Coastal Wetlands Planning Protection & Restoration Act

31st Priority Project List

Region 1

Regional Planning Team Meeting

Lead:
Kent Bollfrass, CPRA

February 4, 2021

CWPPRA

Announcements

- PPL 31 RPT meetings to accept project nominees:
  - Region IV, Feb. 2, 2021, 10:00 am
  - Region III, Feb. 3, 2021, 9:30 am
  - Region II, Feb.4, 2021, 10:00 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 18, 2021.
- Limit comments/questions during meeting to PPL 31 subject proposals and processes.

CWPPRA

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 31.

Coastwide Electronic Vote (Feb. 23rd) to select:

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

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

& up to 6 demos

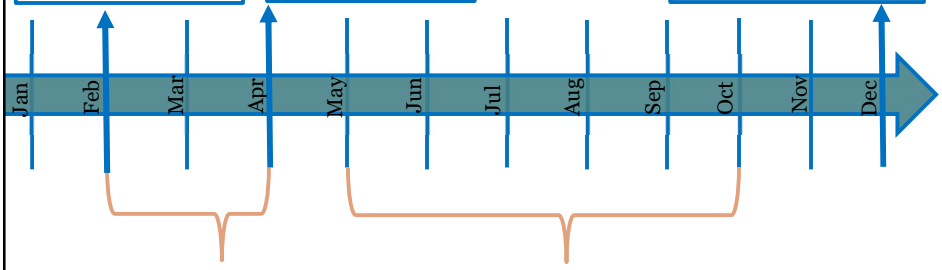
CWPPRA

PPL 31 Timeline

Coastwide Electronic Vote (23 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 2021
- Agencies assigned to projects
- Fact sheets developed
- Workgroup review
- Workgroups may recommend that no demos move forward

May – October 2021
- Site visits
- Workgroup evaluations

Region 1

Pontchartrain

R1, PO-01	Central Wetlands HR & MC	EPA
R1, PO-02	Guste Island MC	EPA
R1, PO-03	St Catherine's Pass MC	EPA
R1, PO-04	Miller Bayou Marsh Creation	NMFS
R1, PO-05	Rigolets South Shore Restoration	NMFS
R1, PO-06	Bayou Ducrose MC	NRCS
R1, PO-07	East Labranche SP	NRCS

PPL31 PROJECT FACT SHEET
February 4, 2021

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. The area was heavily impacted by the construction of the MRGO in the 1960's. The majority of the area is shallow open water. Spoil banks associated with logging, navigation, and oil and gas canals created impoundments south of Violet Canal 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 moved through the Violet Canal and Bayou Dupre into the MRGO, but 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 (or other source) will be used to create emergent marsh adjacent to Bayou Bienvenue. The project would benefit 781 acres of wetlands by converting open water into marsh and nourishing existing marsh remnants. Restoration of the hydrology by making strategic cuts in the spoil banks would benefit the wetlands by restoring tidal exchange, increasing soil strength, and counteracting storm surge. 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 513 acres of marsh

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

Preparer(s) of Fact Sheet:
Sharon L. Osowski, Ph.D.; EPA; (214) 665-7506; osowski.sharon@epa.gov
Brad Crawford, P. E., EPA; (214) 665-7255; crawford.brad@epa.gov

Central Wetlands Hydrological Restoration & Marsh Creation

CW_MC_new
HR Cell 3
HR Cell 1
HR Cell 2

N

Basemap: 2019 NAIP DOQQ St. Bernard Parish
Produced by: EPA Region 6, Dallas, TX

0 0.5 1 2 3 4 Miles

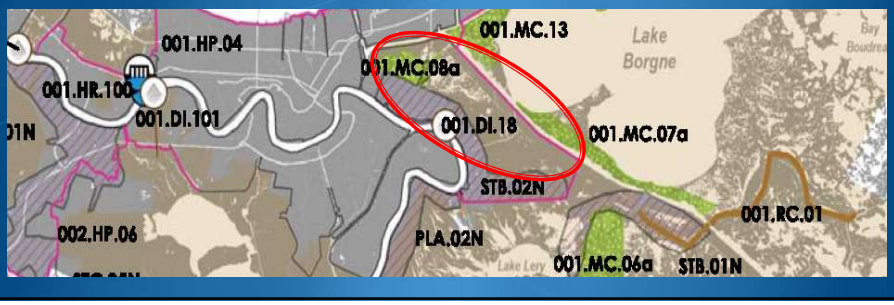
Central Wetlands Hydrological Restoration & Marsh Creation

