments, or by preventing the intrusion of salt water. The state recognizes that there are many small-scale hydrologic improvements that could benefit existing wetlands and work synergistically with existing and planned restoration projects.

M001.MC.08a Central Wetlands Marsh Creation-Component A: Creation of approximately 3,000 acres of marsh in Central Wetlands near Bayou Bienvenue to create new wetland habitat and restore degraded marsh.

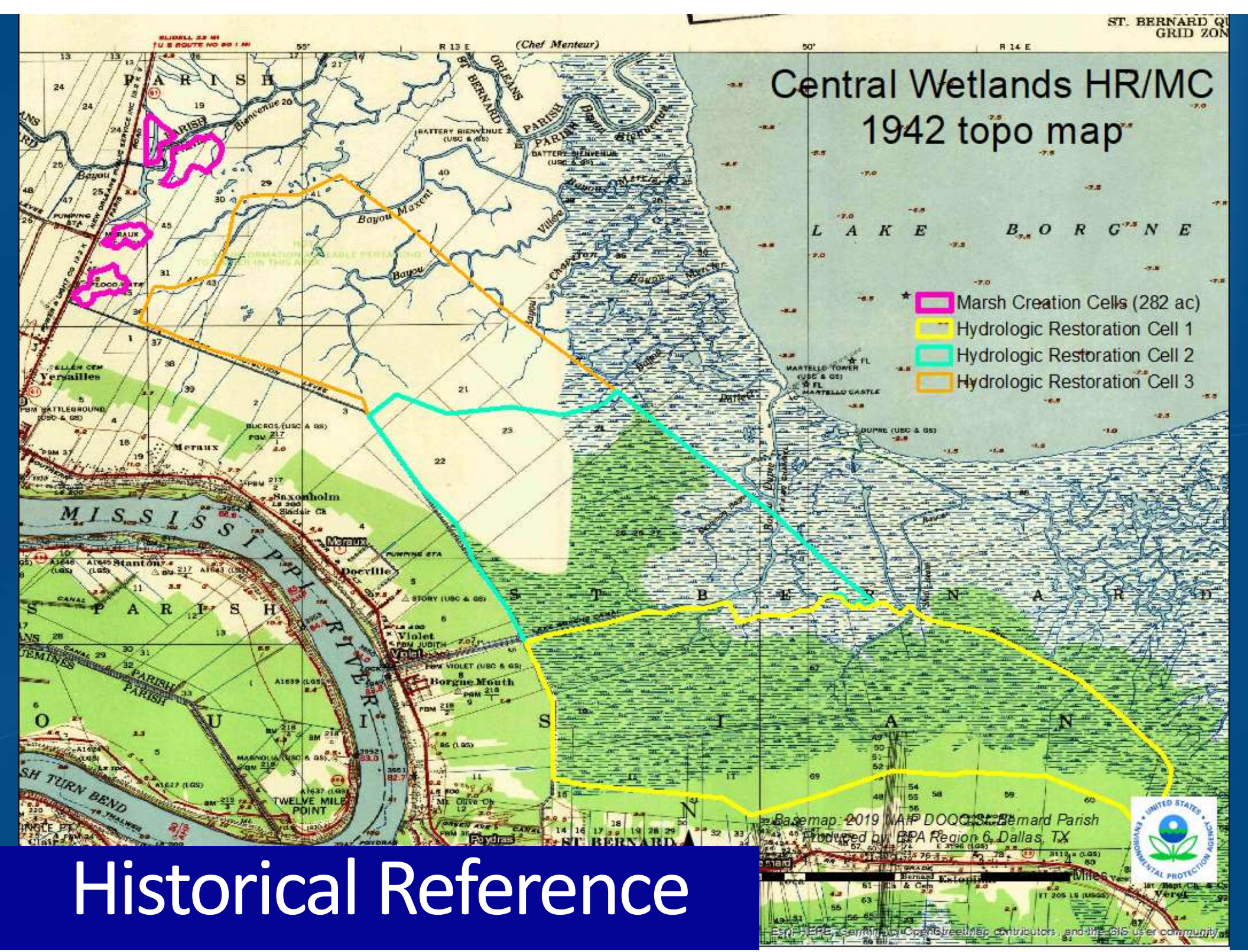


2017 Master Plan Consistency & Project Synergy



Problems

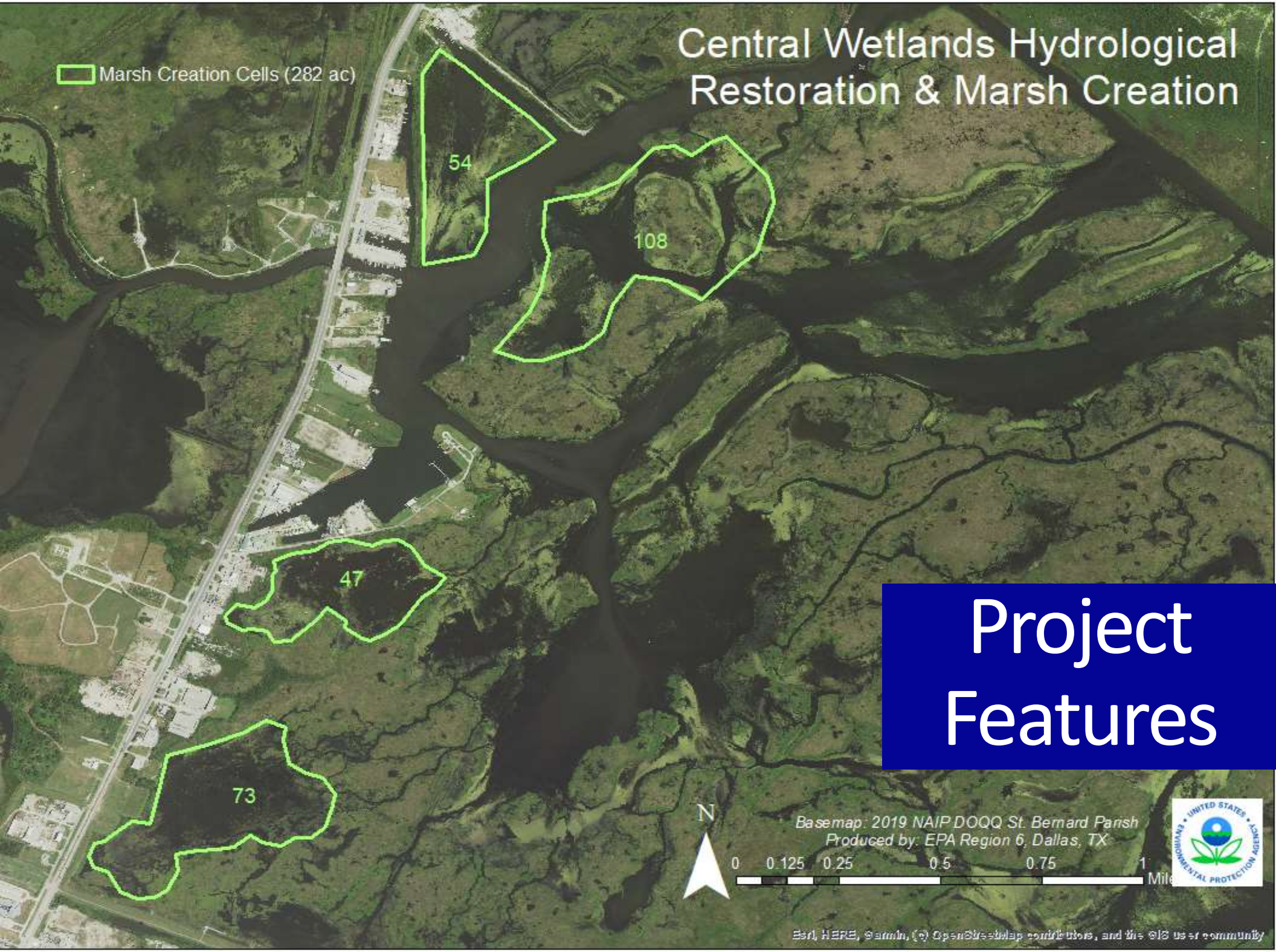
- Spoil banks from canals have created an impounded area where tidal exchange has decreased (LPBF 2015)
- Sediment, nutrient, and freshwater supply cut off; can’t counteract saltwater intrusion (LPBF 2015)
- Mississippi River water does not flow into side canals and tributaries due to the hydrological efficiency of the MRGO (LPBF 2015)
- St. Bernard Parish could lose an additional 72% of its land area over the next 50 years and face severe wetland loss and storm surge flood risk (2017 MP).



Historical Reference

Project Goals

- Hydrologically restore ~15,898 acres by creating gaps in nearby canal spoil banks
- Gaps would restore tidal exchange, allow vegetation to recover, increase soil strength, and counteract storm surge
- Create/nourish 282 acres cells (254 acres marsh creation, 28 acres marsh nourishment) of emergent marsh with sediment from the Mississippi River
- Construction cost + 25% contingency is $25M - $30M


Central Wetlands Hydrological Restoration & Marsh Creation
Marsh Creation Cells (282 ac)
54
108
47
73
Project Features
N
Basemap: 2019 NAIP DOQQ St. Bernard Parish
Produced by: EPA Region 6, Dallas, TX
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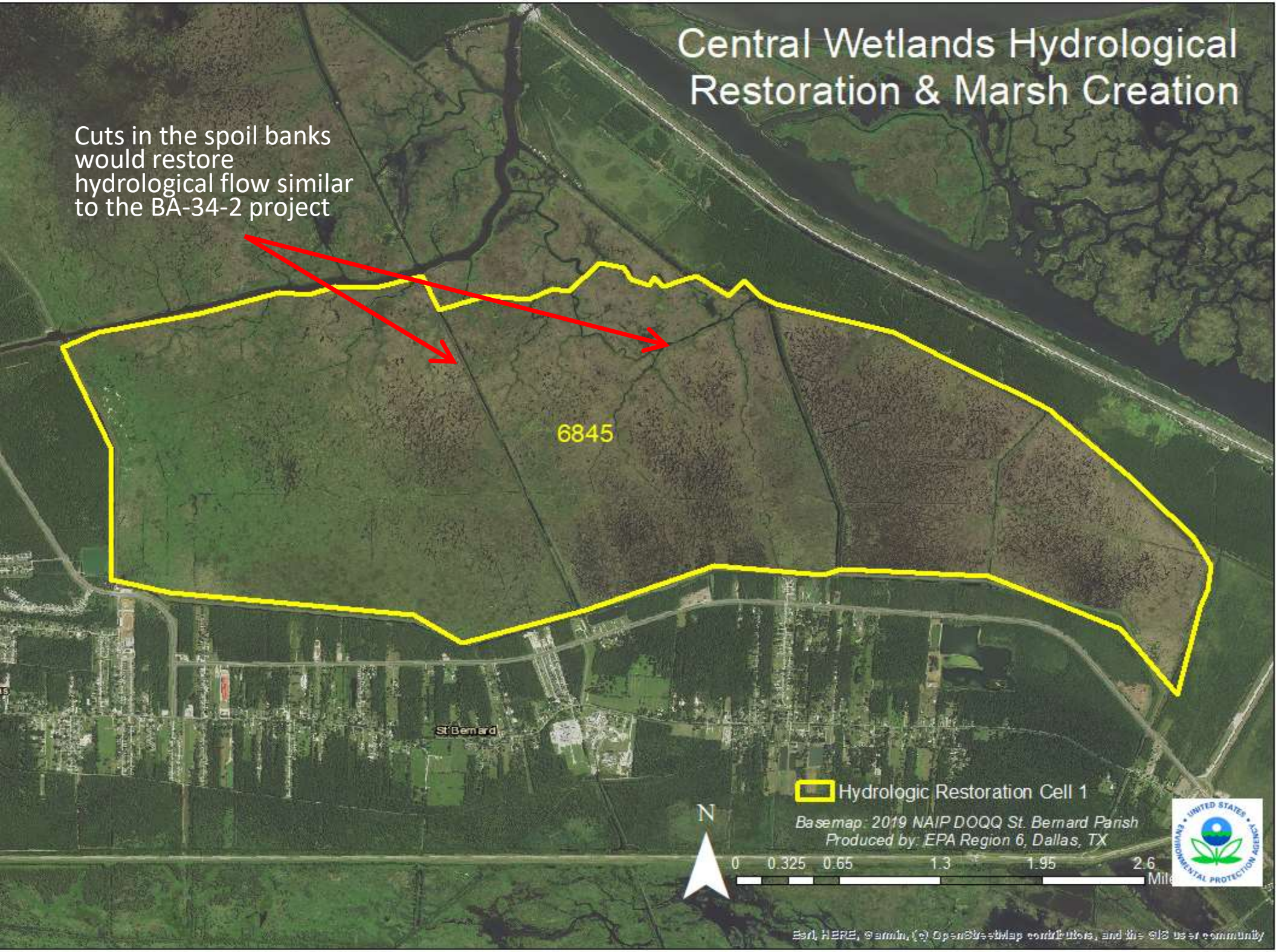
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community


