

CWPRA RPT Region 4

Calcasieu-Sabine Basin

CWPRA RPT Region 4

Mermen tau Basin

PPL34 PROJECT NOMINEE FACT SHEET

January 28, 2025

Project Name

Gulf Shoreline Protection West

Project Location

Region 4, Mermentau Basin, Cameron Parish, south of Rockefeller State Wildlife Refuge. SMP Programmatic Restoration Project: Shoreline Protection.

Problem

The Gulf shoreline in the vicinity of Rockefeller Refuge has some of the highest shoreline erosion rates found anywhere in Louisiana. Gulf shoreline erosion rates between Josephs Harbor and Price Lake Road, have been estimated to be -45 feet per year (1998 to 2023). Without protection, the Rockefeller Refuge shoreline will continue to retreat landward, which could have substantial impacts on the refuge (including resident endangered species) as well as the surrounding area. Without stabilizing the Gulf shoreline at Rockefeller Wildlife Refuge, the shoreline may retreat over 900 ft within a 20-year timespan.

Goals

The project goal is to halt Gulf shoreline erosion along a critical 2-mile-long reach where continued erosion will threaten the integrity of Price Lake Road and the watershed within Rockefeller Refuge as well as the recently constructed CWPPRA project ME-20. A total of 182 acres would be protected by the project.

Service goals include the protection of shoreline beaches designated as critical habitat for the threatened piping plover and beaches used by the threatened red knot. The project would also prevent the loss of back beach marshes which is highly likely to be occupied habitat for the recently listed black rail.

Project Features:

Foreshore Rock Dike – 10,560 lf

Proposed Solution

The proposed project is similar to the Rockefeller Refuge Gulf Shoreline Stabilization Project (ME-18). The project would construct 10,560 LF of foreshore breakwater with a light-weight aggregate core along the -3.5-ft (NAVD88) contour (approximately 150-ft offshore). It would extend west from the Rockefeller Shoreline Protection Project ME-37 project and parallel the shoreline with gaps every 1,500- ft. The project feature may trap sediments from the Gulf, which could result in accretion behind the breakwater as has occurred at ME-18.

Preliminary Ranking Criteria:

1) *What is the projects total net acres?*

Net Acres- 182

2) *What is the total project construction cost plus 25% contingency?*

Construction cost plus 25% contingency - \$39,827,190
Fully Funded Cost - \$60M – \$65M

- 3) *What is the project cost effectiveness using total net acres/project construction cost?*
Cost effectiveness - \$218,830/acre
- 4) *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:
 - ME-20
 - GSPW will be adjacent to shoreline protection projects ME-18, 35, and 37. Together these projects will provide protection for ME-20 with all projects helping to maintain integrity of interior marshes
 - ME-18
 - GSPW will be adjacent to projects ME-18, 35, and 37. Together these projects will provide shoreline and adjacent marsh protection for a greater reach of the Rockefeller Refuge shoreline.
 - ME-35
 - ME-37
- 5) *What is the interior loss rate and/or shoreline loss rate?*
Shoreline erosion rate – (-45 ft/yr)
- 6) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc or is part of a land bridge feature?*
The project would protect marsh and beach along the Gulf of Mexico and Rockefeller Refuge.
- 7) *Does any project feature directly or indirectly protect any critical and/or non-critical infrastructure?*
This project would protect a large portion of Price Lake Road.

Considerations/potential issues?

None

Preparer(s) of Fact Sheet:

John Savell, FWS, 337-291-3144, john_savell@fws.gov



Gulf of Mexico

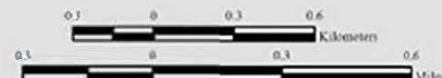
Gulf Shoreline Protection West (PPL34 Candidate)



Shoreline
Protection

Project Boundary

Note: All features are proposed.



USGS
science for a changing world



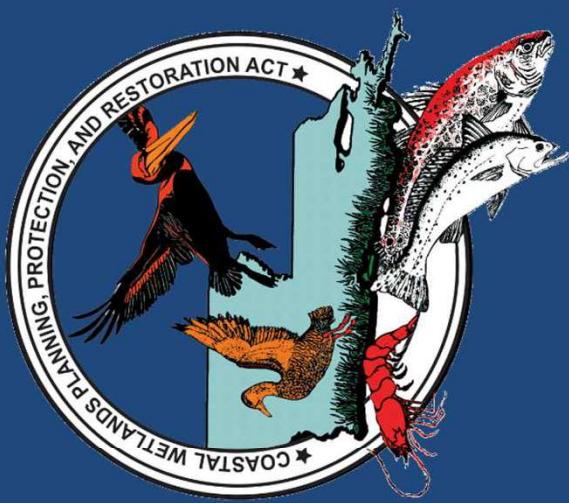
Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
Wetland and Aquatic Research Center
Baton Rouge, LA