Coastal Wetlands Planning, Protection and Restoration Act

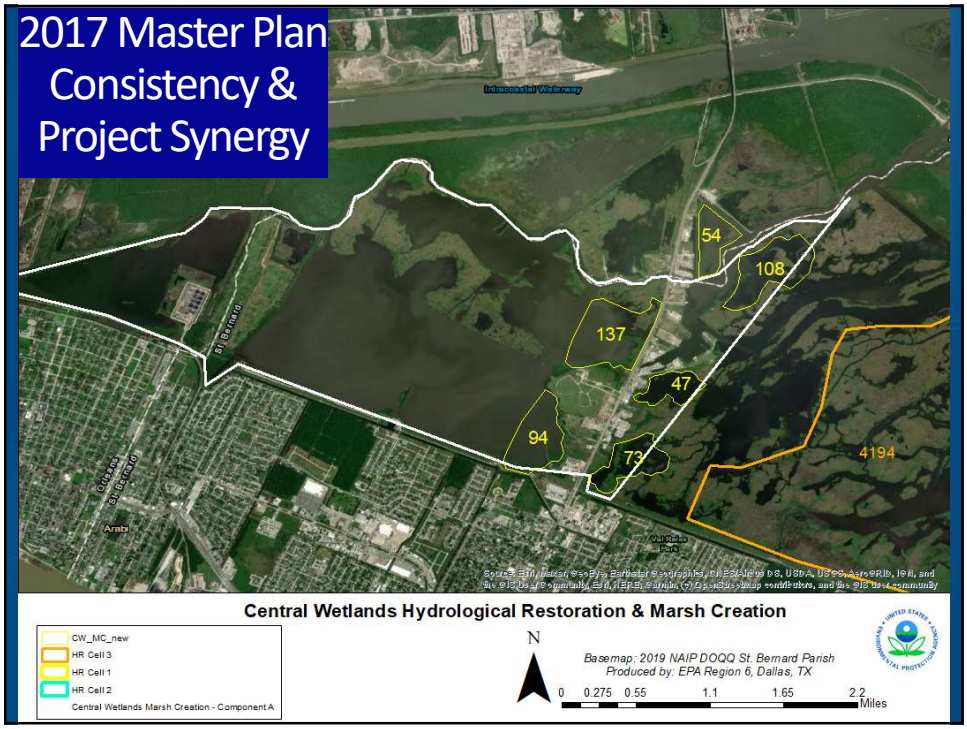
2017 Master Plan Solution

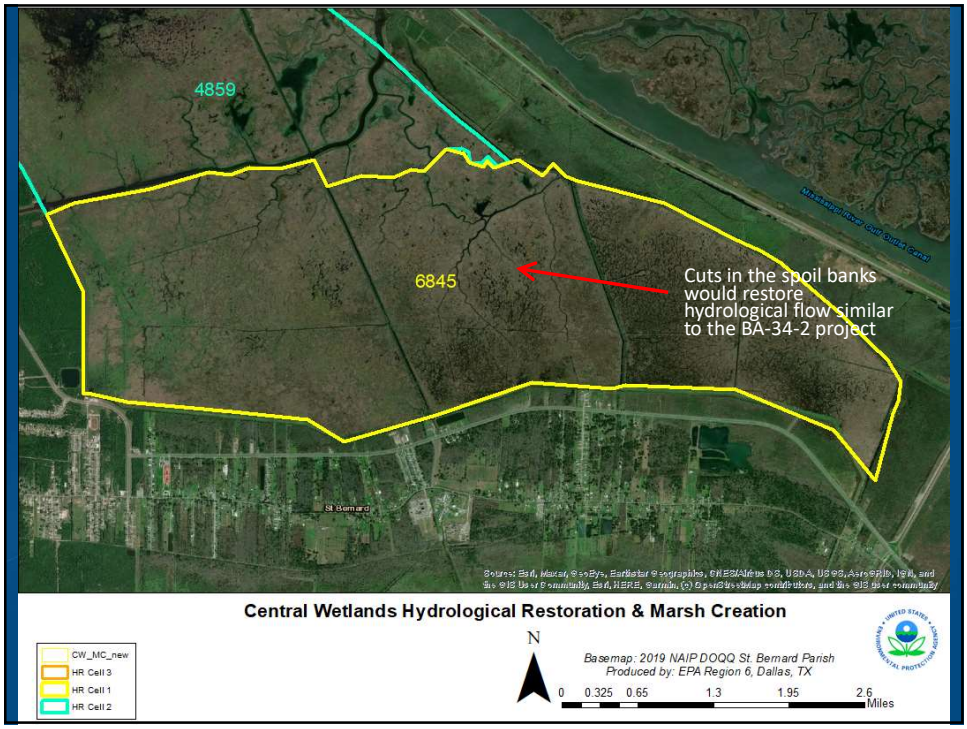
Programmatic Considerations: Small-Scale Hydrologic Restoration. Hydrologic restoration, as a technique for improving marsh health, seeks to restore natural hydrologic patterns either by conveying fresh water to areas that have been isolated by man-made features, relieving unnatural impoundments, or 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.

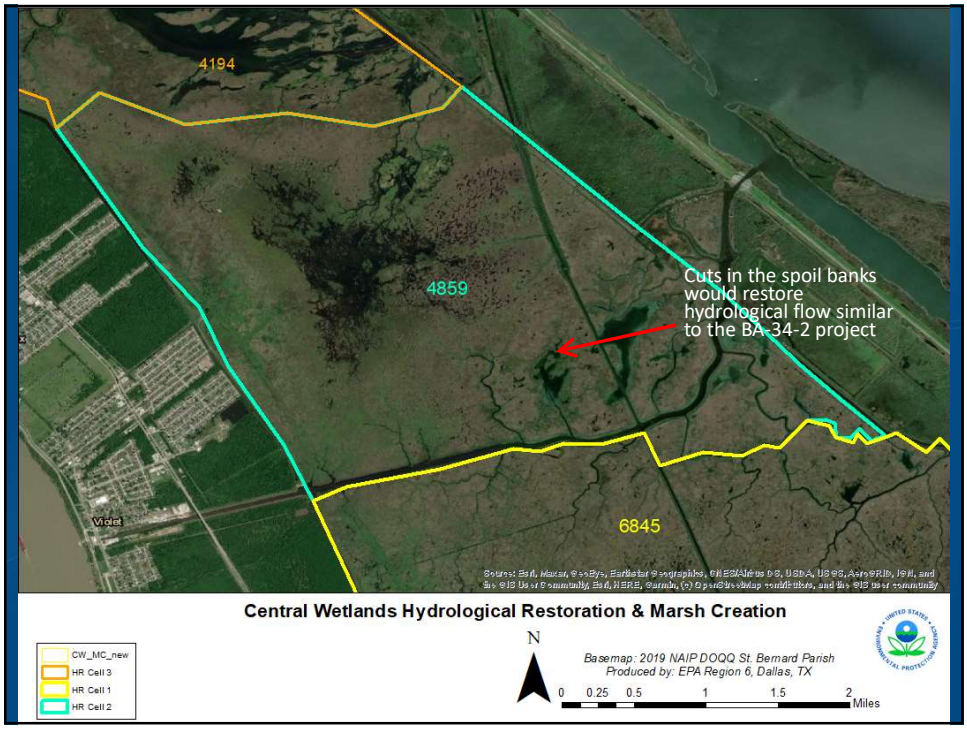
M001.MC.08a Central Wetlands Marsh Creation-Component A: Creation of approximately 3,000 acres of marsh in Central Wetlands near Bayou Bienvenue to create new wetland habitat and restore degraded marsh.