Central Wetlands Hydrological Restoration & Marsh Creation
Cuts in the spoil banks would restore hydrological flow similar to the BA-34-2 project
6845
St Bernard
Hydrologic Restoration Cell 1
Basemap: 2019 NAIP DOQQ St. Bernard Parish
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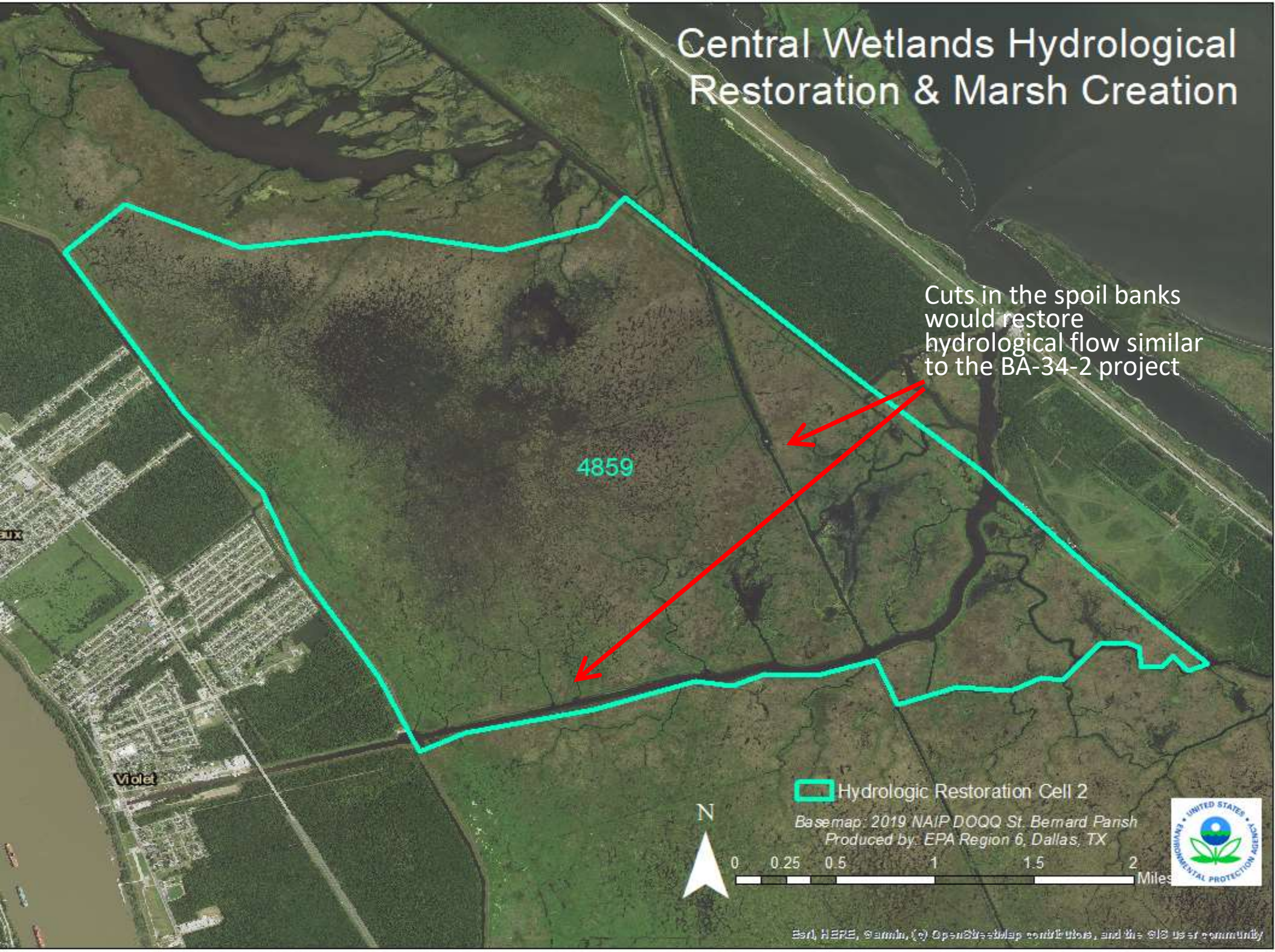
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community


Central Wetlands Hydrological Restoration & Marsh Creation
Cuts in the spoil banks would restore hydrological flow similar to the BA-34-2 project
4859
Violet
Hydrologic Restoration Cell 2
Basemap: 2019 NAIP DOQQ St. Bernard Parish
Produced by: EPA Region 6, Dallas, TX
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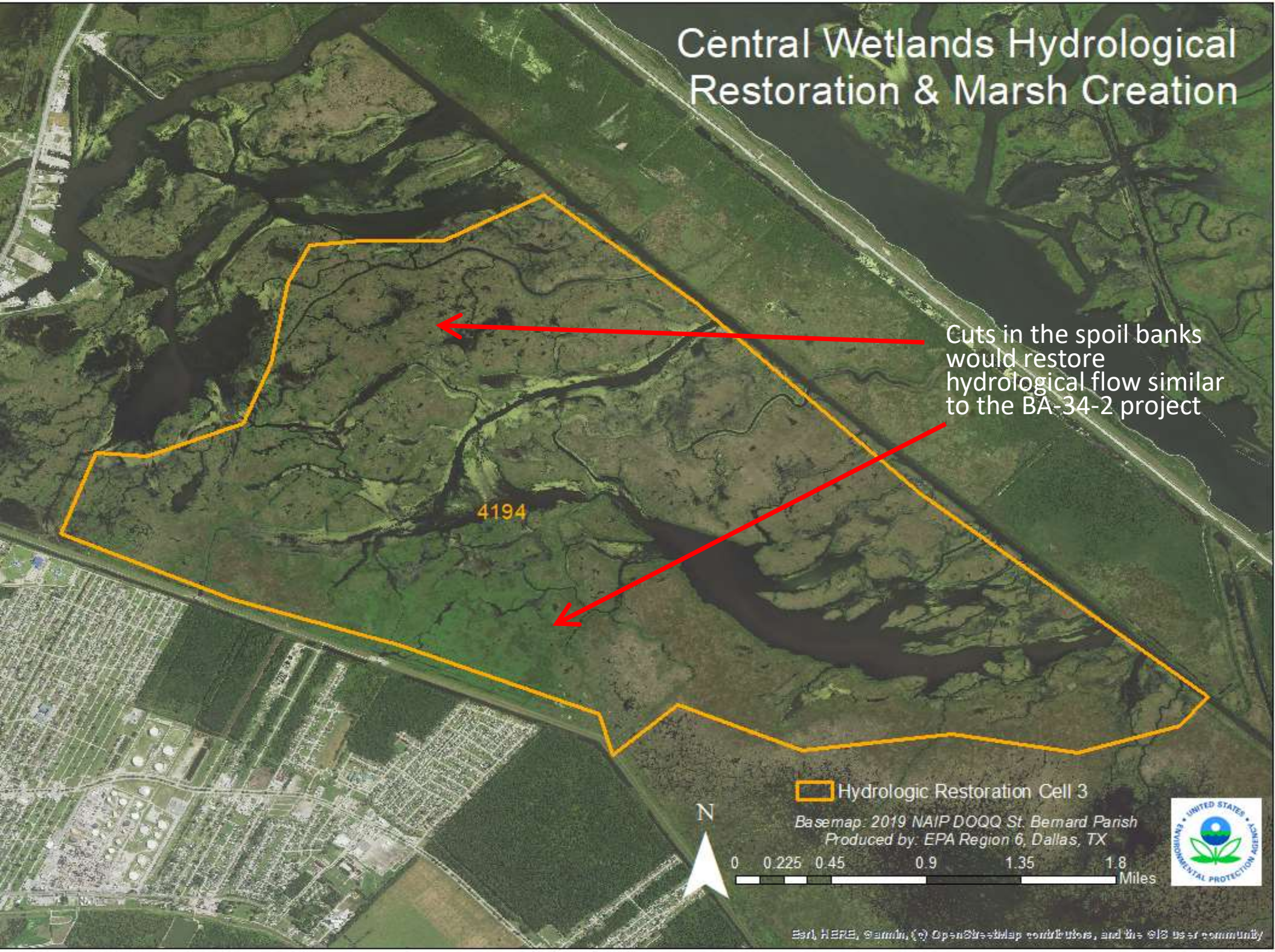
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community


Central Wetlands Hydrological Restoration & Marsh Creation
Cuts in the spoil banks would restore hydrological flow similar to the BA-34-2 project
4194
Hydrologic Restoration Cell 3
Basemap: 2019 NAIP DOQQ St. Bernard Parish
Produced by: EPA Region 6, Dallas, TX
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Miles
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

PPL32 PROJECT FACT SHEET
February 10, 2022

Project Name
Guste Island Marsh Creation and Living Shoreline

Master Plan Strategy
Guste Island Marsh Creation (2017 Master Plan 001.MC.108): Creation of approximately 700 acres of marsh in St. Tammany Parish along the northwest Lake Pontchartrain shoreline to create new wetland habitat and restore degraded marsh.

Project Location
Region 1, Pontchartrain Basin, St. Tammany Parish

Problem
The project area is located east of the Tchefuncte River near the Tangipahoa and St. Tammany Parish border. The property was historically used for livestock grazing and a levee and canal system with pumps kept the property from flooding. The agricultural activity and construction of levees for drainage resulted in substantial land loss in the Guste Island area. With an increase in tidal exchange due to increased land loss and increased wind driven fetch, the area has been deteriorating.

Proposed Solution
Sediment dredged from Lake Pontchartrain will be used to create marsh in two semi-confined cells. The project would benefit approximately 347 acres of wetlands by converting open water into marsh and nourishing existing marsh remnants. In addition, a living shoreline made from gabions will be created to enhance protection against erosion. Restoration in this area would build defenses against storm events and flooding, offer opportunities for public recreation, and create wildlife habitat.

Project Goals
Create/nourish approximately 347 acres of marsh using sediment dredged from the Lake Pontchartrain and create 8476 linear feet of living shoreline using gabion mats. Gabions filled with shell, crushed limestone (or other material) will be placed below the waterline to maintain the viewshed and nearshore habitat of Lake Pontchartrain. The goal of the living shoreline feature is to address the day-to-day wind/fetch experienced at the shoreline, trap sediments and encourage vegetation growth, both submerged (SAV) and emergent. Placement/position/material of gabion mats would be further investigated during the E & E phase, if approved.

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

Preparer(s) of Fact Sheet:
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Randy Pausina; St. Tammany Parish Government; (985) 898-2529; RBPausina@stpgov.org


Guste Island Marsh Creation
Living Shoreline 2022
Marsh Creation 2022
216
131
8476
N
Basemap: 2019 NAIP DOQQ St. Tammany Parish
Produced by: EPA Region 6, Dallas, TX
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Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

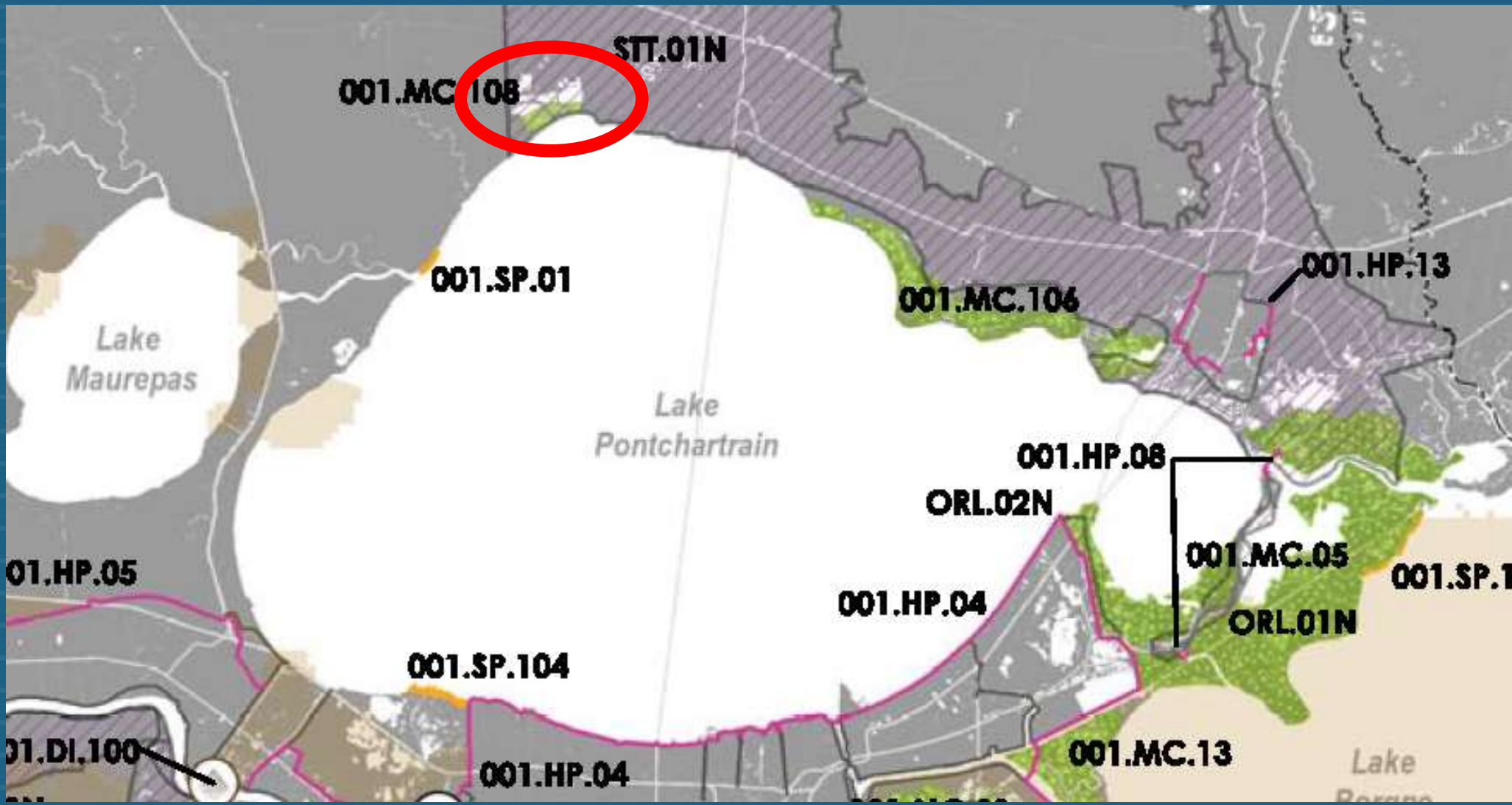
Guste Island Marsh Creation & Living Shoreline

Guste Island is located east of the Tchefuncte River near the Tangipahoa and St. Tammany Parish border.

The Coastal Wetlands Planning, Protection and Restoration Act

2017 Master Plan Solution

001.MC.108 Guste Island Marsh Creation : Creation of approximately 700 acres of marsh in St. Tammany Parish along the northwest Lake Pontchartrain shoreline to create new wetland habitat and restore degraded marsh.