Image Source:
2021 NAIP CIR

PPL35

Gulf Shoreline Protection - West

Region 4, Merrittau Basin



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



2023 State Master Plan – Gulf Shoreline Protection – West

U.S. Fish & Wildlife Service

Louisiana Ecological Services

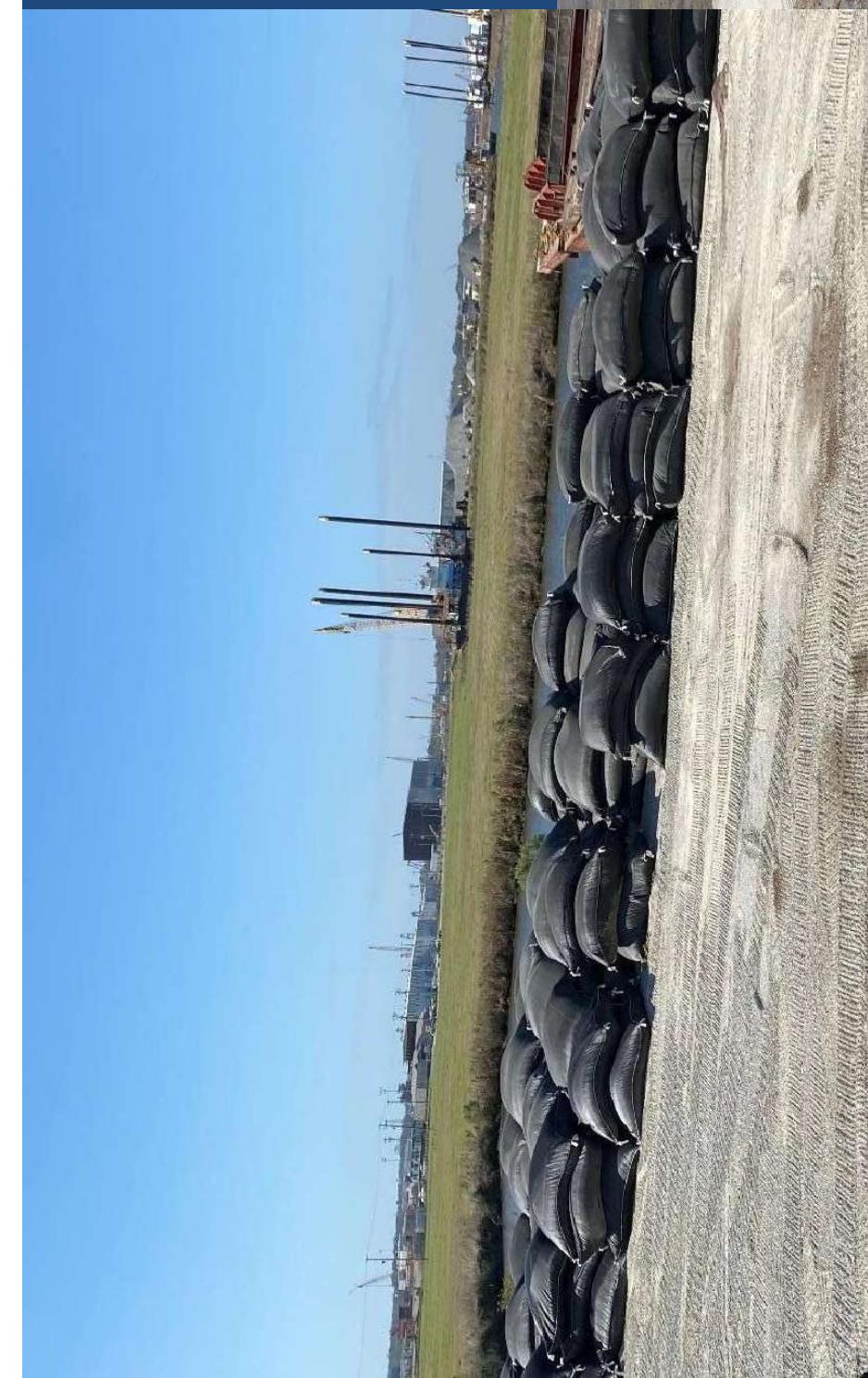
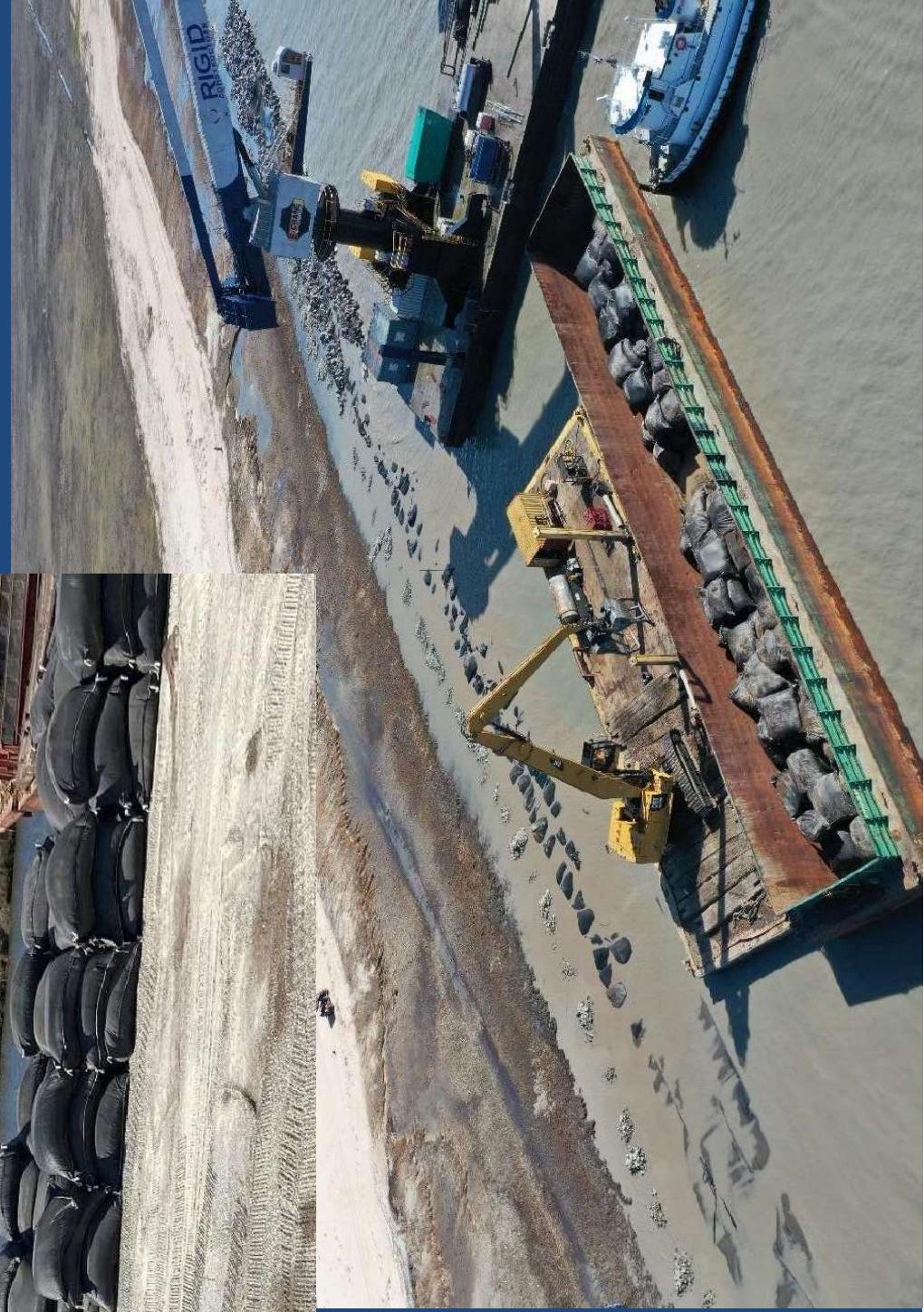