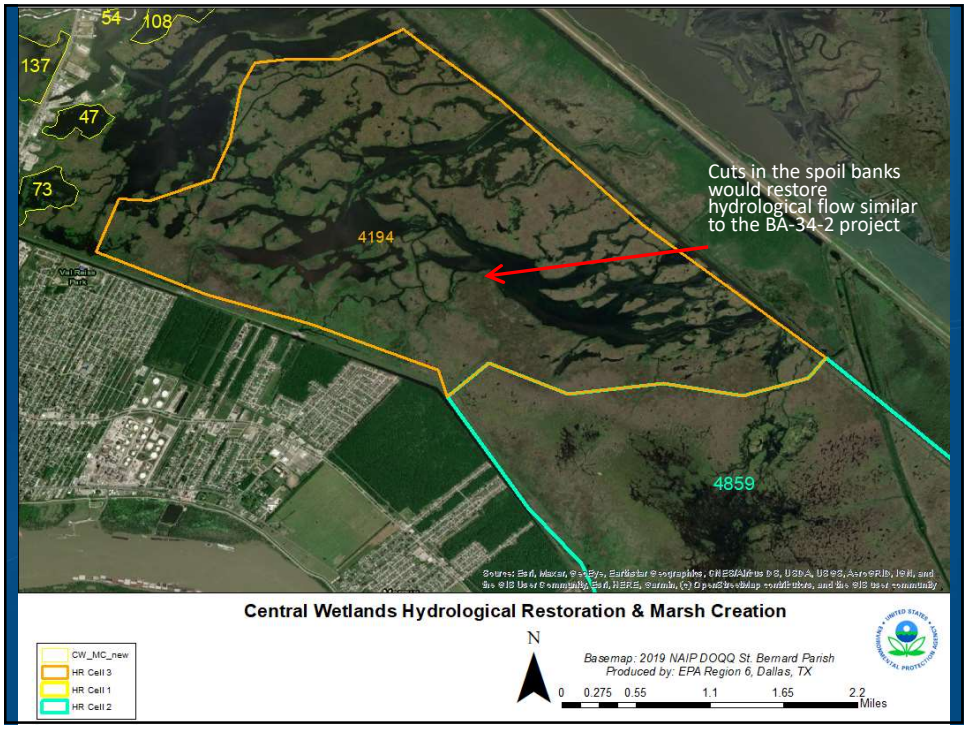


2017 Master Plan Consistency & Project Synergy





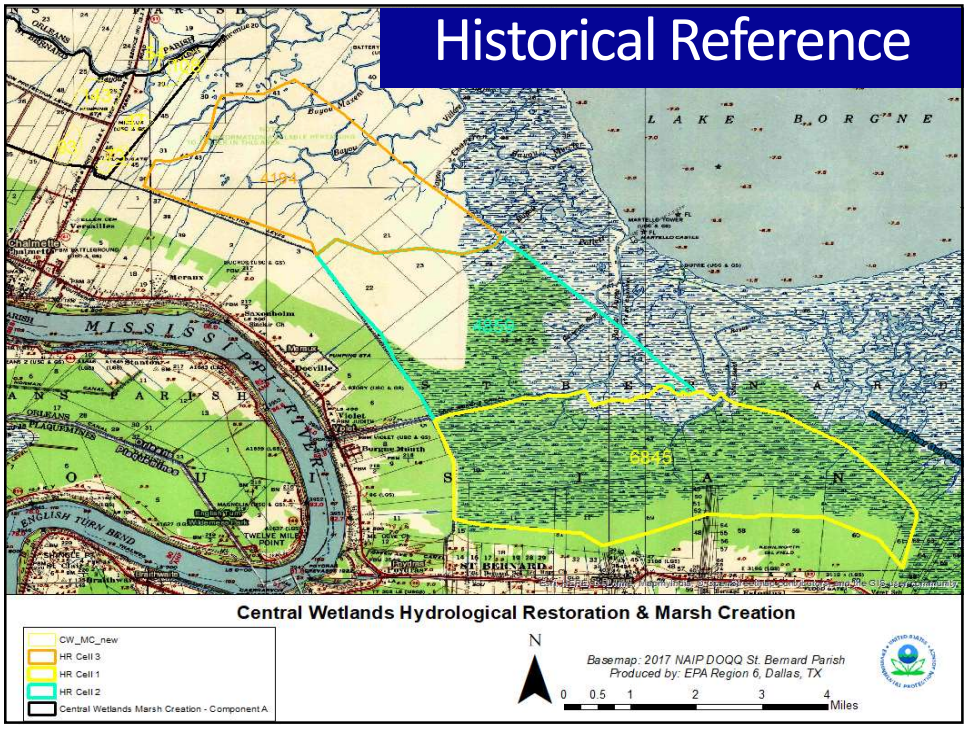

4194
4859
6845
Violet
Cuts in the spoil banks would restore hydrological flow similar to the BA-34-2 project
Central Wetlands Hydrological Restoration & Marsh Creation
CW_MC_new
HR Cell 3
HR Cell 1
HR Cell 2
N
Basemap: 2019 NAIP DOQQ St. Bernard Parish
Produced by: EPA Region 6, Dallas, TX
0 0.25 0.5 1 1.5 2
Miles


54
108
137
47
73
4194
4859
Cuts in the spoil banks would restore hydrological flow similar to the BA-34-2 project
Central Wetlands Hydrological Restoration & Marsh Creation
CW_MC_new
HR Cell 3
HR Cell 1
HR Cell 2
N
Basemap: 2019 NAIP DOQQ St. Bernard Parish
Produced by: EPA Region 6, Dallas, TX
0 0.275 0.55 1.1 1.65 2.2
Miles

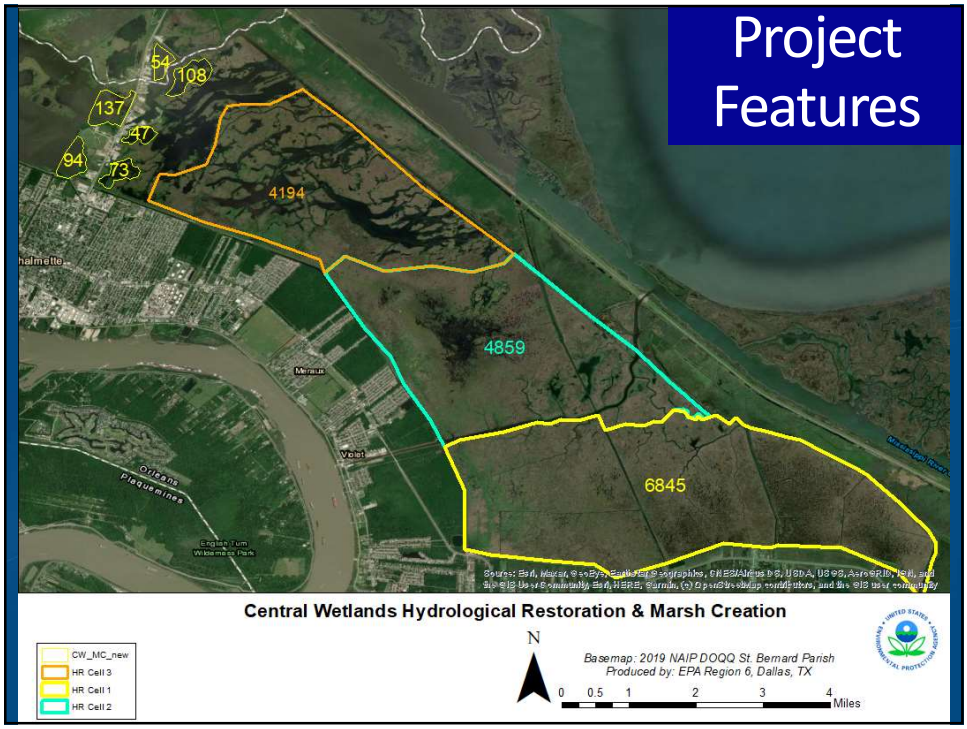
Problems

- 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 Features



Project Goals

- Hydrologically restore 15,898 acres of intermediate marsh 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 513 acres cells (457 acres marsh creation, 56 acres marsh nourishment) of emergent marsh with sediment from the Mississippi River
- Construction cost + 25% contingency is $35M - $40 M

PPL31 PROJECT FACT SHEET
February 4, 2021

Project Name
Guste Island Marsh Creation Project

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 a shallow open body of water located east of the Tchefuncte River near the Tangipahoa and St. Tammany Parish border. The property was used for livestock grazing. 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, land located north of this site is deteriorating quickly.

Proposed Solution
Sediment dredged from Lake Pontchartrain will be used to create emergent marsh in 3 semi-confined cells within the Guste Island area. The project would benefit approximately 436 acres of wetlands by converting open water into marsh and nourishing existing marsh remnants. Restoration in this area would build the area's defenses against hurricanes and flooding and offer opportunities for public recreation and wildlife habitat.

Project Goals
Create/nourish approximately 436 acres (create 406 acres and nourish 30 acres) of emergent marsh using sediment dredged from the Lake Pontchartrain.

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

Preparer(s) of Fact Sheet:
Sharon L. Osowski, Ph.D.; EPA; (214) 665-7506; osowski.sharon@epa.gov
Brad Crawford, P. E.; EPA; (214) 665-7255; crawford.brad@epa.gov
Randy Pausina; St. Tammany Parish Government; (985) 898-2529; RBPausina@stpgov.org