Guste Island Marsh Creation
Living Shoreline 2022
Marsh Creation 2022
2017MP: Guste Island Marsh Creation
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Bayou Bonfouca
Goose Point
2017 Master Plan Consistency & Project Synergy
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Basemap: 2019 NAIP DOQQ St. Tammany Parish
Produced by: EPA Region 6, Dallas, TX
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Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS User community

2017 Master Plan Consistency & Project Synergy

- Recommended concept by St. Tammany Parish Levee, Drainage and Conservation District in the Parish Master Plan and supported by St. Tammany Parish Government

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- Constructed as a result of unavoidable impacts to intermediate marsh habitat as a result of the LPV HSDRRS

- 143 acres of intermediate marsh restoration achieved by dredging borrow material from Lake Pontchartrain

---

- TNC Tchefuncte Marsh property is adjacent to the Guste Island project polygons

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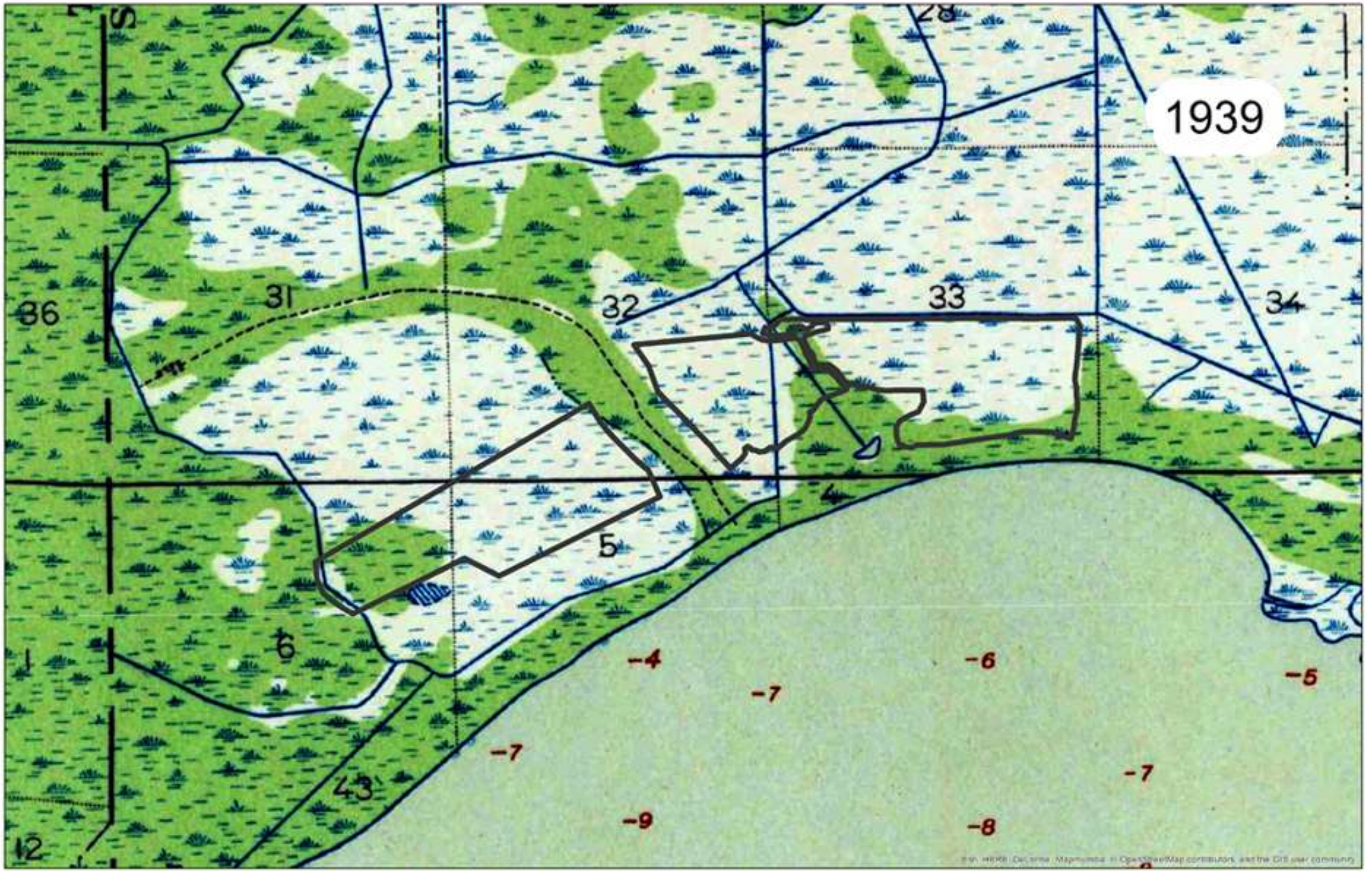
- Guided by a national strategic plan that integrates FWS priorities with the shared conservation goals of conservation partners and stakeholders

- Guste Island Project location is part of the Louisiana Focus area for the FWS Coastal Program

Guste Island Land Loss Issues

2010 imagery showing land loss developed through impoundment of marsh areas for agricultural activities.

- Large open water areas due to impoundment for agricultural use
  - High rates of land loss since the 1930's
- Saltwater intrusion/ Wind & wave action
  - Lake Pontchartrain floods area with high southerly winds and storm surge
  - Saltwater trapped inside impounded areas, salt concentrates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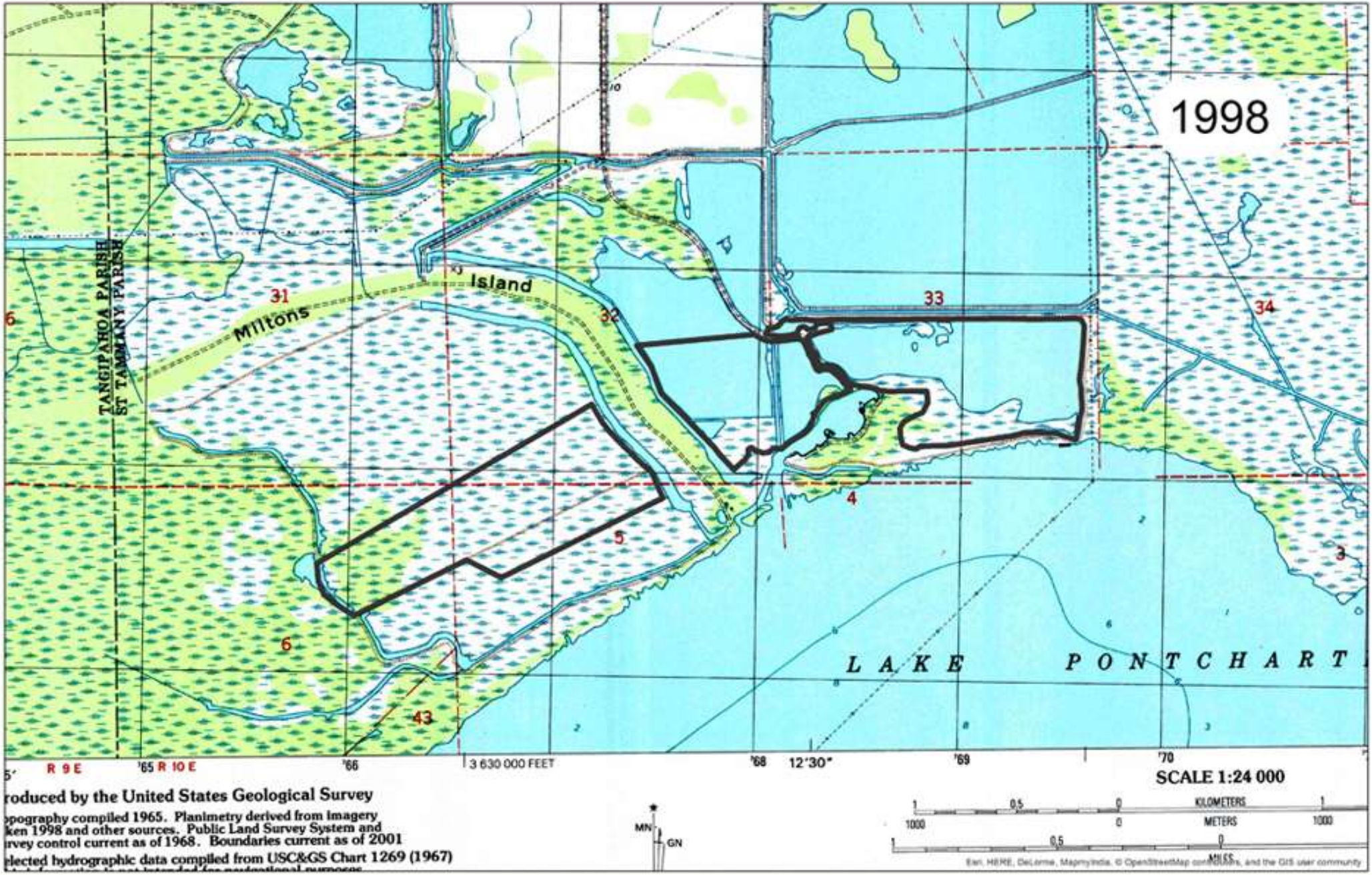

roduced by the United States Geological Survey

pography compiled 1965. Planimetry derived from imagery
ken 1998 and other sources. Public Land Survey System and
rvey control current as of 1968. Boundaries current as of 2001

lected hydrographic data compiled from USC&GS Chart 1269 (1967)

Project Features

Guste Island MC and Living Shoreline (LS)

- Create 347 acres of marsh, 8476 ft of living shoreline
- Recommended project in the Parish Master Plan
- Protects nearby infrastructure
- Achieves St. Tammany Restoration Goal of 100%
- Project 001.MC.108 in 2017 Master Plan

Guste Island MC and Living Shoreline (LS)

- LS would address wind/fetch @ shoreline, trap seds, & encourage veg growth (SAV & emergent)
- Works synergistically with other projects
- Creates wetland habitat
- Construction cost + 25% contingency $20M - $25M

PPL32 PROJECT RPT FACT SHEET
February 10, 2022

Project Name
Miller Bayou Marsh Creation

Project Location
Region 1, Pontchartrain Basin, Orleans Parish

Problem
Wetland loss in Pontchartrain Basin from erosion of wetlands, saltwater intrusion, subsidence, and river levee and oil/gas construction has caused large impacts to this region in recent decades. Lakes Pontchartrain and Borgne continue to increase in size due to Borgne Land Bridge marshes disappearing because of severe shoreline retreat and increased tidal fluctuations. High subsidence rates range from 3.4 to 5.5 mm/year. The 1985 to 2020 USGS land loss rate for this area is -0.39%/year from the East Orleans Landbridge subunit.

Goals
The project goal is to create and nourish approximately 493 acres of marsh along the southeastern bank of Lake Saint Catherine.

Proposed Solution
The proposed solution would be to create approximately 299 acres and nourish 194 acres to restore a portion of the Lake Saint Catherine shoreline. Sediment will be hydraulically pumped from Lake Saint Catherine. Temporary containment dikes will be constructed and gapped within three years of construction to allow greater tidal exchange and estuarine organism access.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
The total project area is approximately 493 acres.

2) *How many acres of wetlands will be protected/created over the project life?*
The net acre benefit range is 250-300 acres after 20 years.

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)?*
A 50% loss rate reduction is assumed for the marsh creation and marsh 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 will help restore portions of Lake Saint Catherine shoreline which is part of the Borgne Landbridge.

5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project may have minor net positive impact to non-critical infrastructure comprised of pipelines and oil and gas wells and camps.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
The project will have synergistic effects with: 1) PO-179 St. Catherine Island Marsh Creation and Shoreline Protection, 2) PO-169 N.O. Land Bridge Shoreline Stabilization and March Creation, 3) PO-22 Bayou Chevee Shoreline Protection, and 4) PO-06 Fritchie Marsh Restoration.

Considerations
This project could have potential sturgeon and oil/gas pipeline considerations.

Preliminary Costs
The construction cost range is $15M-$20M plus 25% contingency.

Preparer(s) of Fact Sheet:
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Jason Kroll, NOAA Fisheries, 225-757-5411, jason.kroll@noaa.gov

PPL32 Miller Bayou Marsh Creation

0 1,800 3,600 Feet

299 Acres of Marsh Creation
194 Acres of Marsh Nourishment

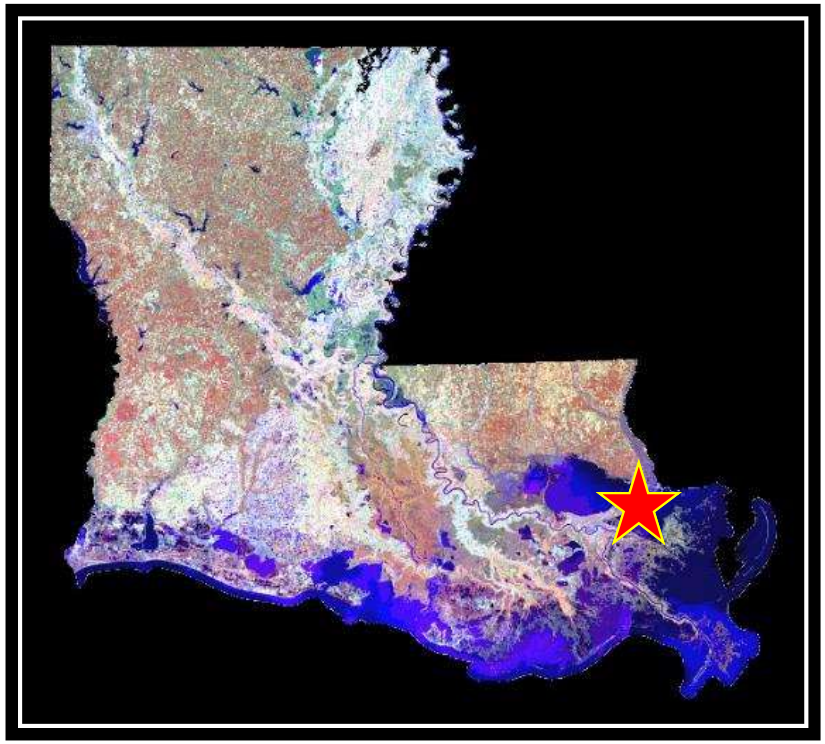
Federal Sponsor: NOAA Fisheries
2008 aerial imagery
Map Date 01-04-2018