**Gulf Shoreline Protection West
Cameron Parish, Louisiana**

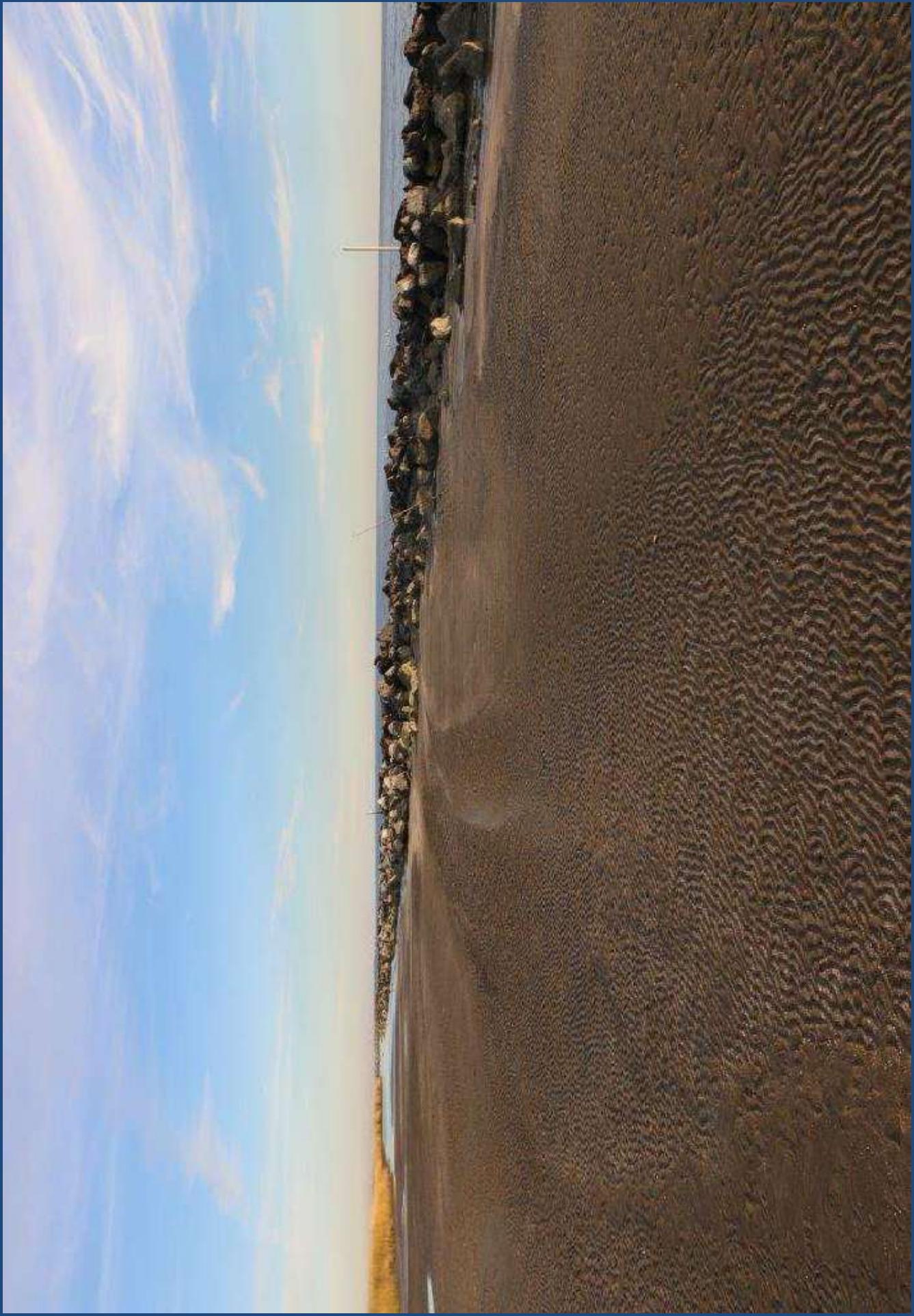


Gulf Shoreline LOSS Rate





Accretion behind ME-18





Gulf Shoreline Protection - West

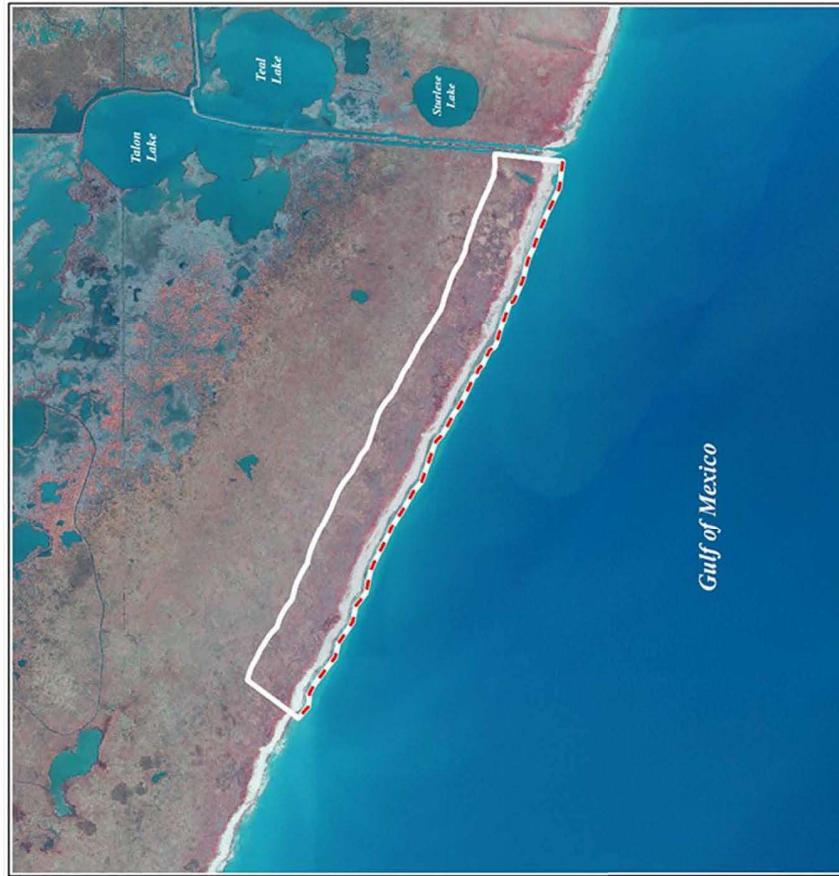
- 244 acres of marsh protected

- 10,560 ft (2 miles) of Gulf shoreline protected
- Net acres = 182
- Construction plus contingency
\$35 M - \$39 M

- Synergistic with ME-20, ME-32, ME-18, ME-37, ME-35

- Protects Rockefeller Refuge (State Refuge)

- Critical Habitat for threatened—Piping Plover, Red Knot



GULF SHORELINE PROTECTION



PPL35 CONCEPT FACT SHEET
February 4, 2025

Project Name

Kings Bayou Hydrologic Restoration

Master Plan Strategy

Mermentau Basin Hydrologic Restoration (2023 Master Plan Project ID 347, Implementation Period 1): A series of hydrologic features to facilitate drainage from the upper Mermentau Basin to the Gulf of Mexico. Kings Bayou: Channel dredging and cleanout in Little Chenier Canal and Kings Bayou, improving three road crossings, and increasing drainage capacity to the Mermentau River at the Kings Bayou Control Structures.

Project Location

Region 4, Mermentau Basin, Cameron Parish

Problem