Guste Island Marsh Creation

N

Basemap: 2019 NAIP DOQQ St. Tammany Parish
Produced by: EPA Region 6, Dallas, TX

0 0.1 0.2 0.4 0.6 0.8 Miles

Guste Island Marsh Creation 436 ac

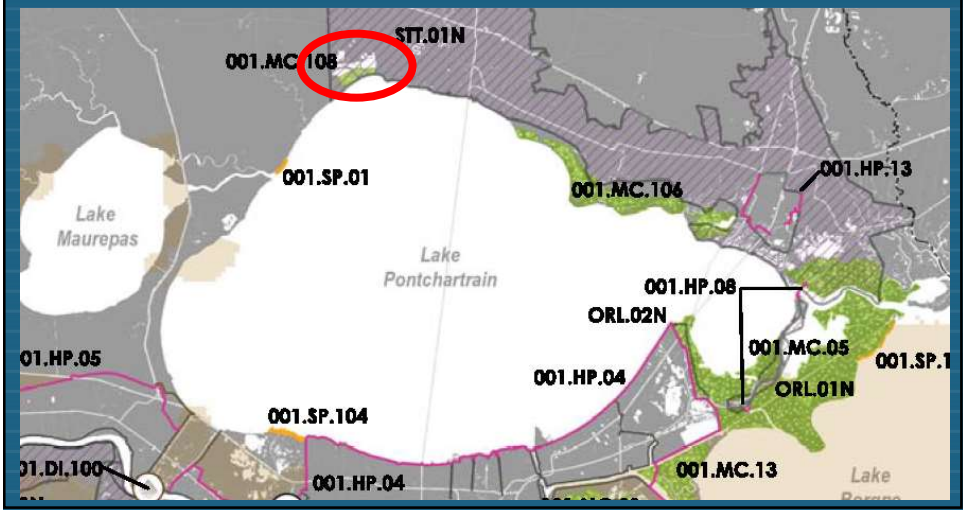
Guste Island Marsh Creation

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

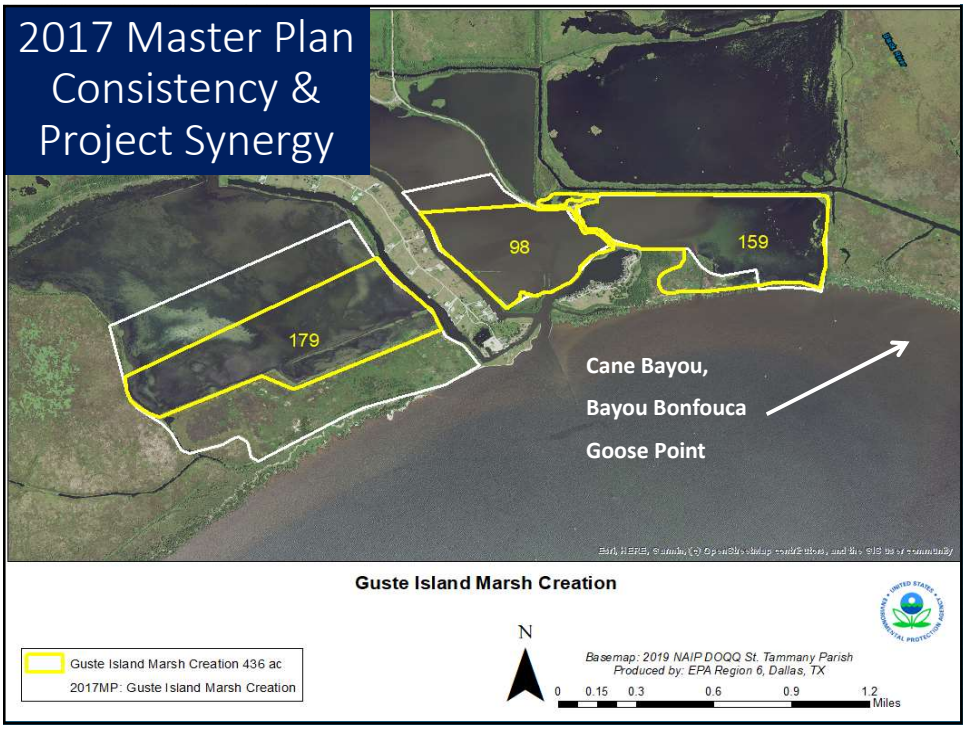
The Coastal Wetlands Planning, Protection and Restoration Act

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.



2017 Master Plan Consistency & Project Synergy



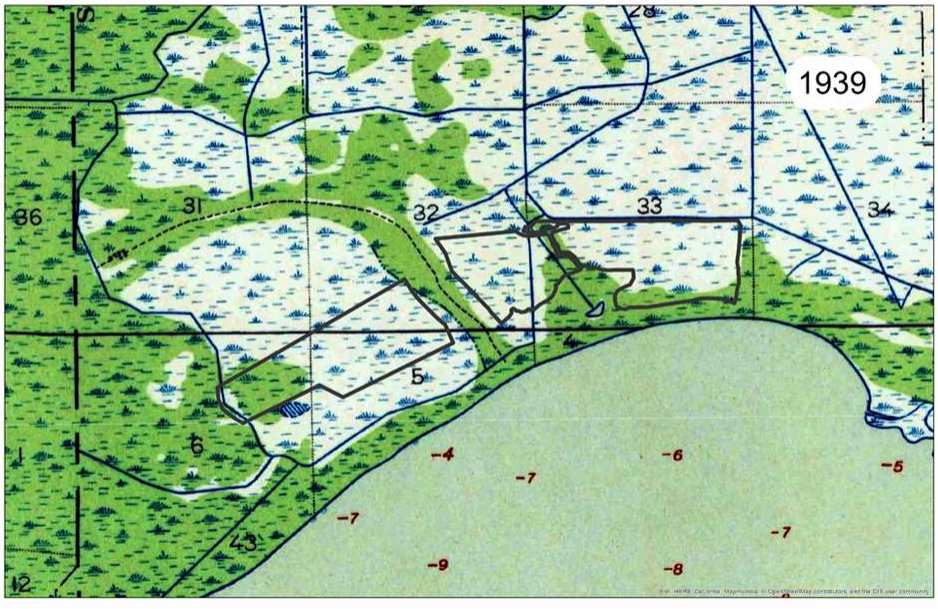
2017 Master Plan Consistency & Project Synergy

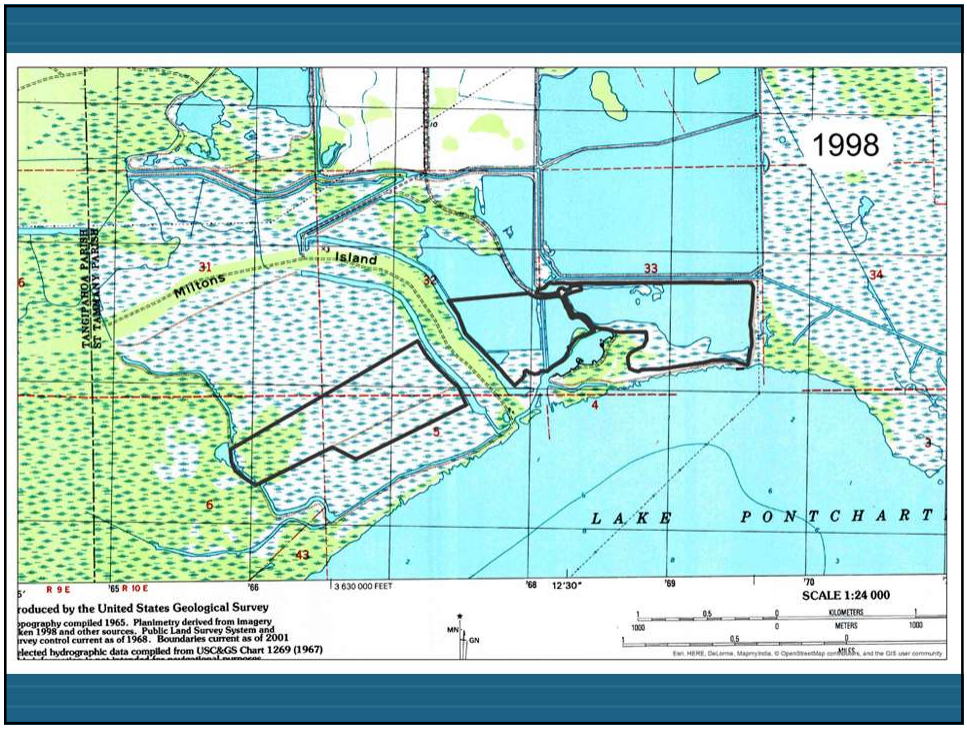
- Recommended concept by St. Tammany Parish Levee, Drainage and Conservation District in the Parish Master Plan and supported by St. Tammany Parish Government
- Constructed as a result of unavoidable impacts to intermediate marsh habitat as a result of the LPV HSDRRS
- 143 acres of intermediate marsh restoration achieved by dredging borrow material from Lake Pontchartrain
- TNC Tchefuncte Marsh property is adjacent to the Guste Island project polygons
- 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