Legend

- Miller_Bayou_Marsh_Creation
- Miller_Bayou_Borrow_Area

PPL32 Miller Bayou Marsh Creation Project

NOAA FISHERIES



REGION 1 – Pontchartrain Basin

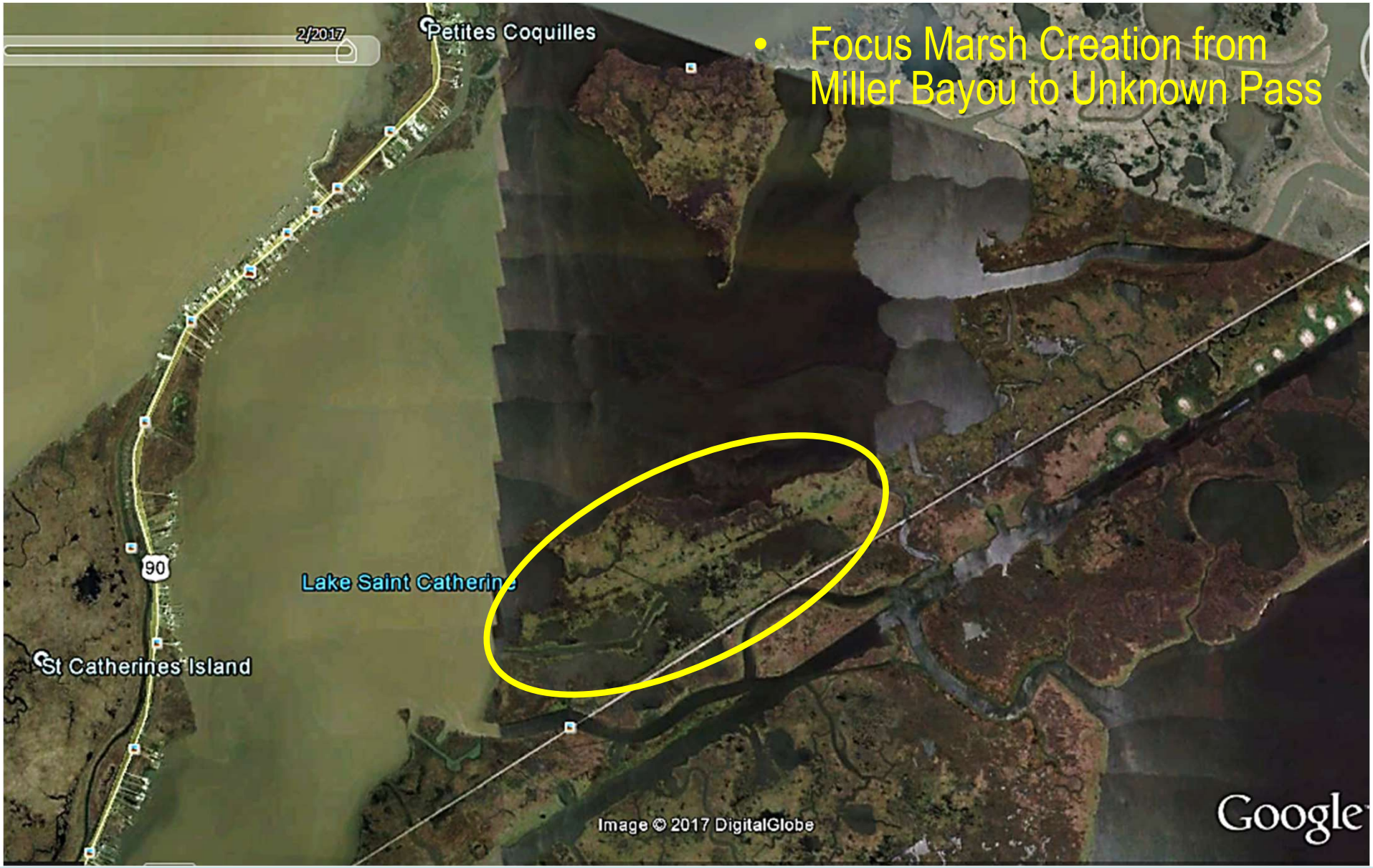
Presenter: Dawn Davis, NOAA

PPL32 CWPPRA Regional Planning Team Meeting

Virtual

February 10, 2022

Project Location



- Focus Marsh Creation from Miller Bayou to Unknown Pass

Project Area Problem

- Wetland degradation
  - Sea Level Rise and Subsidence
  - Hurricane ir
  - Shoreline re
  - Conversion

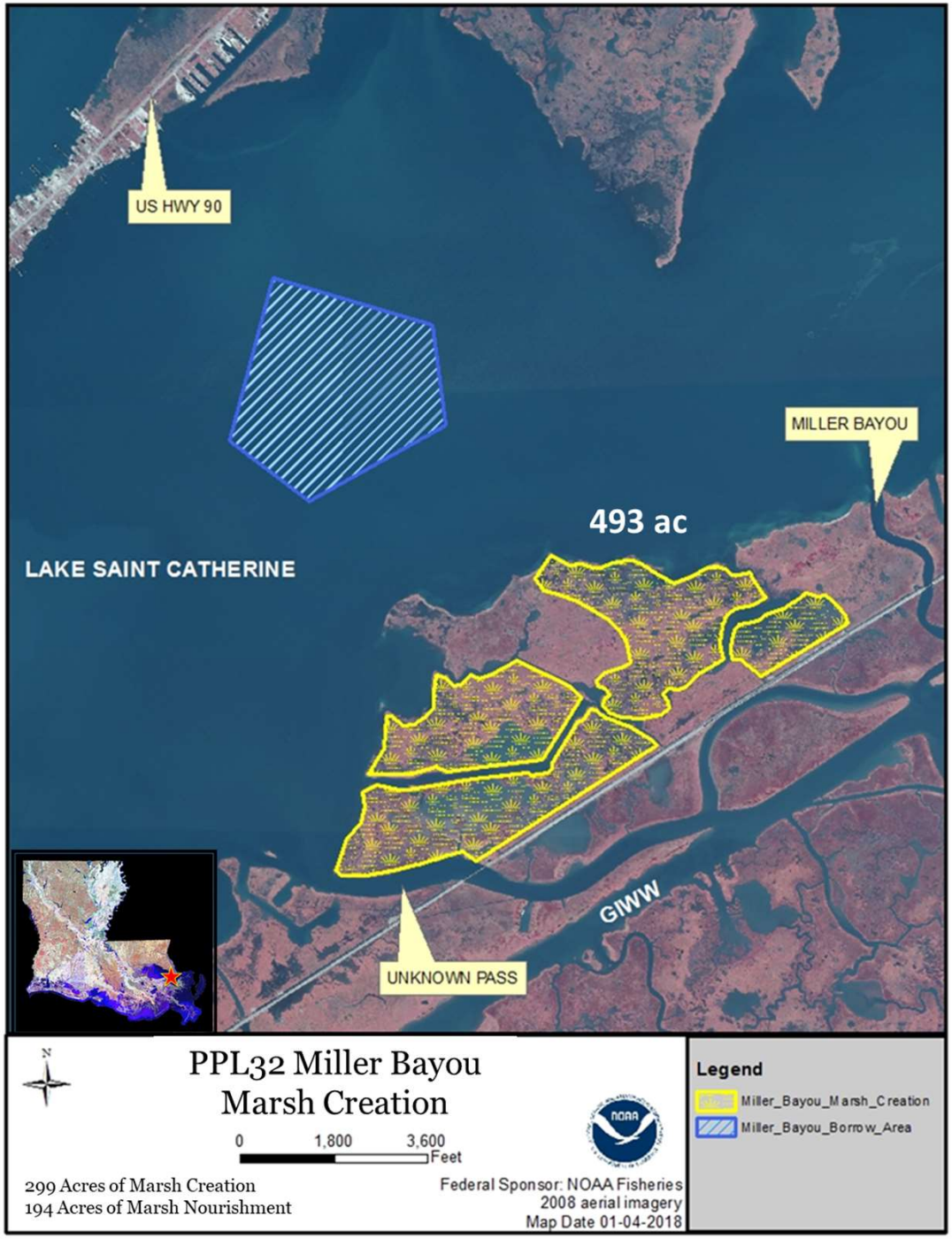
Project Goals

- Marsh Creation and Nourishment
  - Restore intertidal marsh habitat along the Orleans land bridge.
  - Design and construct resilient wetlands to maximize wetland benefits throughout the 20 year project life.

Restoration Solution

- 493 Acres of Marsh Creation/Nourishment
  - 297 Acres of Marsh Creation & 196 Acres of Marsh Nourishment
  - Hydraulically dredge material from Lake Saint Catherine
  - Contained Fill areas with dike gapping after construction
  - Short pumping distance, less than 2.0 miles.

Project Map



- 2017 State Master Plan Polygon 001.MC.05
- Lake Saint Catherine Borrow Area
- 493 Acres TOTAL of Marsh Creation/Nourishment
- Approximately 297 acres Creation and 196 acres Nourishment

Summary of Features, Cost, and Benefits

- **493 Acres Total**
  - 297 acres Marsh Creation
  - 196 acres Nourishment
- **Construction Cost**
  $15M - $20M + 25% Contingency
- **Net Benefits: 250-300 acres**

Contact information:
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dawn.davis@noaa.gov
Jason Kroll, 225-757-5411
jason.kroll@noaa.gov

PPL32 PROJECT RPT NOMINEE FACT SHEET
February 10, 2022

Project Name
Bayou Lacombe Living Shorelines and Terraces

Project Location
Region 1, Pontchartrain Basin, St. Tammany Parish

Problem

Submerged Aquatic Vegetation (SAV) beds in Lake Pontchartrain serve invaluable ecological functions; serving as nursery areas for juvenile crustaceans and fish, feeding areas for larger fish and birds, conversion of sunlight into plant material to pass up the food chain, as well as sequestration/reduction of nutrient loads from the water column. Total SAV coverage in Lake Pontchartrain has decreased to fractions of what it once was; however, areas along the north shore have some of the healthiest SAV beds in the Pontchartrain Basin. Acoustic telemetry monitoring studies conducted in Lake Pontchartrain by LDWF and USFWS demonstrate the importance of these SAV beds for a variety of important species, including spotted seatrout, red drum, juvenile bull sharks, and Gulf sturgeon.

Goals
The project goal is to implement a suite of restoration strategies adjacent to Bayou Lacombe, including nearshore and shoreline reef features to enhance SAV and reduce shoreline erosion, and construction of a marsh terraces field. The project would be synergistic with St. Tammany Parish's efforts to collect and stockpile recycled concrete for living shoreline and reef projects, and providing funding for a feasibility project to evaluate the effectiveness of various nearshore reef construction types and materials to reduce shoreline erosion and enhance SAV beds around Goose Point. Recycled concrete, engineered structures, and other suitable materials of opportunity will be evaluated and utilized as appropriate, and ideally can form a model for expansion to other areas along the Lake Pontchartrain shoreline.

Proposed Solution
The proposed solution will restore lost estuarine habitat by constructing approximately 3.5 miles of low and wide subtidal reefs to absorb wave energy, creating a quiescent zone to enhance adjacent SAV beds. These nearshore subtidal reefs would be mirrored with 3.5 miles of intertidal reef features adjacent to the shoreline to further reduce erosion while enhancing aquatic habitats. In addition to the living shoreline reefs, the project would construct marsh terraces in a 210-acre open water area east of Bayou Lacombe.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
   The total project area is approximately 565 acres, which includes a 210-acre marsh terrace field (~20 acres of marsh terraces), as well as a 3.5-mile double layer of living shoreline reef features providing 15 acres of reef habitat. The nearshore, subtidal reef would be constructed wide and low (30' crown with max elevation of +1') providing ~13 acres of reef habitat, serve to dissipate wave energy thereby making a quiescent zone to enhance

SAV habitat over 340 acres along the shorelines adjacent to Bayou Lacombe. The 3.5 mile intertidal living shoreline reef habitat would provide two additional acres of reef habitat, offer redundant protection from shoreline erosion, and provide an opportunity for stakeholder engagement through educational and outreach opportunities.

2) *How many acres of wetlands will be protected/created over the project life?*
The net acre benefit range is 0-50 acres after 20 years.

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)?*
A 90% loss rate reduction is assumed for the marsh shoreline protected by the nearshore subtidal reef living shorelines. The protected SAV beds would be expected to be enhanced over the life of the project.

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*
Yes, the living shorelines will protect, restore, and enhance SAV beds along the north shore of Lake Pontchartrain, which would help to protect the integrity of the lake rim.

5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project may have minor net positive impact to non-critical infrastructure by providing marsh terraces along the eastern banks of Bayou Lacombe, and foreshore protection along the Lake Pontchartrain shorelines of the Big Branch National Wildlife Refuge.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
The project will have synergistic effects with 1) PO-33 Goose Point/Point Platte Marsh Creation (PO-33), 2) PO-179 St. Catherine Island, 3) PO-0174 Biloxi Marsh Living Shoreline (planned project for Eloi Bay and Eloi Point), 4) Bucktown Living Shoreline NFWF/JP GOMESA, and 5) multiple artificial reefs.

Considerations
Water Quality, public access, SAVs, Gulf sturgeon habitat, shoreline protection, pipelines, environmental justice, and OM&M.

Preliminary Cost
The fully-funded cost range is $5M - $10M.

Preparer(s) of Fact Sheet:
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Mark Schexnayder, Batture LLC, 504-495-2901 mschexnayder@batture-eng.com

PPL32 Bayou Lacombe Living Shorelines

565 Total Project Acres

210 Acre Marsh Terrace Field (~20 acres)
15 Acres Subtidal and Intertidal Reef Habitat
340 Acres Enhanced SAV Habitat

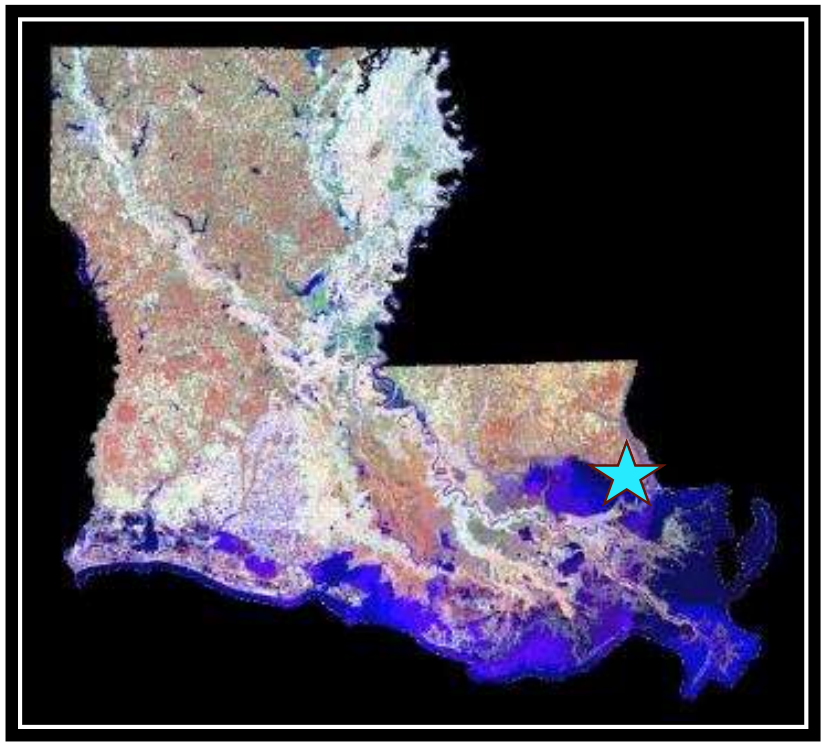
Federal Sponsor: NOAA Fisheries
2019 Google Earth Aerial Imagery
Map Date 02-10-2022