The area faces issues with inundation and poor drainage. The regional loss rate is -0.27% per year but the most recent project in the area (ME-32) loss was determined by USGS to be -1.04% per year.

Proposed Solution

Canal dredging and clean out in Little Chenier Canal and Kings Bayou, approximately 6.5 mi; increase flow through three road crossings (Muria Rd, E Creole Rd, Mermentau River Rd); increasing drainage capacity at the Kings Bayou Control Structures. Specific volumetric flow rates to be determined as concept advances. The proposed project would promote hydrologic connectivity by allowing water to flow more effectively through gravity drainage.

Project Benefits

The primary goals of this project are to restore water flow, reduce prolonged flooding, and control salinity levels, which are crucial for maintaining marsh productivity and reducing land loss.

Project Innovation

- Small dredge for canal cleanout
- Potential for side spray casting for thin-layer placement
- Hydrologic model to investigate other opportunities to improve gravity drainage in that watershed
- Possible partner with LADOTD

Project costs

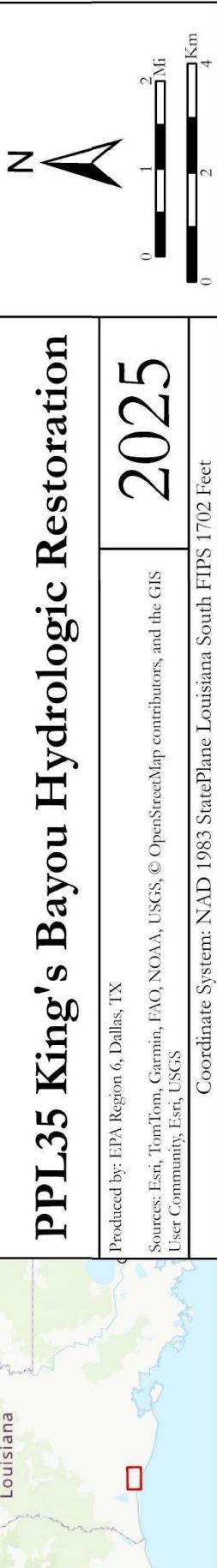
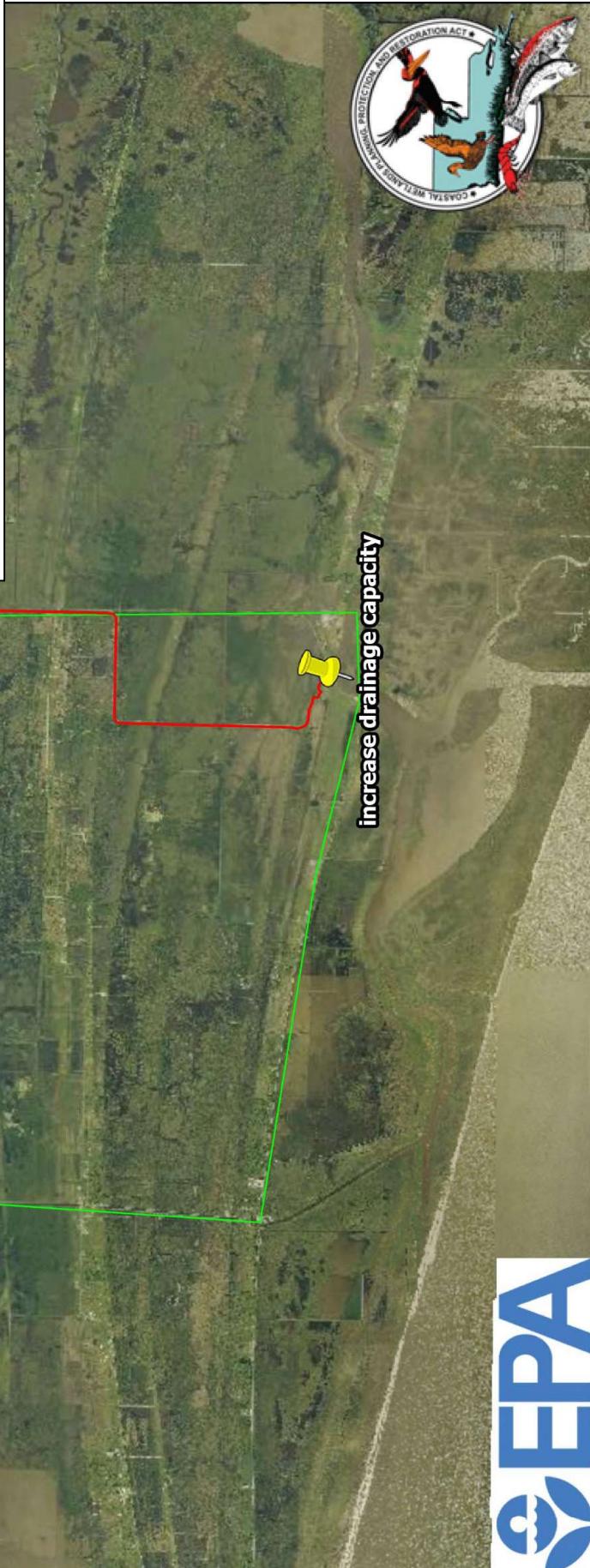
The estimated construction cost plus 25% contingency is \$20M - \$25M.