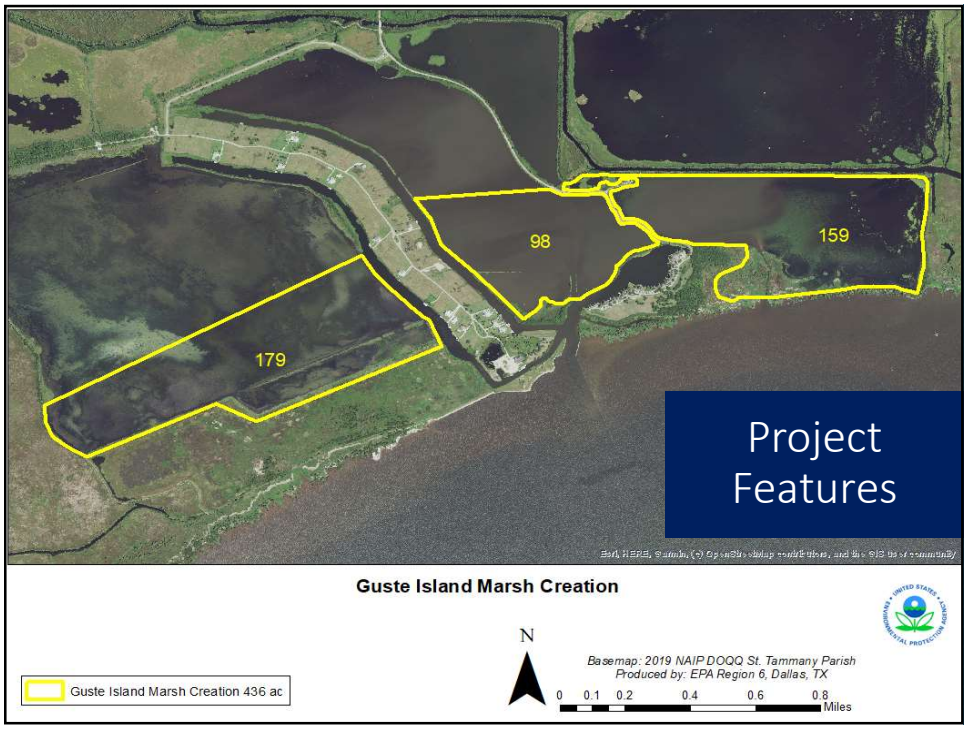
2010 imagery showing land loss developed through impoundment of marsh areas for agricultural activities.

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




1998
Island
Millions
TANGIPAHOA PARISH
ST TAMMANY PARISH
31
32
33
34
4
5
6
43
L A K E P O N T C H A R T
R 9 E
65 R 10 E
66
3 630 000 FEET
68 12'30"
69
70
SCALE 1:24 000
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)
MN
GN
KILOMETERS
METERS
MILES


02-03-1998
Guste Island
N
1 mi



Guste Island Marsh Creation Project

- Create 406 acres and Nourish Approx. 30 acres of marsh
- Recommended project in the Parish Master Plan
- Protects nearby infrastructure and sustainable after 20 yrs
- Achieves St. Tammany Restoration Goal of 100%
- Project 001.MC.108 in 2017 Master Plan

Guste Island Marsh Creation Project

- Works synergistically with other projects
- Creates wetland habitat
- Construction cost + 25% contingency $20M - $25M

PPL31 PROJECT FACT SHEET
February 4, 2021

Project Name
St. Catherine's Pass Marsh Creation

Master Plan Strategy
New Orleans Landbridge Restoration (2017 Master Plan 001.MC.05): Creation of approximately 33,400 acres of marsh in the New Orleans East Landbridge to create new wetland habitat and restore degraded marsh.

Project Location
Region 1, Pontchartrain Basin, Orleans Parish

Problem
The project area is a fragmented marsh on the New Orleans landbridge adjacent to Lake Catherine. The area has experienced impacts from storm surge and hurricanes as well as subsidence. Without continued sediment input, marshes cannot maintain viable elevations due to ongoing subsidence. Restoring the marsh in this area would protect and maintain resources vital to nearby communities.

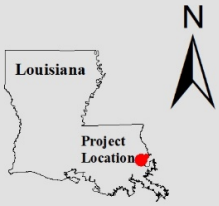
Proposed Solution
The proposed project would create/nourish approximately 283 acres of marsh using sediment dredged from the Lake Borgne. The dredged material would be fully contained. Containment dikes would be degraded as necessary to reestablish hydrologic connectivity with adjacent wetlands. The created marsh would be planted.

Project Benefits
Create/nourish approximately 283 acres (create 195 acres and nourish 88 acres) of emergent marsh using sediment dredged from Lake Borgne.

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

Preparer(s) of Fact Sheet:
Sharon L. Osowski, Ph.D.; EPA; (214) 665-7506; osowski.sharon@epa.gov
Brad Crawford, P.E., EPA; (214) 665-7255; Crawford.brad@epa.gov

St. Catherine Pass Marsh Creation
(PPL29 Candidate)



Marsh Creation *

Project Boundary

* denotes proposed features

0.5 0 0.5
Kilometers
0.5 0 0.5
Miles

Scale 1:35,000

Map ID: USGS-NWRC 2019-11-0021
Map Date: July 22, 2019

USGS science for a changing world

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

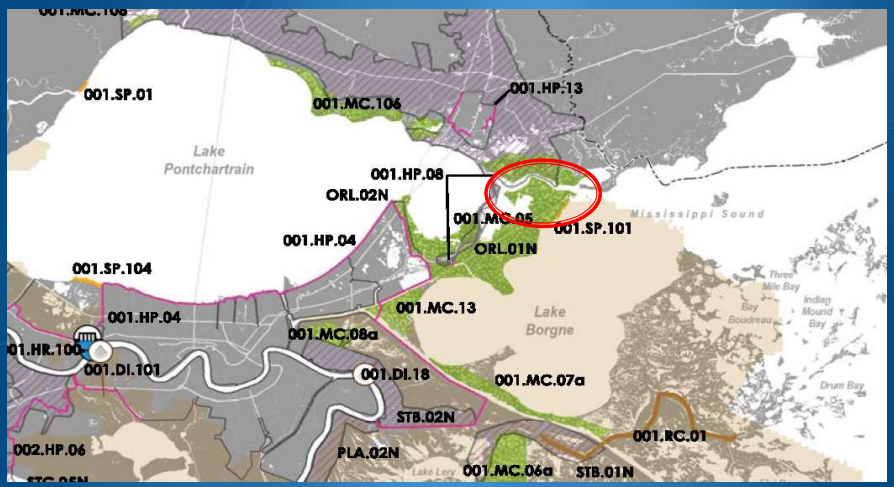
Image Source:
2017 NAIP

St. Catherine's Pass Marsh Creation

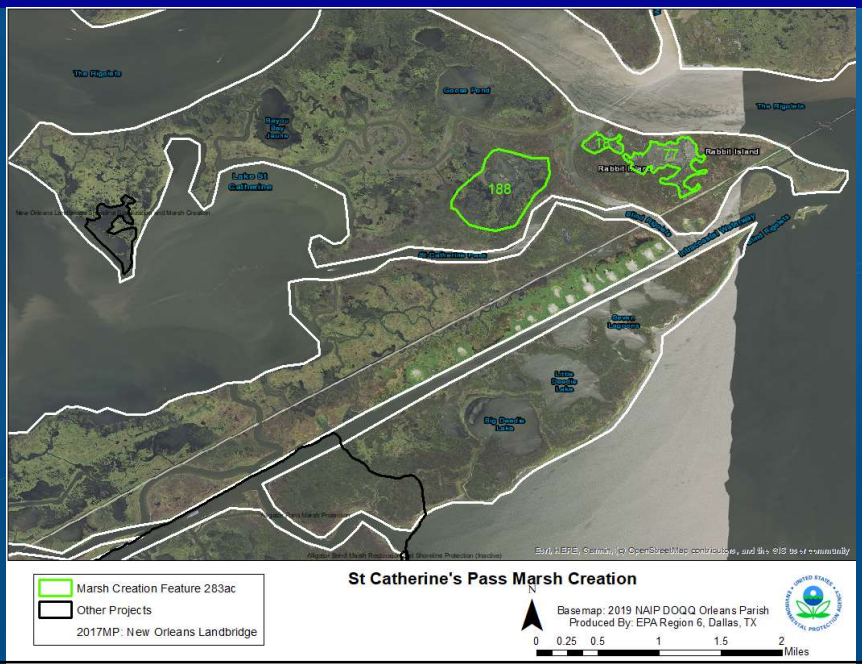
Coastal Wetlands Planning, Protection and Restoration Act

2017 Master Plan Solution

001.MC.05 New Orleans Landbridge Restoration: Creation of approximately 33,400 acres of marsh in the New Orleans East Landbridge to create new wetland habitat and restore degraded marsh.