Legend

- Subtidal Reef
- Intertidal Reef
- Terrace Field

Bayou Lacombe
Living Shorelines and Terraces

NOAA FISHERIES



REGION 1: Pontchartrain Basin

Presenter: Craig Gothreaux, Fisheries Biologist, NOAA

Special Thanks

St. Tammany Parish Government

USFWS – SELA Refuges Complex

USFWS – Fish and Wildlife Conservation Office

Batture, LLC

PPL32 CWPPRA Regional Planning Team Meeting

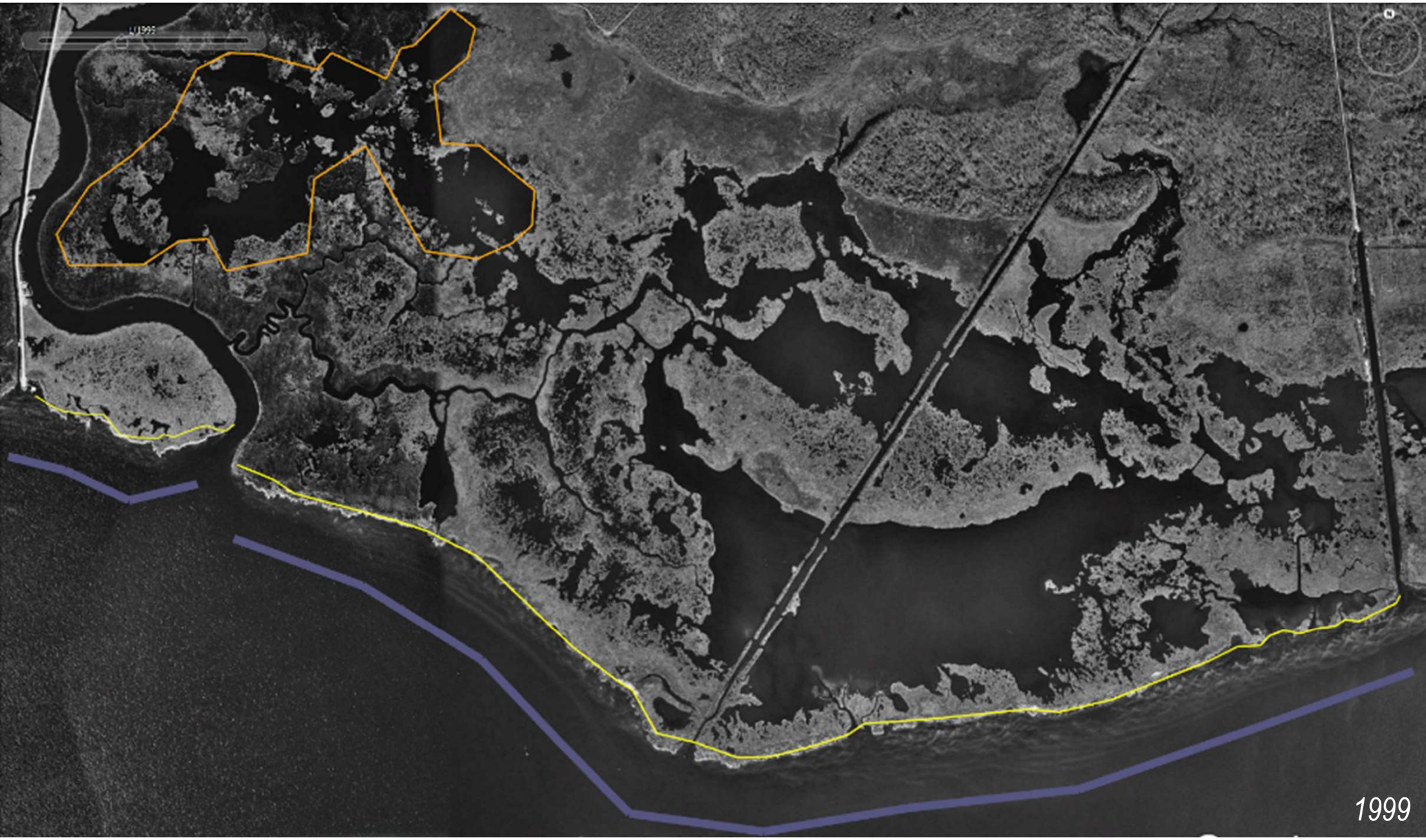
February 10, 2022

Project Vicinity

Bayou Lacombe LS&T

Project Area Problems

Bayou Lacombe LS&T



Project Area Solutions

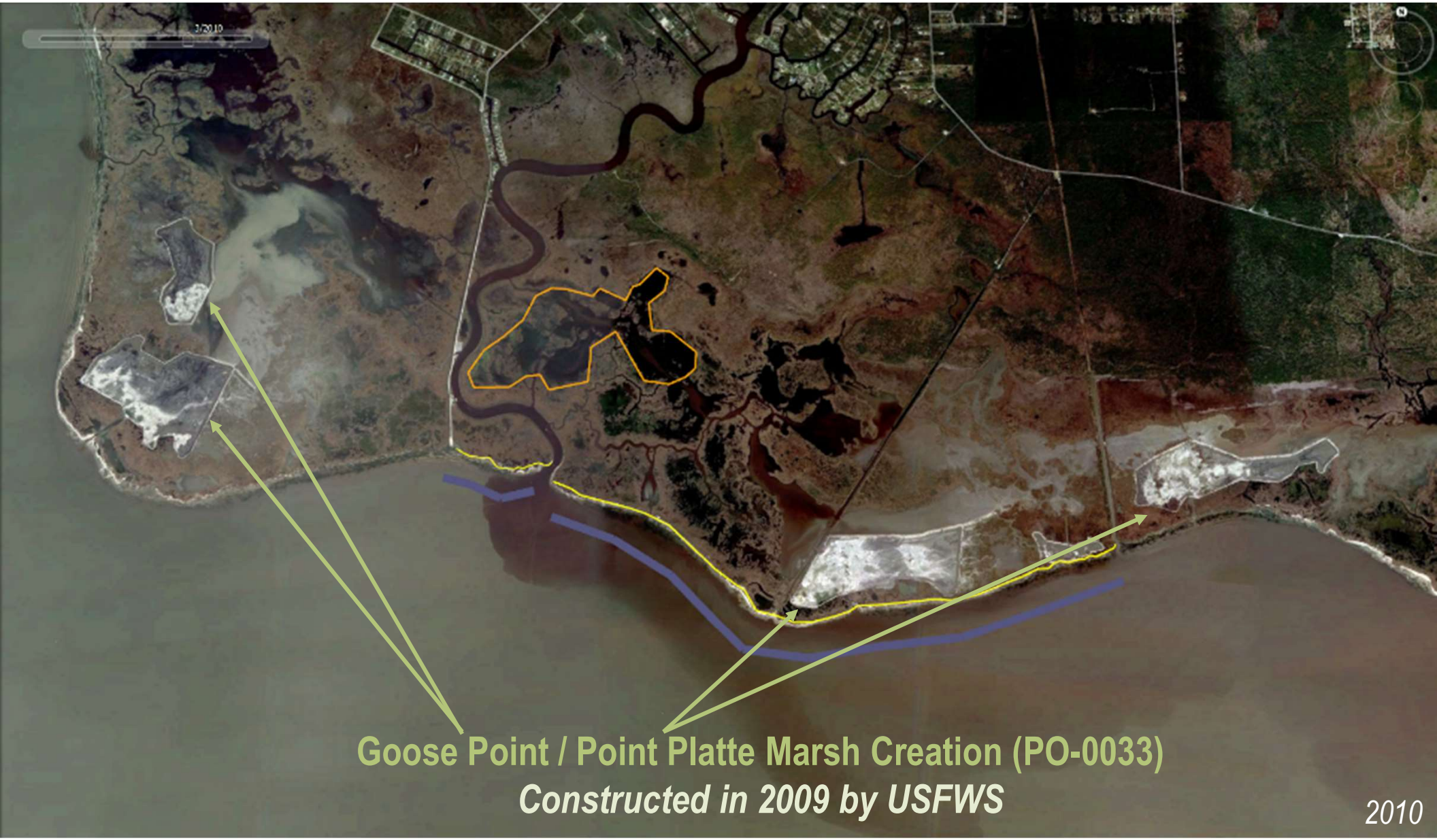
Bayou Lacombe LS&T

Project Area Solutions

Bayou Lacombe LS&T

Project Synergy

Bayou Lacombe LS&T



Project Synergy

Bayou Lacombe LS&T

Summary

Bayou Lacombe
Living Shorelines and Terraces Project

- **565 Total Project Acres**
  - 210-Acre Marsh Terrace Field (~20 acres of marsh terraces)
    - *~20 acres of marsh terrace creation*
  - 15 Acres of Subtidal & Intertidal Reef Habitat (~3.5 miles)
    - *Reduce shoreline erosion and conserve ~10 acres of marsh edge*
  - 340 Acres of Improved Habitat for SAV Colonization
    - *Enhance existing SAV beds for habitat improvement*
  - Improved Recreational User Interface
- **Construction Cost + 25% Contingency: $5M – $10M**
- **Net Benefits: 0 – 50 Acres**

Contact information:
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craig.gothreaux@noaa.gov

PPL32 PROJECT NOMINEE FACT SHEET
February 10, 2022

Project Name
Biloxi Archipelago Living Shorelines

Project Location
Region 1, Pontchartrain Basin, St. Bernard Parish

Problem
Wetland loss in the Biloxi Marsh area of the Pontchartrain Basin is due to altered hydrology, shoreline erosion, and hurricane-induced damage. The eastern fringing islands of the Biloxi Marsh act as an archipelago protecting the interior marsh from wind-driven erosion, and serve as one of the first outer lines of defense. The area of focus contains four fringing coastal islands (Comfort Island, and West, Central, and East Rawhead Islands) with an estimated 30-yr (1989 to 2019 Google Earth satellite imagery) average shoreline erosion land loss rate of over 16 feet/year.

Goals
The project goal is to conserve approximately 210 acres of saline tidal marsh of coastal fringing islands in the Biloxi Archipelago area of Pontchartrain Basin. Additionally, this project would serve to strengthen conservation relationships by collaborating with locally-led oyster shell recycling and living shoreline construction programs with the Meraux Foundation and the Coalition to Restore Coastal Louisiana (CRCL).

Proposed Solution
The proposed solution would be to conserve approximately 210 acres of saline tidal marsh, by constructing approximately six miles of living shoreline oyster reefs to protect a portion of the Biloxi Marsh from shoreline erosion. Living shorelines will incorporate a number of effective techniques including but not limited to reef prisms, reef domes, and gabion mats utilizing recycled oyster shells (generated by efforts led by local non-governmental organizations) and/or crushed concrete. The project would capitalize on the newly operational oyster shell and reef material collection and recycling site in Violet, which is a joint effort between CRCL, Meraux Foundation, and St. Bernard Parish.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
   The total project area would conserve approximately 210 acres of saline tidal marsh through the construction of approximately six miles of living shoreline oyster reef.

2) *How many acres of wetlands will be protected/created over the project life?*
   The net acre benefit range is 200-250 acres after 20 years.

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)?*
   A 90% loss rate reduction is assumed for the marsh protected by oyster reef living shorelines.

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*
Yes, the living shoreline would serve to create fringing oyster reefs providing both ecosystem services and shoreline protection for coastal island marshes in the Biloxi Archipelago.

5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project may have minor net positive impact to non-critical infrastructure comprised of pipelines, as well as serving as an intertidal broodstock reef for the surrounding public oyster seed grounds.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
The project will have synergistic effects with: 1) PO-0148 Living Shoreline (western shore of Eloi Bay), 2) PO-0174 Biloxi Marsh Living Shoreline (planned project for Eloi Bay and Eloi Point), 3) Lake Eloi living shorelines (constructed by The Nature Conservancy (TNC)), 4) Lake Athanasio living shorelines (constructed by TNC, including a section using CRCL's gabion reefs), and Lake Fortuna living shorelines (constructed by TNC).

Considerations
Public oyster seed grounds and private oyster leases. Landowner is supportive of the project and is a partner in this effort.

Preliminary Construction Costs
The estimated construction cost including 25% contingency is $15M-$20M.

Preparer(s) of Fact Sheet:
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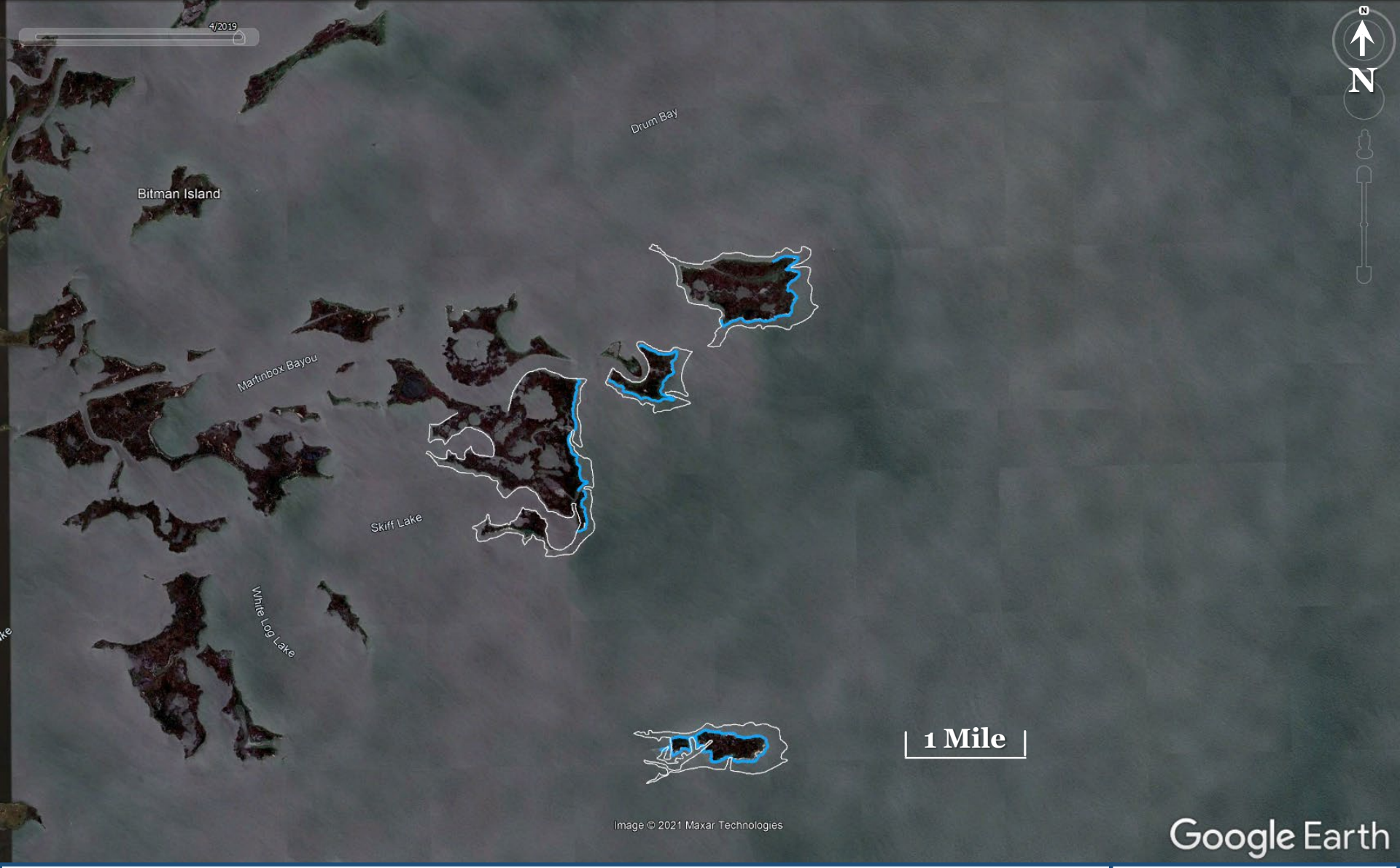