Preparer(s) of Fact Sheet and Contact Information

Jenny Byrd; EPA; (214) 665-7377; byrd.jennifer@epa.gov

Feature descriptions:

- Green polygon – area of investigation for hydrologic issues/connectivity.
- Red line – canal dredging and cleanout, approx. 6.5 mi
- Yellow pin – increase drainage capacity at Kings Bayou outlet to the lower Mermittau River



King's Bayou Hydrologic Restoration

PPL35



2023 Master Plan Strategy



Summary of Information and Features

Problem Issues with inundation and poor drainage

Benefits Restore water flow, reduce prolonged flooding, control salinity levels, promote water quality (Mermentau river not meeting designated use)

Cost \$20-\$25M

Innovation * Small dredge for canal cleanout
* Potential for side cast spray for thin layer placement
* Hydrologic model to investigate other opportunities to improve gravity drainage





Feature descriptions:

- Green polygon – area of investigation for hydrologic issues/connectivity.
- Red line – canal dredging and cleanout, approx. 6.5 mi
- Yellow pin – increase drainage capacity at King's Bayou outlet to the lower Mermenau River

EPA Region 6 CWPRA Team Goals

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



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PPL34 PROJECT NOMINEE FACT SHEET

February 4, 2024

Project Name

Hog Bayou Stabilization and Marsh Creation

Project Location

Region 4, Mermertau Basin, Cameron Parish

Master Plan Consistency

This proposal is about a third of a mile south of CPRA's 2023 Coastal Master Plan's South Grand Chenier Marsh Creation polygon.

Problem

Historically, wetland loss in the Hog Bayou watershed has been caused by storm surge, failed agricultural pump offs, increased water and salinity levels from the Gulf Mexico via Hog Bayou, and limited freshwater input; however, the marsh was stable around Hog Bayou in the Beach Prong area. Since Hurricane Barry in 2019, marshes north of the east branch of Hog Bayou have degrade because of increased inundation and salinity stress. This degraded marsh makes the Hog Bayou bank vulnerable to breaching which will lead to increased water and salinity levels exacerbating wetland loss in the area.

The extended boundary for the PPL 34 Candidate Grand Chenier Marsh Creation, which included this proposed area, had a land change rate of $-0.87\text{ \%}/\text{y}$, and a nearby project less than a mile east and along Hog Bayou, had a loss rate determined to be $-1.04\text{ \%}/\text{y}$ (both rates determined by USGS). The regional subsidence rate is $8.136\text{ mm}/\text{yr}$ (based on the 2023 Master Plan for Chenier Ridges).

Goals

The project goals are to stabilize the northern bank along the east branch of Hog Bayou and construct marsh to reinforce the enhanced bank line. The marsh creation will also re-establish critical habitat for wildlife and fisheries. The bank stabilization and the marsh creation will work together to limit the water and salinity levels that enter the area via Hog Bayou.

Proposed Solution

The proposed solution is to restore 12,526 linear feet of northern bank stabilization along the east branch of Hog Bayou. An estimated 489 acres of marsh will be re-established north of the bank stabilization utilizing dredge material from Upper Mud Lake to fill the marsh creation area.

Preliminary Project Benefits

Benefits in terms of net area after 20 years is 400-450 acres. This project would work synergistically with existing hydraulic structures, ME-20 South Grand Chenier, ME-32 South Grand Chenier Marsh Creation – Baker Tract to contain Hog Bayou, a critical landscape feature. It would also be synergistic with the Cameron School Board Terraces, Miller 5 Terraces, and

ME-0041 SW Coastal Shoreline Protection (USACE SW Coastal Study – E&D) to protect LA Hwy 82 which is a hurricane evacuation route. As of the January 2024 Google Earth imagery, there is only a one-third-of-a-mile (1,470 ft) wide strip of marsh between the Gulf of Mexico and Hog Bayou at the proposed project location; then there is about 3.3 miles of continuous water north to LA Hwy 82. The proposed marsh creation project (~0.84 miles wide) would widen the strip of marsh by 2.5 times.