2017 Master Plan Consistency & Project Synergy

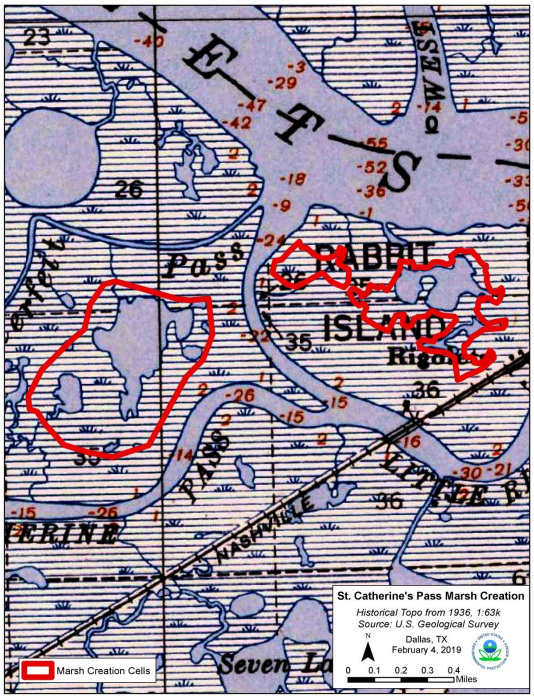


Problems

- Fragmented/degraded wetlands converting to open water
- Subsidence
- Storm events
- Wave energy
- Orleans Parish could lose 32% of its land area over the next 50 years and face increased wetland loss and severe storm surge flood risk (2017 MP).

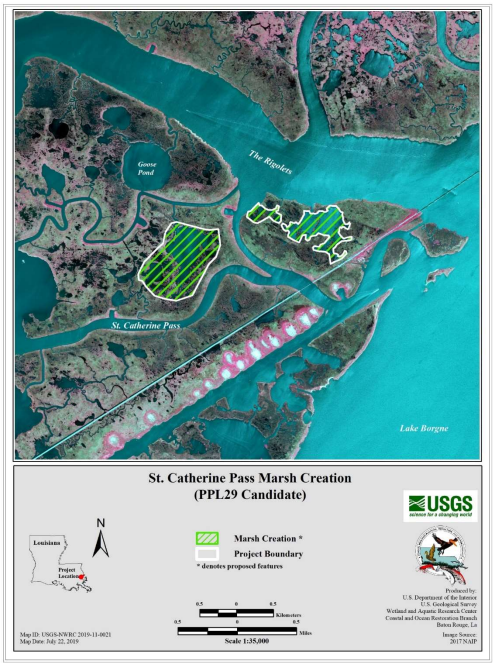
Historical Reference

- 1936 Topo



Project Features

- Create/nourish 283 acres (create 195 acres and nourish 88 acres) of emergent marsh with sediment from the Lake Borgne
- Provide increased protection from storm surge and flooding
- Restore wetland habitat
- Construction cost + 25% contingency is $15M - $20M.



PPL31 PROJECT RPT FACT SHEET
February 4, 2021

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 1984 to 2018 USGS land loss rate for this area is -0.10%/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 297 acres and nourish 196 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. (USGS data from 1984 to 2018 shows from -0.10%/year)

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. LandBridge 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:
Dawn Davis, NOAA Fisheries, 225-380-0041, dawn.davis@noaa.gov
Jason Kroll, NOAA Fisheries, 225-757-5411, jason.kroll@noaa.gov

PPL31 Miller Bayou Marsh Creation

297 Acres Marsh Creation
196 Acres Marsh Nourishment

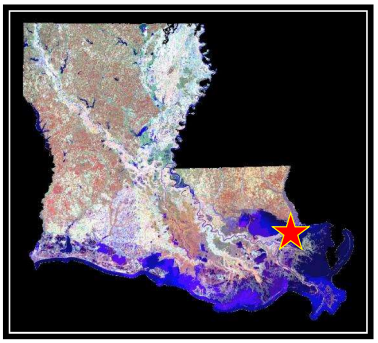
Federal Sponsor: NOAA Fisheries
2018 Aerial Imagery
Map Date 10-16-2019

Legend

- Marsh Creation
- Borrow Area

PPL31 Miller Bayou Marsh Creation Project

NOAA FISHERIES



REGION 1 – Pontchartrain Basin

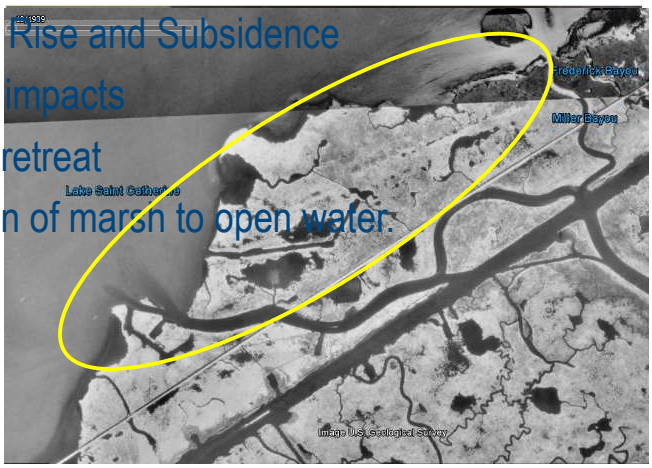
Presenter: Dawn Davis, NOAA

PPL31 CWPPRA Regional Planning Team Meeting
Virtual
February 4, 2021

Project Location

Project Area Problem

- Wetland degradation
  - Sea Level Rise and Subsidence
  - Hurricane impacts
  - Shoreline retreat
  - Conversion of marsh to open water.

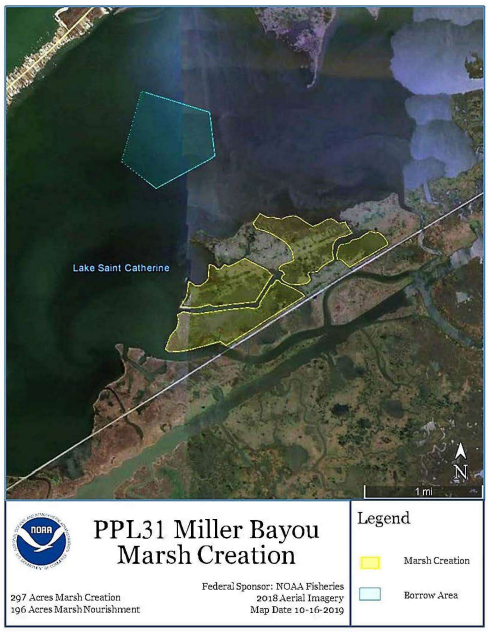


Project Goals

- 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:
Dawn Davis, 225-380-0041
dawn.davis@noaa.gov
Jason Kroll, 225-757-5411
jason.kroll@noaa.gov

PPL31 PROJECT NOMINEE FACT SHEET
February 4, 2021

Project Name
Rigolets South Shore Restoration

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 2009 to 2020 CRMS3784 land loss rate for this area is -0.29 %/year.