PPL32 Biloxi Archipelago Living Shorelines

214 Total Project Acres
6 Miles (4 Acres) Living Shoreline
210 Acres Marsh Conserved/Protected

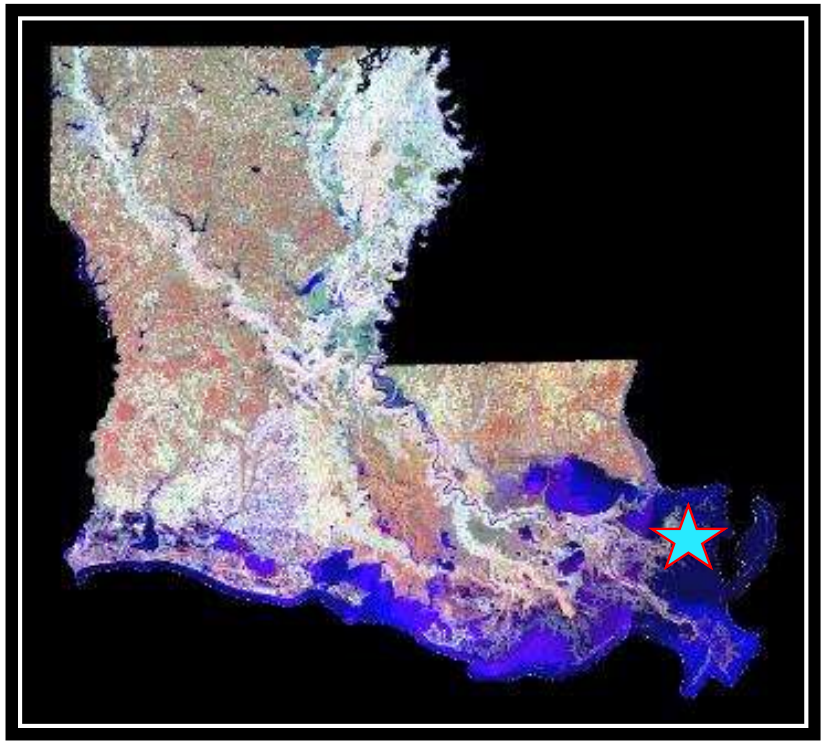
Federal Sponsor: NOAA Fisheries
2019 Google Earth Aerial Imagery
Map Date 02-10-2022

Legend

- 1989 Shoreline
- Oyster Reef Living Shoreline

Biloxi Archipelago
Living Shorelines

NOAA FISHERIES



REGION 1: Pontchartrain Basin

Presenter: Craig Gothreaux, Fisheries Biologist, NOAA

Special Thanks

Meraux Foundation

The Nature Conservancy (TNC)

Coalition to Restore Coastal Louisiana (CRCL)

PPL32 CWPPRA Regional Planning Team Meeting

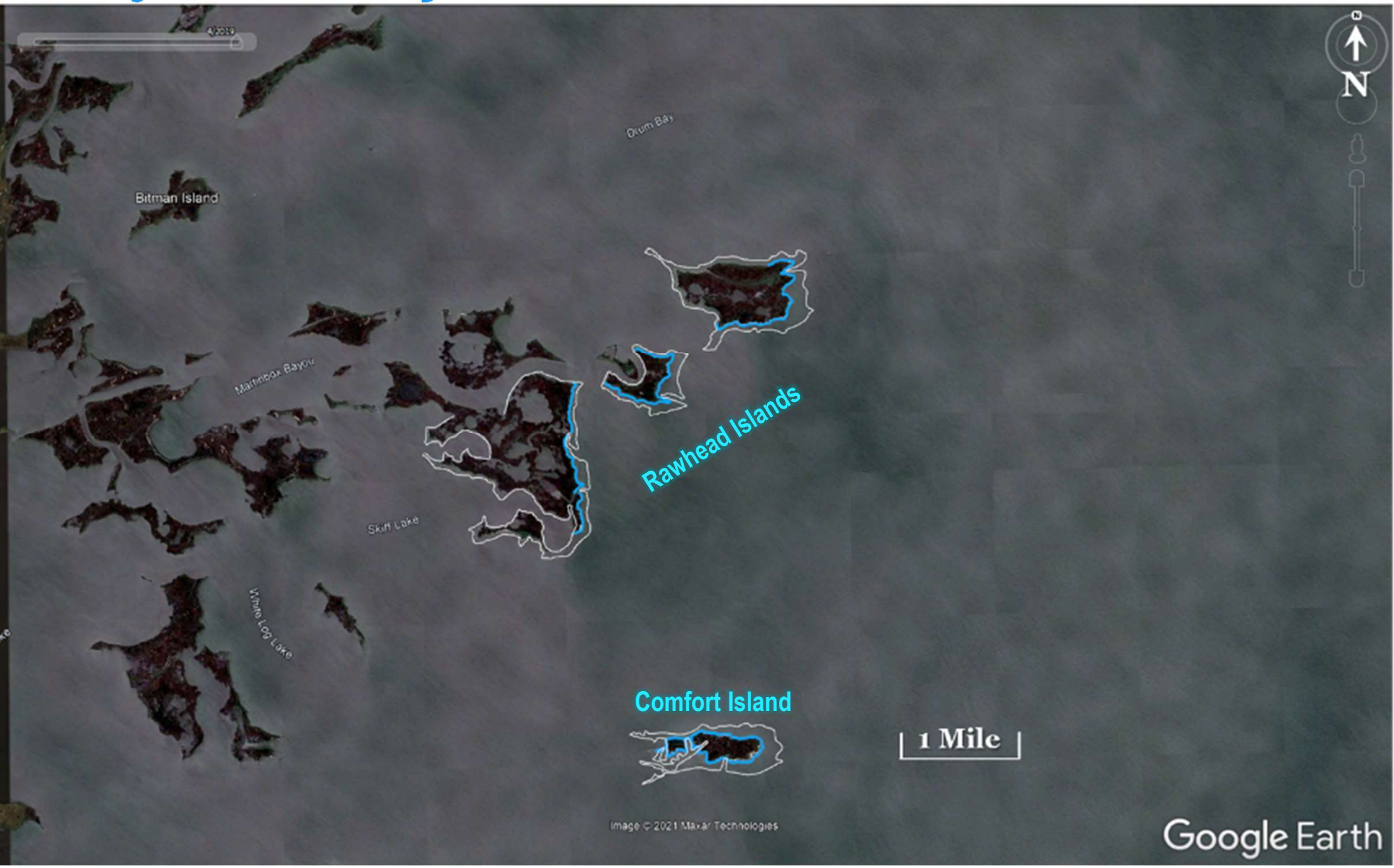
February 10, 2022

Project Vicinity

Biloxi Archipelago LS

Project Vicinity

Biloxi Archipelago LS

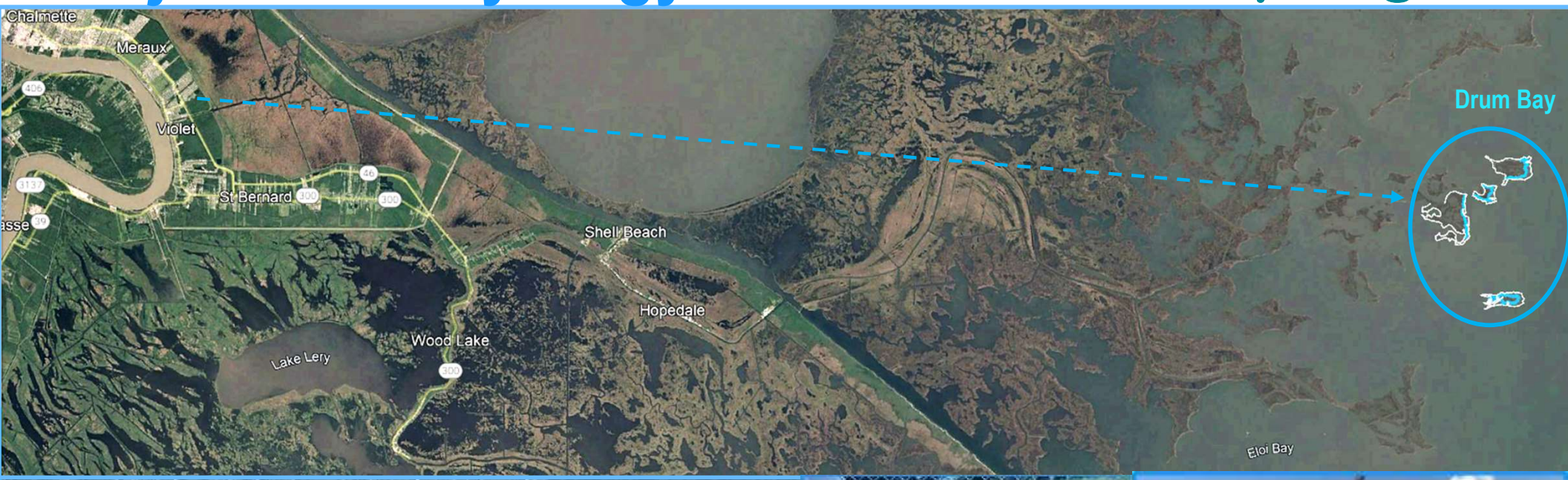


Project Area Synergy

Biloxi Archipelago LS

Project Area Synergy

Biloxi Archipelago LS



Summary

Biloxi Archipelago Living Shorelines

- **206 Total Project Acres**
  - 202 Acres Marsh Conserved/Protected
  - 4 Acres of Oyster Reefs Created
    - *6 miles of Living Shorelines*
- **Construction Cost + 25% Contingency: $15M – $20M**
- **Net Benefits: 150 – 200 Acres**

Contact information:
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PPL32 PROJECT RPT NOMINEE FACT SHEET
February 10, 2022

Project Name
New Orleans East Living Shorelines

Project Location
Region 1, Pontchartrain Basin, Orleans Parish

Problem
Over the last hundred years, the south shore of Lake Pontchartrain has been transformed from cypress/tupelo swamp/brackish marsh interface to almost total armoring with rocks, seawall and marinas. Stormwater from the greater New Orleans area is pumped directly into the lake as fast as possible. Once common intermediate/brackish marsh and submerged aquatic vegetation (SAV) are virtually non-existent. Outfalls of drainage canals discharge stormwater runoff along these modified shores, adding insult to ecological injury. Increased turbidity due to increased wave energy produced by the hardened shoreline has decreased once abundant SAV beds. Closure of the MRGO has stabilized salinity levels back to their historic levels, and eliminated hypoxic events associated with the channel.

Goals
The project goal develop a strategy to soften the southern shoreline of Lake Pontchartrain, by incorporating natural and nature-based designs to increase the habitat complexity of this highly altered shoreline. Recycled concrete, engineered structures, and other suitable materials of opportunity will be evaluated and utilized as appropriate, and ideally can form a model for expansion to other areas along the hardened shoreline. Machine learning will be incorporated to evaluate best performing configurations modifications to increase effectiveness. The protective structures will be coordinated with USACE to provide needed access corridors for add material to existing foreshore protection, and afford opportunities to beneficially utilize materials from access dredging. Increased SAV beds will help decrease the impact from stormwater discharge that is now discharged directly into Lake Pontchartrain. The project would serve to strengthen conservation relationships with surrounding parishes and governmental organizations, as well as with local stakeholders involved in living shoreline construction programs. Additionally, the proximity of the project to the New Orleans area will provide abundant recreational opportunities, as well as a living laboratory to support outreach and educational activities to increase stakeholder engagement, facilitate volunteer events, and train workforce development groups.

Proposed Solution
The proposed solution will restore lost estuarine habitat by constructing approximately 3.5 miles of low and wide subtidal breakwater reefs to absorb wave energy. Beneficially utilized dredge material will be incorporated to create approximately 134 acres of marsh island platforms on the protected side of the living shoreline reefs. Additionally, through these efforts, 96 acres of would be made more suitable (shallowed quiescent zone) for SAV colonization to enhance aquatic diversity, productivity, and filtration capacity.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
The total project area includes approximately 250 acres, including 20 acres of reef habitat, 134 acres or intermediate tidal marsh creation, and 96 acres of improved habitat for SAV colonization.

2) *How many acres of wetlands will be protected/created over the project life?*
The net acre benefit range is 100-150 acres after 20 years.

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)?*
These newly constructed wetlands are expected to persist and grow over the life of the project.

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*
Yes, the living shoreline will recreate once existing conditions, providing both ecosystem services and shoreline protection for the lake rim.

5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project may have minor net positive impact to non-critical infrastructure by providing foreshore protection of the levees and the Northern Pacific Railroad line that is outside protection of the USACE Hurricane Storm Damage Risk Reduction System.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
The project will have synergistic effects with multiple restoration and mitigation projects around Lake Pontchartrain and throughout the basin, including the Bucktown Living Shoreline foreshore protection project and nearby artificial reef sites.

Considerations

Water Quality, public access, SAVs, foreshore HSDRRS maintenance, pipelines, environmental justice, and OM&M.

Preliminary Cost

The construction cost plus 25% contingency range is $10M - $15M.