Project Costs

The estimated construction cost plus 25% contingency is \$25-30 M based on comparable projects in Engineering and Design in the area. This area is shallower than nearby marsh creation projects due to the recent degradation of the marsh; therefore, less material should be required. Opportunities for cost savings by using outside containment along the entire marsh creation area also exist.

Considerations

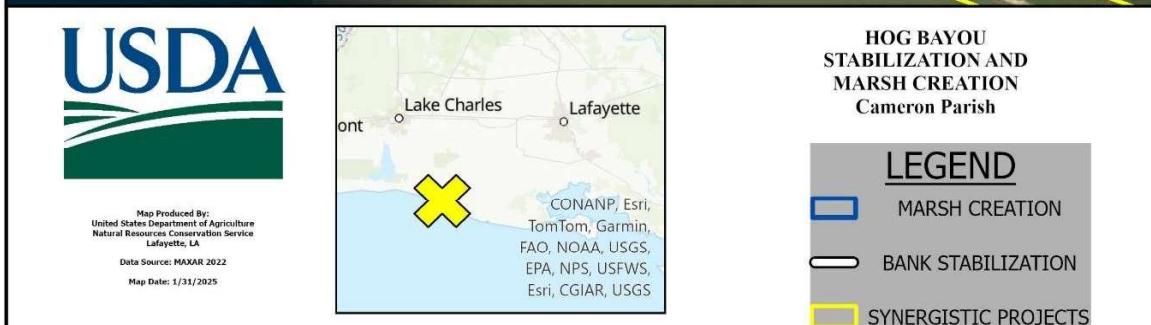
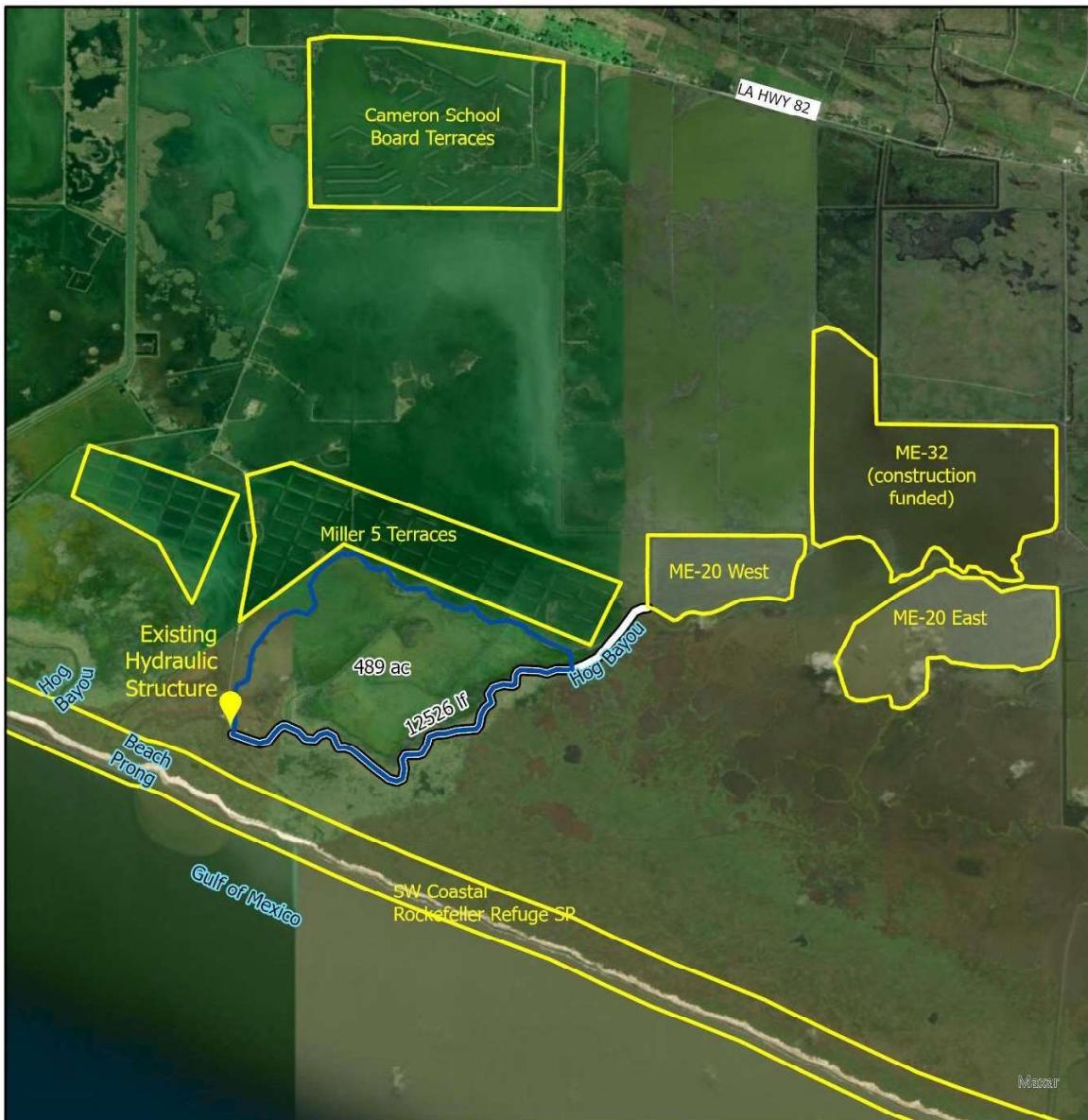
This project could work in conjunction with the Grand Chenier Marsh Creation project selected in PPL 34 for borrow source coordination.

Proposal supported by the landowner.