Goals
The project goal is to reestablish a more continuous shoreline and coastal wetland habitat along 2.6 miles of the south shore of The Rigolets. The project will reduce shoreline erosion impacts to wetlands, rebuild the critical natural framework of marsh that separates The Rigolets from Lake St. Catherine.

Proposed Solution
The proposed solution would be to construct 14,136 linear feet of shoreline berm with a living shoreline feature installed on the shore face. The project will rebuild eroded marsh by constructing three fully contained marsh creation cells totaling 215 acres (approximately 107 acres of marsh nourishment and 108 acres of marsh creation) and additionally placing unconfined dredge material in another 53 acres behind the shoreline restoration berm. All hydraulically dredged material would be pumped from a borrow site in Lake St. Catherine. The temporary containment dikes will be constructed and gapped within three years of construction to allow 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 296 acres.

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)?*
   The anticipated interior loss rate reduction throughout the area of direct benefit is estimated to be 95%. The living shoreline along the shore face would reduce shoreline erosion along the southern shore of The Rigolets.

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 The Rigolets shoreline which is a critical part of the Orleans Landbridge.

5) *What is the net impact of the project on critical and non-critical infrastructure?*
The general vicinity of the project includes infrastructure such as railroads, highways, camps, oil/gas infrastructure, and shipping channels. The project will have a positive impact on all the surrounding infrastructure.

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 other projects that support maintaining critical landforms within the Orleans landbridge: 1) PO-179 St. Catherine Island Marsh Creation and Shoreline Protection, 2) PO-169 N.O. LandBridge Shoreline Stabilization and March Creation and 3) PO-22 Bayou Chevee Shoreline Protection.

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

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

Preparer(s) of Fact Sheet:
Jason Kroll, NOAA Fisheries, 225-335-9659, jason.kroll@noaa.gov
Jennifer Smith, NOAA Fisheries, 225-954-6654, jennifer.smith@noaa.gov

PPL31 Rigolets South Shore Restoration

215 Acres Confined Marsh Creation and Nourishment
53 Acres Unconfined Marsh Creation and Nourishment
14,136 LF Living Shoreline Restoration

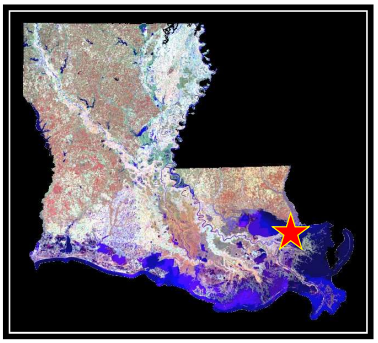
Federal Sponsor: NOAA Fisheries
2020 Aerial Imagery
Map Date 01-21-2021

Legend

- Marsh Creation
- Unconfined Marsh Fill
- Living Shoreline
- Borrow Area

Rigolets South Shore Restoration Project

NOAA FISHERIES



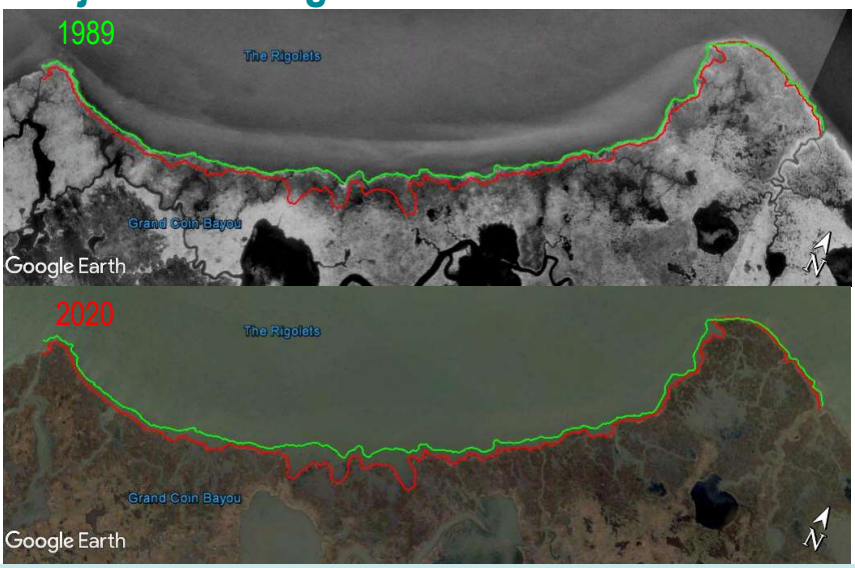
REGION 1 – Pontchartrain Basin

Presenter: Jason Kroll, Civil Engineer, NOAA

PPL31 CWPPRA Regional Planning Team
Virtual Meeting
February 4, 2021

Project Vicinity

Project Area Degradation



Proposed Project Solution

- Work within 2017 State Master Plan Polygon 001.MC.05
- 268 Acres of Marsh Creation/Nourishment
  - Dredge material from Lake Saint Catherine
  - 215 acres of contained fill areas with dike gapping after construction
  - 53 acres of uncontained fill areas
- 14,136 linear feet of shoreline berm construction with application of a living shoreline technique on the shore face.

Living Shoreline Techniques

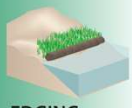
HOW GREEN OR GRAY SHOULD YOUR SHORELINE SOLUTION BE?

GREEN - SOFTER TECHNIQUES

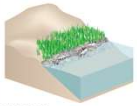
GRAY - HARDER TECHNIQUES

Living Shorelines

VEGETATION ONLY - Provides a buffer to upland areas and breaks small waves. Suitable for low wave energy environments.

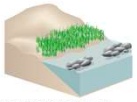


EDGING - Added structure holds the toe of existing or vegetated slope in place. Suitable for most areas except high wave energy environments.

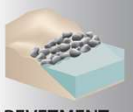


SILLS - Parallel to vegetated shoreline, reduces wave energy, and prevents erosion. Suitable for most areas except high wave energy environments.

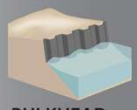
Coastal Structures



BREAKWATER - (vegetation optional) - Offshore structures intended to break waves, reducing the force of wave action, and encourage sediment accretion. Suitable for most areas.



REVETMENT - Lays over the slope of the shoreline and protects it from erosion and waves. Suitable for sites with existing hardened shoreline structures.



BULKHEAD - Vertical wall parallel to the shoreline intended to hold soil in place. Suitable for high energy settings and sites with existing hard shoreline structures.

Project Map

PPL31 Rigolets South Shore Restoration

215 Acres Confined Marsh Creation and Nourishment
53 Acres Unconfined Marsh Creation and Nourishment
14,136 LF Living Shoreline Restoration

Federal Sponsor: NOAA Fisheries
2020 Aerial Imagery
Map Date 01-21-2021

Legend
- Marsh Creation
- Unconfined Marsh Fill
- Living Shoreline
- Borrow Area

Summary

- 268 Acres Marsh Creation/Nourishment
- 14,136 LF Shoreline restoration with living shoreline component
- Construction Cost + 25% Contingency $20M - $25M
- Net Benefits: 200-250 acres

Synergy

- Synergy with other Orleans Landbridge projects such as PO-169, PO-179, PO-22

Contact information:
Jason Kroll, 225-335-9659
jason.kroll@noaa.gov
Jennifer Smith, 225-954-6654
jennifer.smith@noaa.gov

PPL 31 PROJECT FACT SHEET
February 4, 2021

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 lead 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.