Preparer(s) of Fact Sheet:

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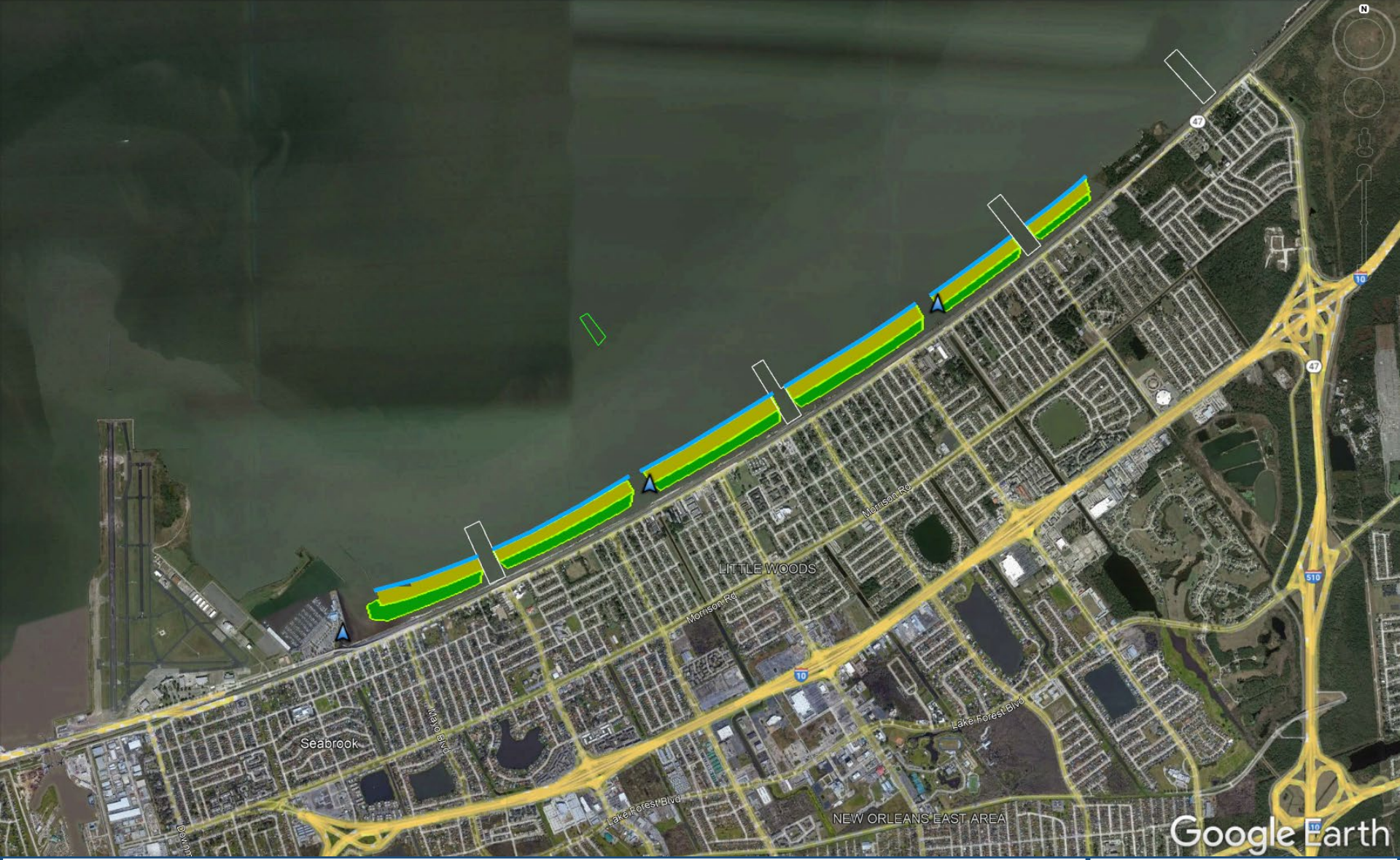
Mark Schexnayder, Batture LLC, 504-495-2901 mschexnayder@batture-eng.com



PPL32 New Orleans East Living Shorelines

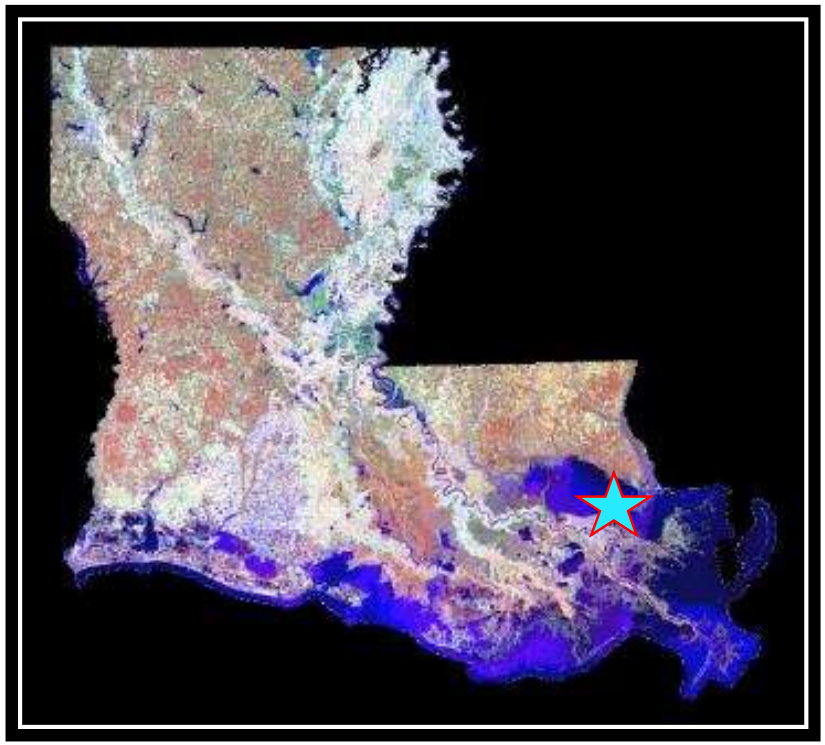
250 Total Project Acres
134 Acres Marsh Creation
20 Acres Reef Habitat
96 Acres SAV Habitat

Federal Sponsor: NOAA Fisheries
2019 Google Earth Aerial Imagery
Map Date 02-10-2022

Legend

- Reef Breakwaters
- Marsh Creation Areas
- SAV Habitat

New Orleans East
Living Shorelines



REGION 1: Pontchartrain Basin

Presenter: Craig Gothreaux, Fisheries Biologist, NOAA

Special Thanks

Flood Protection Authority – East

Batture, LLC

PPL32 CWPPRA Regional Planning Team Meeting

February 10, 2022

Project Vicinity

New Orleans East LS

Project Vicinity

New Orleans East LS

The South Pontchartrain Levee System

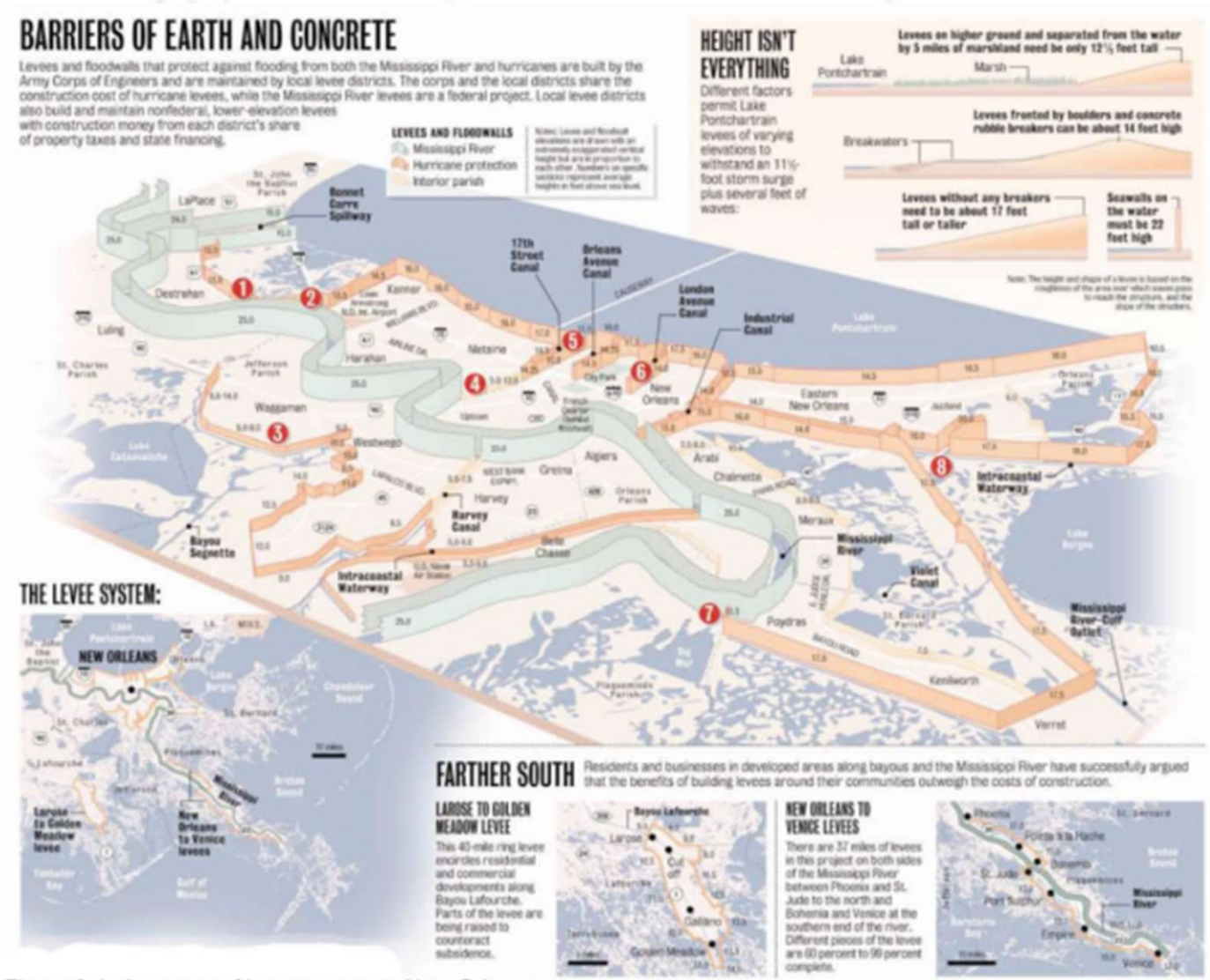


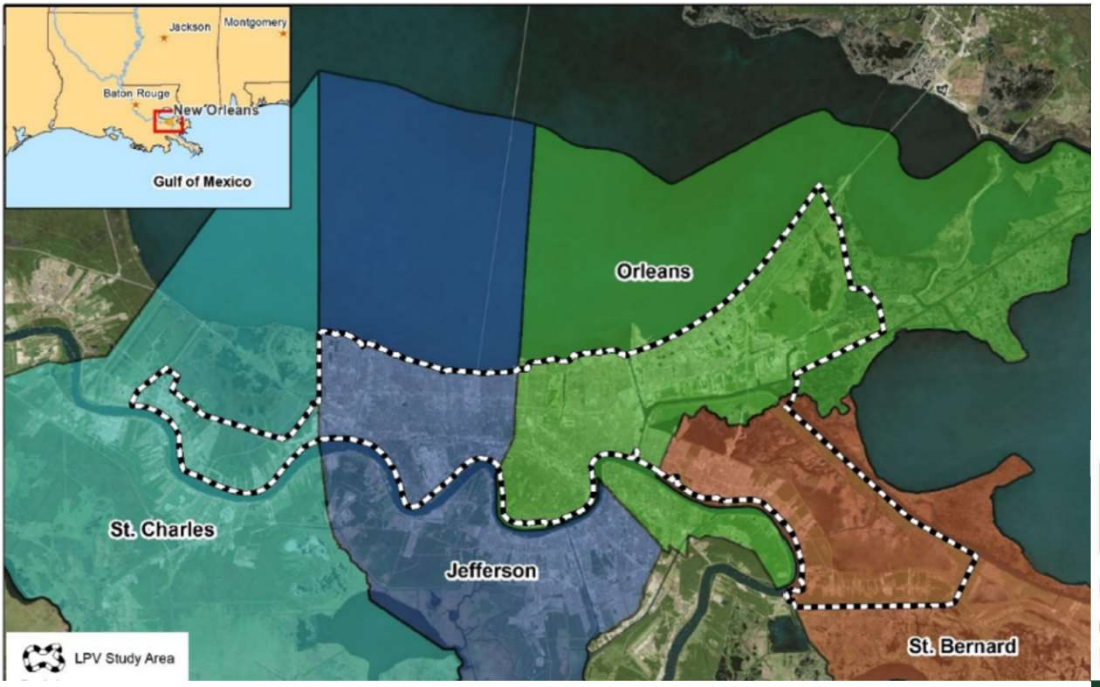
Figure 3-A: A system of levees protects New Orleans

Highly Altered Landscape

Lake Pontchartrain and Vicinities (*LPV*)

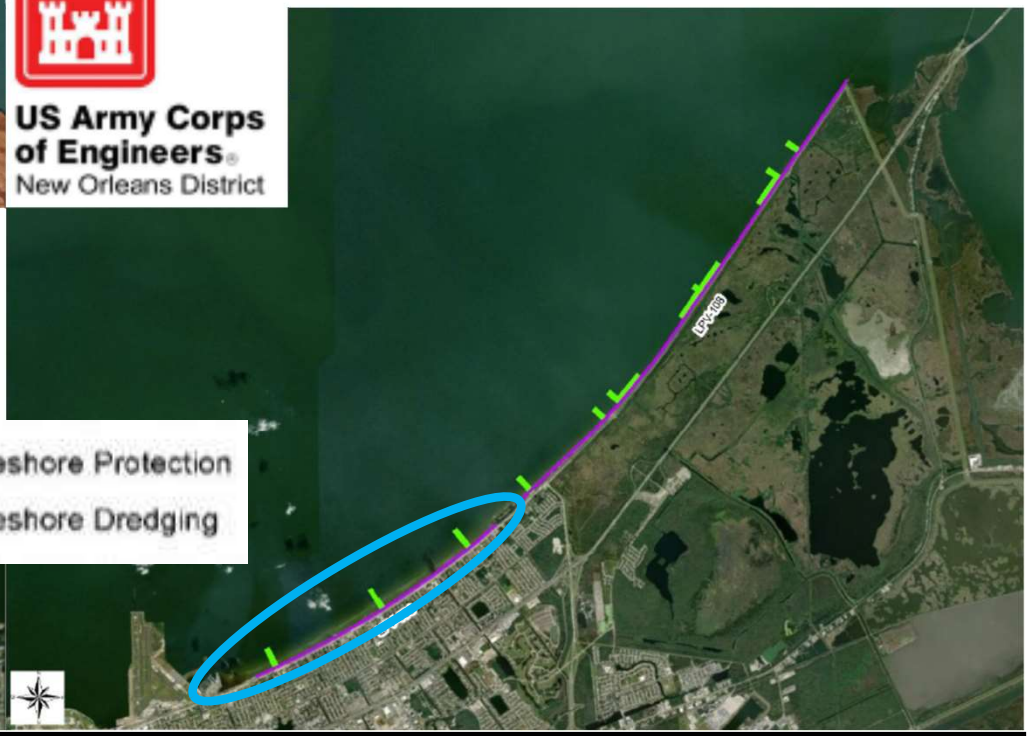
Greater New Orleans Hurricane and Storm Damage Risk Reduction System (*HSDRRS*)

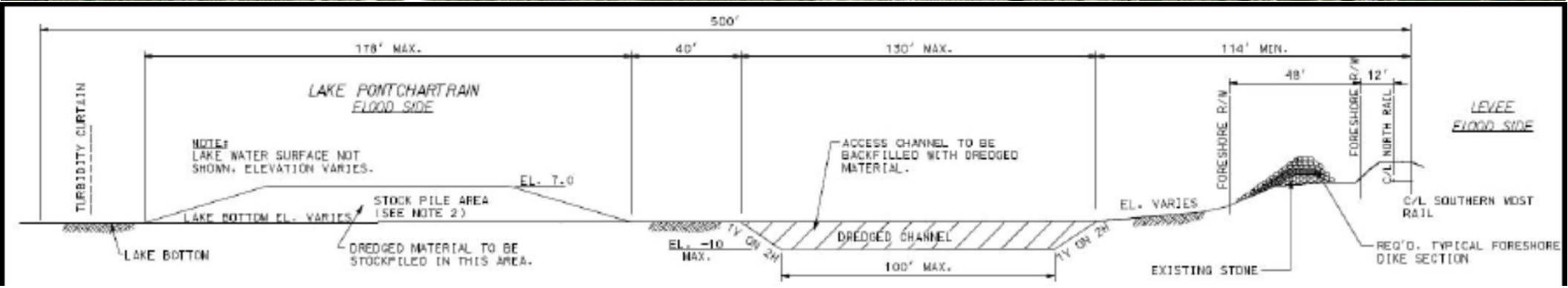
2021 General Reevaluation Report (*Study*)