Preparers of Fact Sheet

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Vincent Palumbo, III; USDA-NRCS; vincent.palumboIII@usda.gov

Project Map. Hog Bayou Stabilization and Marsh Creation, synergy, and critical landscapes and infrastructure



Hog Bayou Bank Stabilization and Marsh Creation

Region 4, Mermontau Basin, Cameron Parish, LA



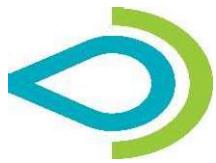
NRCS Project Team

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Vincent Palumbo III, Vincent.palumboiii@USDA.gov



NOT CONSISTENT WITH STATE MASTER PLAN



Hog Bayou Stabilization and Marsh Creation

Current Situation

~ A 1/3-mile strip of marsh separates the Gulf of Mexico from the continuous open water that reaches LA Hwy 82.

~ The proposed marsh creation project would widen the strip of marsh by 2.5 times.

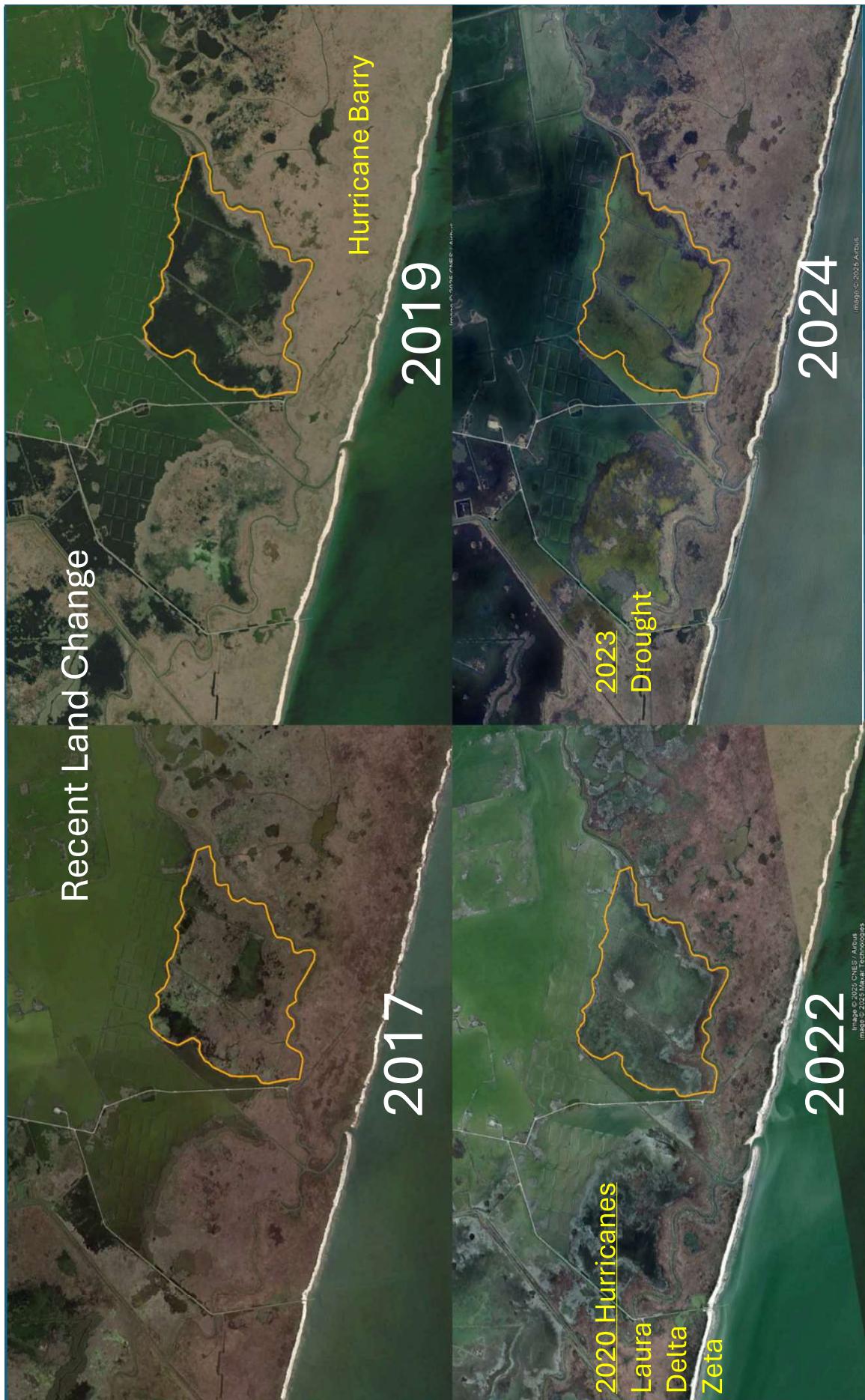
Land Change

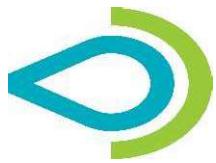
PPL34 Grand Chenier Marsh Creation Extended
Boundary: -0.87 %/yr (1984-2024)