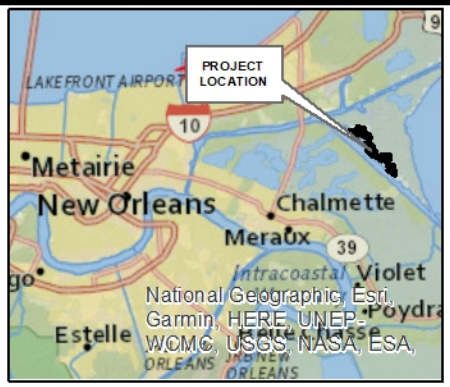
Preparer of Fact Sheet:
Blaise Pezold, Meraux Foundation, 504-264-8125, Blaise@merauxfoundation.org

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



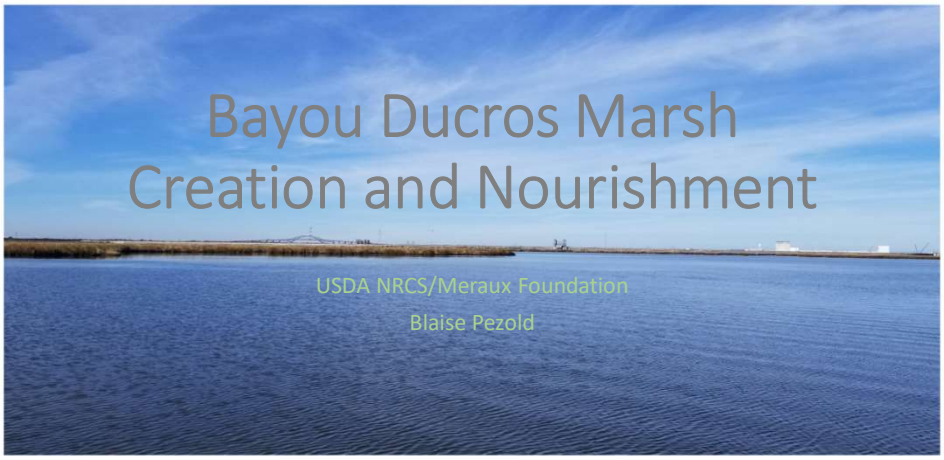
PPL 31
BAYOU DUCROSE
MARSH CREATION
ST BERNARD PARISH, LA

N
W E
S

0 2,000 4,000 Feet

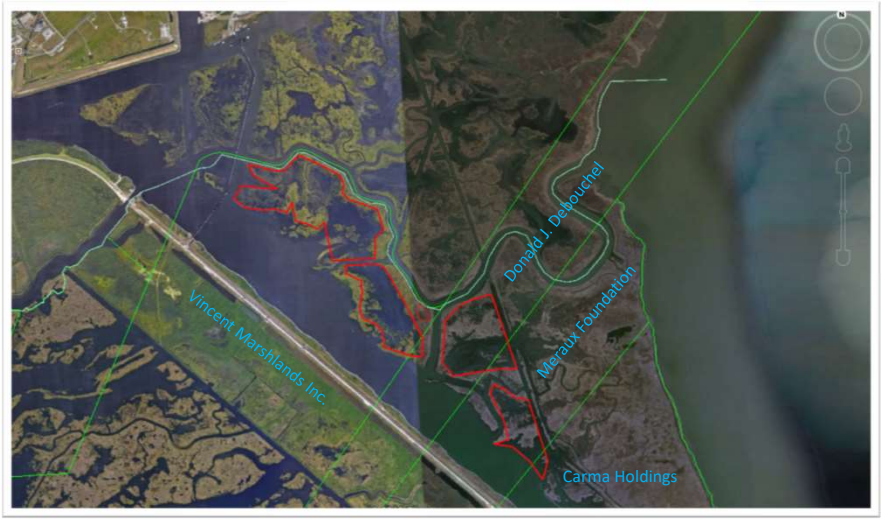
Legend

- MARSH_CREATION
- BORROW_AREA

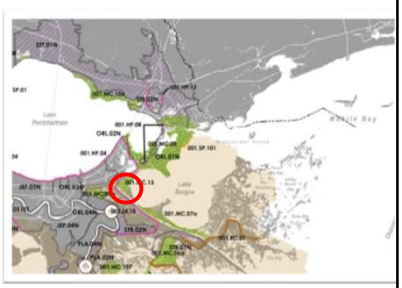


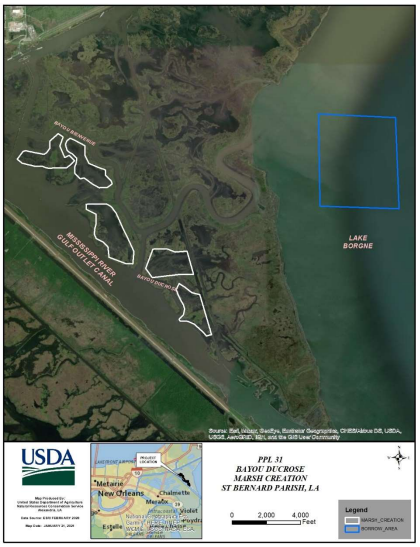
Bayou Ducros Marsh Creation and Nourishment

USDA NRCS/Meraux Foundation
Blaise Pezold



SYNERGY





Bayou Ducros MC

Marsh Creation

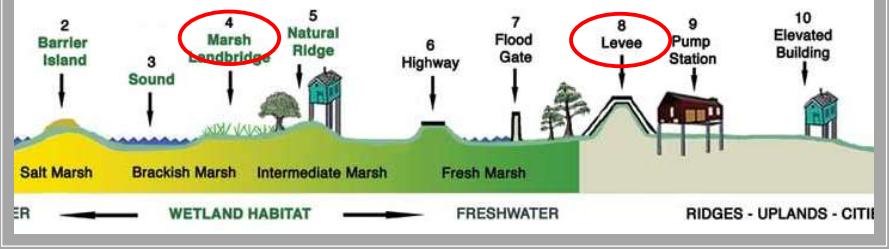
- 281 acres total

Marsh Nourishment

- 122 acres total

Total Cost + contingency =
$20-25 million

Any questions?



PPL31 PROJECT FACT SHEET

February 4, 2021

Project Name:
East Labranche Shoreline Protection

Master Plan Strategy
Master Plan 2017: Project No. 00 I.SP. I 04 Labranche Wetlands Shoreline Protection

Project Location
Region l, Pontchatrain Basin, St. Charles Parish

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 200 to 1200 lf in the last 20 years, which equates to about 140 acres of marsh.

Goal: The goal of this project is to establish a protective barrier between the current shoreline and Lake Pontchartrain by installing a foreshore rock dike. Access dredge material would be used beneficially to restore marsh that has been lost.

Proposed Solutions: The project will install 12,800 linear feet of shoreline protection using a rock riprap with a light-weight aggregate core. The access borrow material will be beneficially used to create marsh in the void between the rock protection and the shoreline.

Preliminary Project Benefits: The project will create 12,800 lf of shoreline protection reducing the current loss rate of shoreline which is anywhere from 12 ft/year to 60 ft/year resulting in approximately 140 acres of marsh protected. Use of the access dredged material will create another 24 acres of marsh for a total of 164 acres.

Preliminary Construction Costs: The estimated construction cost with contingency is $10-15 million.

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

USDA

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

Data Source: ESRI FEBRUARY 2020

Map Date: JANUARY 27, 2021

PPL 31
NE LABRANCHE
SHORELINE PROTECTION
ST CHARLES PARISH, LA

N
W E
S

0 1,500 3,000 Feet

Legend

SHORELINE_PROTECTION = 15,058 LF


PPL 31
East Labranche Shoreline Protection
E Labranche SP
Natural Resources Conservation Service
Google Earth
N
20 mi


Project as depicted in 2017 State Master Plan
NRCS

PPL-31
East Labranche
Shoreline Protection

Project Objectives:
To protect the last remaining exposed shoreline segment where the shoreline is experiencing significant erosion.

Project Features and Benefits:
- Install 12,000 ft of foreshore protection to protect 140 acres of marsh
- Create an additional 24 acres from flotation excavation

Project Cost: $10-15 million (constr+25%)