US Army Corps of Engineers®
New Orleans District

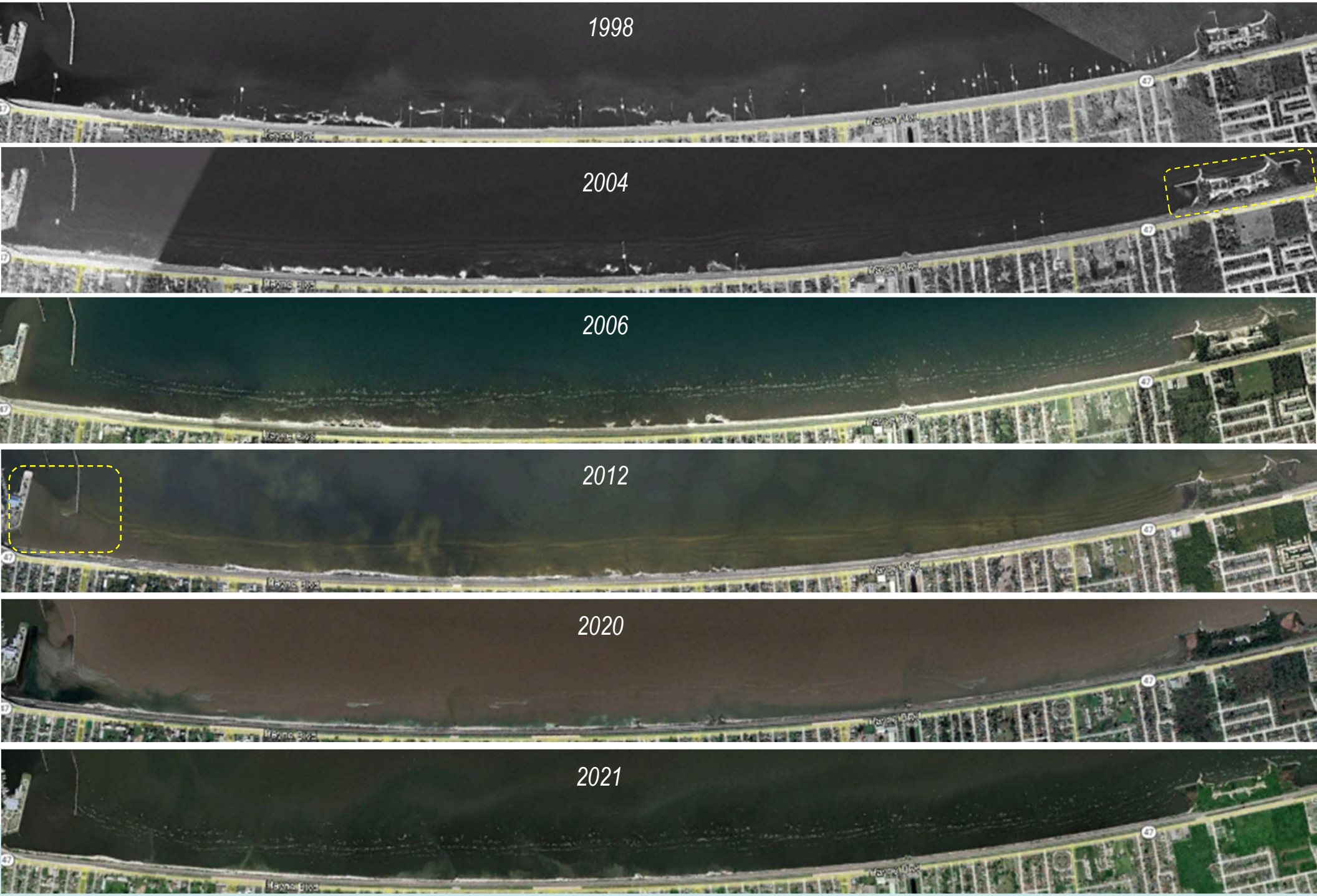
Planning for the future…





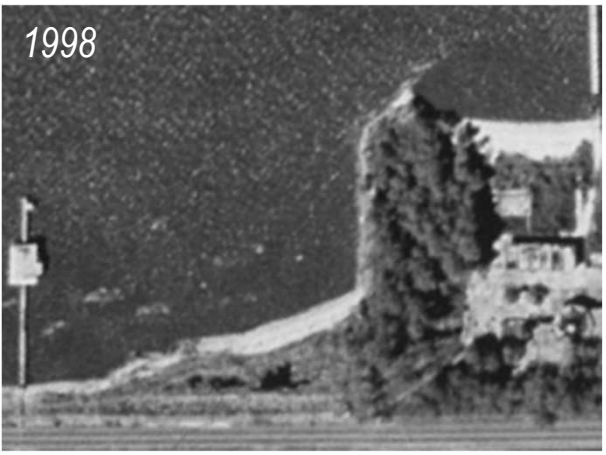
Project Area Problems

New Orleans East LS



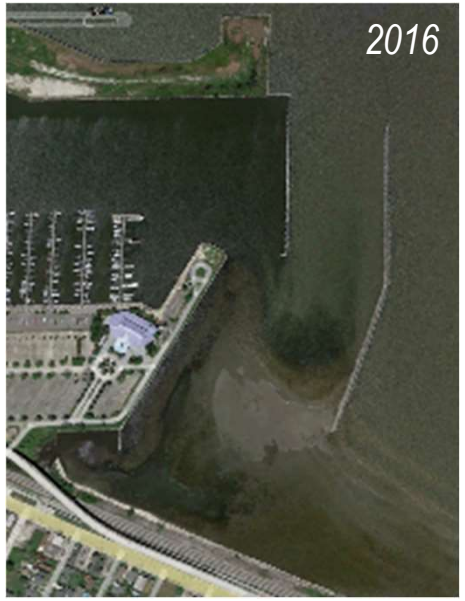
Project Area Problems

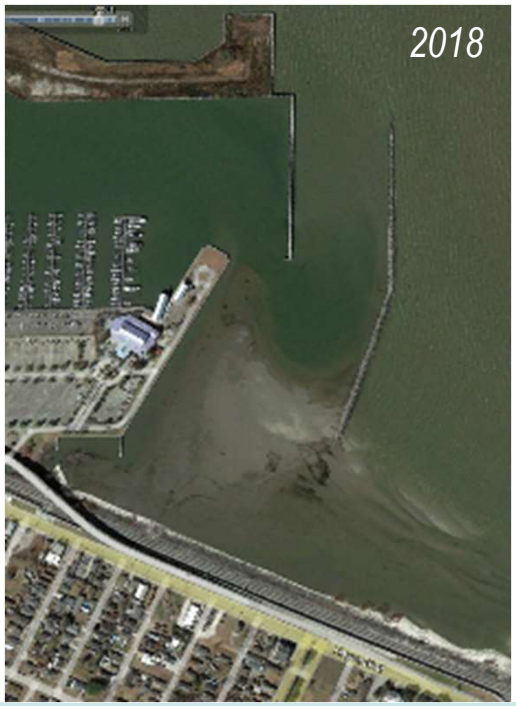
New Orleans East LS

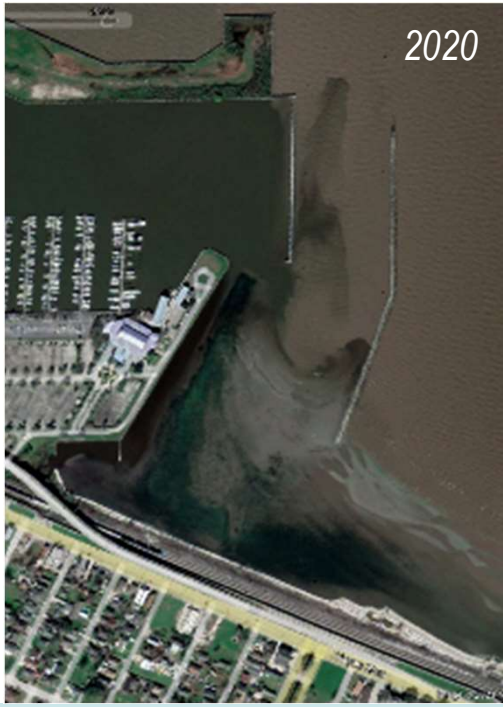


Project Area Problems

New Orleans East LS







Project Considerations

New Orleans East LS

HSDRRS Outfall Structures

LPV *Future* Lift Access Dredging

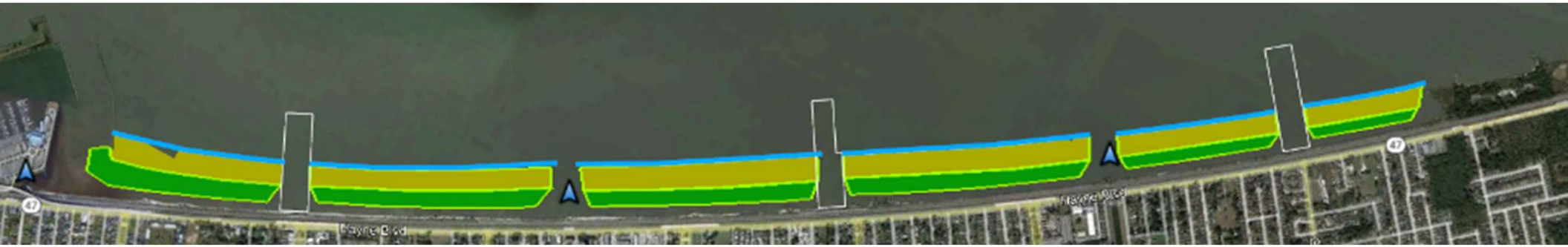
Practicable designs incorporating future maintenance activities, including lifts to flood protection system identified in 2021 LPV Study

Nature-based, green infrastructure concepts to compliment HSDRRS

Soften a hardened shoreline by re-establishing natural habitats

Project Area Solutions

New Orleans East LS



Low and Wide Reef Breakwaters

30’ crown x 1’ height

~3.5 miles

20 acres reef habitat

Marsh Terrace Platforms

Beneficial use of dredge materials

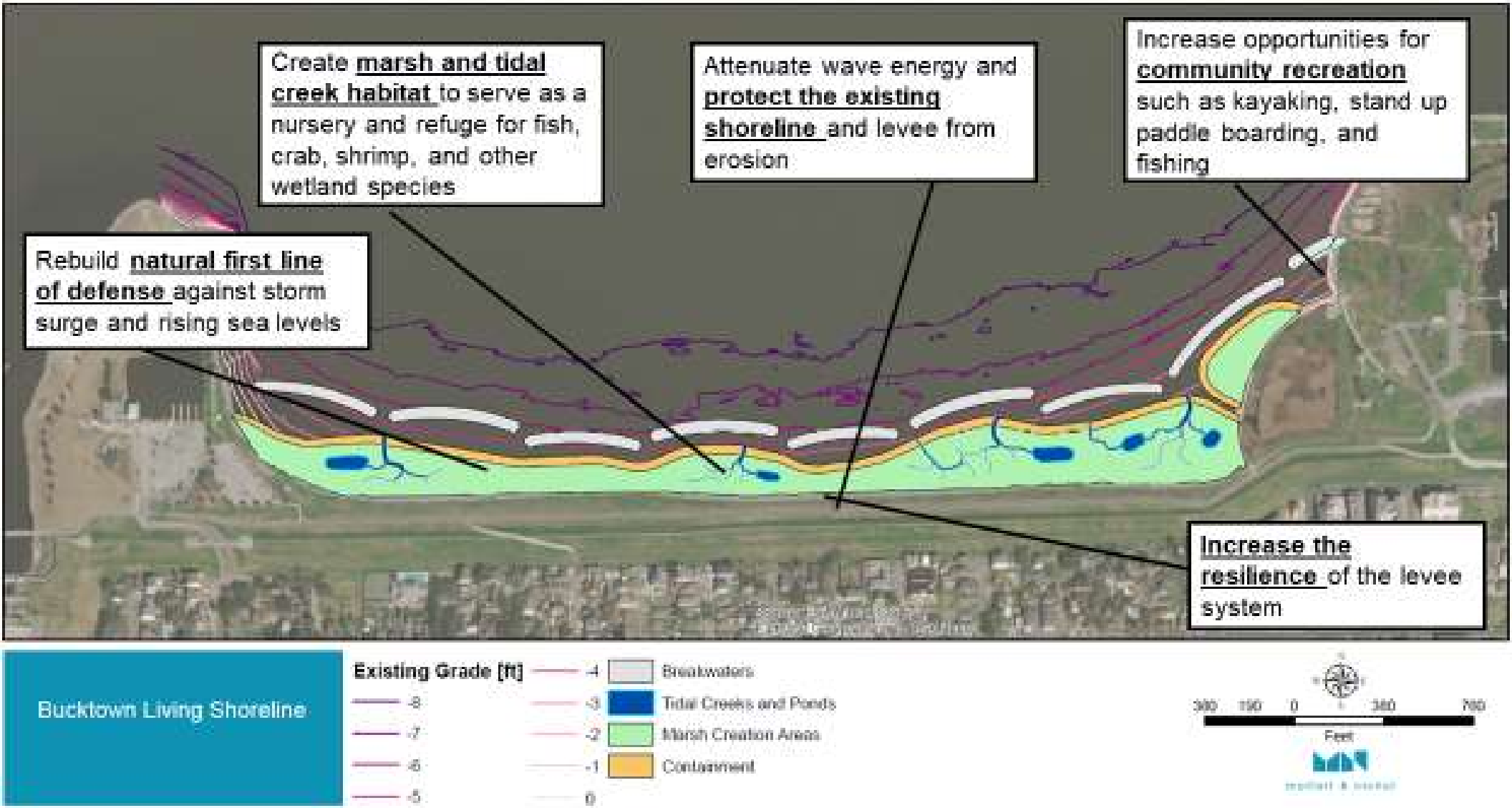
134 acres created

Enhance SAV Habitat

Reduce wave energy

96 acres SAV

Bucktown Marsh Living Shoreline



Summary

New Orleans East
Living Shorelines Project

- **250 Total Project Acres**
  - ~134 Acres Marsh Created
    - *Beneficial use of dredged materials for ecosystem restoration*
  - ~20 Acres of Living Shoreline Reefs (~3.5 miles)
    - *Additional foreshore protection and habitat complexity*
  - ~96 Acres of Improved Habitat for SAV Colonization
    - *Enhanced aquatic diversity and filtration capacity*
  - Improved Recreational User Interface
- **Construction Cost + 25% Contingency: $10M – $15M**
- **Net Benefits: 100 – 150 Acres**

Contact information:
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