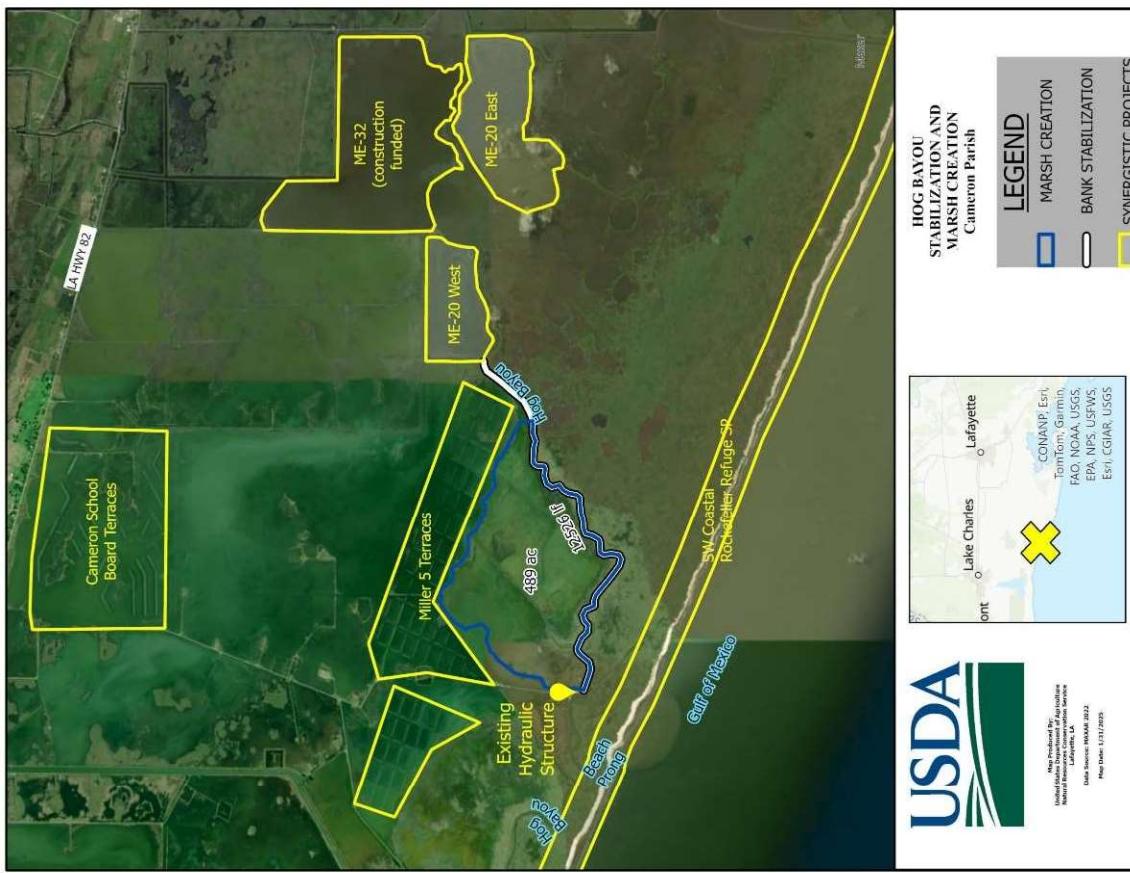
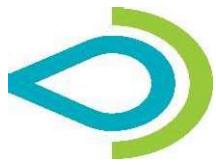
ME-32: -1.04 %/yr (1984-2021)

Caused by:

- Storm surges
- Increased inundation
- Increased salinity levels
- Limited freshwater input







Goal

- ~Restore degraded marsh habitat
- ~Stabilize Hog Bayou to reduce inundation and salinity stress

Proposed Solution

- ~12,526 linear feet of bank stabilization
- ~489 acres of MC&MN

Preliminary Project Benefits

- ~400-450 Net Acres

Const. Est + Contingency

- ~\$25M - \$30M

Other Considerations

- ~Landowner supported



Hog Bayou Stabilization and Marsh Creation

Not Consistent with
2023 Master Plan

For Future
Consideration?...

PPL34 PROJECT NOMINEE FACT SHEET

January 30, 2024

Project Name

Pecan Island Marsh Restoration

Project Location

Region 4, Mermentau Basin, southeastern Vermilion Parish, near Pecan Island, Louisiana

Problem

The project is located within the Chenier Sub-basin. Storms, saltwater intrusion, elevated water levels/prolonged flooding, oil and gas exploration, and land use practices have contributed to wetland loss in the project area. Synoptic spikes in wetland loss have occurred with storms along with historic persistent loss. Most of the wetland loss south of Pecan Island occurred in the latter half of the 20th century resulting in expansive open water areas creating risk for and reducing resiliency of habitat and nearby infrastructure. The USGS 1985 to 2020 loss rate is -0.21%/yr for the Rockefeller/Pecan Island mapping unit.

Goals

The project goal is to create approximately 300 acres of marsh and nourish 15 acres of marsh to remain within the MLW to MHW the maximum duration over 20 years. Additional project goals include creating edge habitat and reducing wave fetch by constructing approximately 14,000 linear feet of terraces.

Proposed Solution

The proposed solution is to restore wetland habitat by creating and nourishing marsh and constructing terraces in a manner nearby and parallel to Highway 82. Sediment would be mined from White Lake, delivered by a conveyance pipe down Pecan Island Canal (aka Mill Canal), across Highway 82, and placed in a confined area to create and nourish 315 acres of marsh south of Pecan Island. Crossing Louisiana Highway 82 would either occur through the ME-01a culverts or near the southern terminal end of Pecan Island Canal. Approximately one mile of pumping distance would be saved if a road crossing near the southern end of Pecan Island is possible. Additionally, 14,000 linear feet of earthen terraces would be constructed and planted. The marsh creation area and terrace field is located nearby and parallel to Highway 82 along the north side of an expansive open water area south of Pecan Island to break up wave fetch. Containment dikes would be gapped to the constructed marsh fill elevation at the end of construction for dewatering and gapped or degraded no later than year three after construction to establish tidal exchange.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?* The total acres benefited is 527 acres (300 acres marsh creation, 15 acres marsh nourishment, and 212 acres terrace field).

2) *How many acres of wetlands will be protected/created over the project life?* The total net acres of marsh protected/created over the project life is approximately 300 - 350 acres (294 net

from marsh creation and 8 acres net from terracing). Additional benefit from promoting colonization of submerged aquatic vegetation is expected.

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 loss rate reduction throughout the area of direct benefits (marsh creation and terraces combined) over the project life is 25 – 49%.

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.* Although the project does not directly restore a ridge or chenier, it provides a buffer for Pecan Island.

5) *What is the net impact of the project on critical and non-critical infrastructure?* The project would have a net positive impact on critical infrastructure consisting of Louisiana Highway 82 and residences as well as positive impact and non-critical infrastructure consisting of flowlines.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?* The project would work synergistically with ME-01a (Pecan Island Freshwater Introduction) and ME-14 (Pecan Island Terracing).

Considerations

Considerations for this project include pipelines/utilities and Eastern Black Rail.

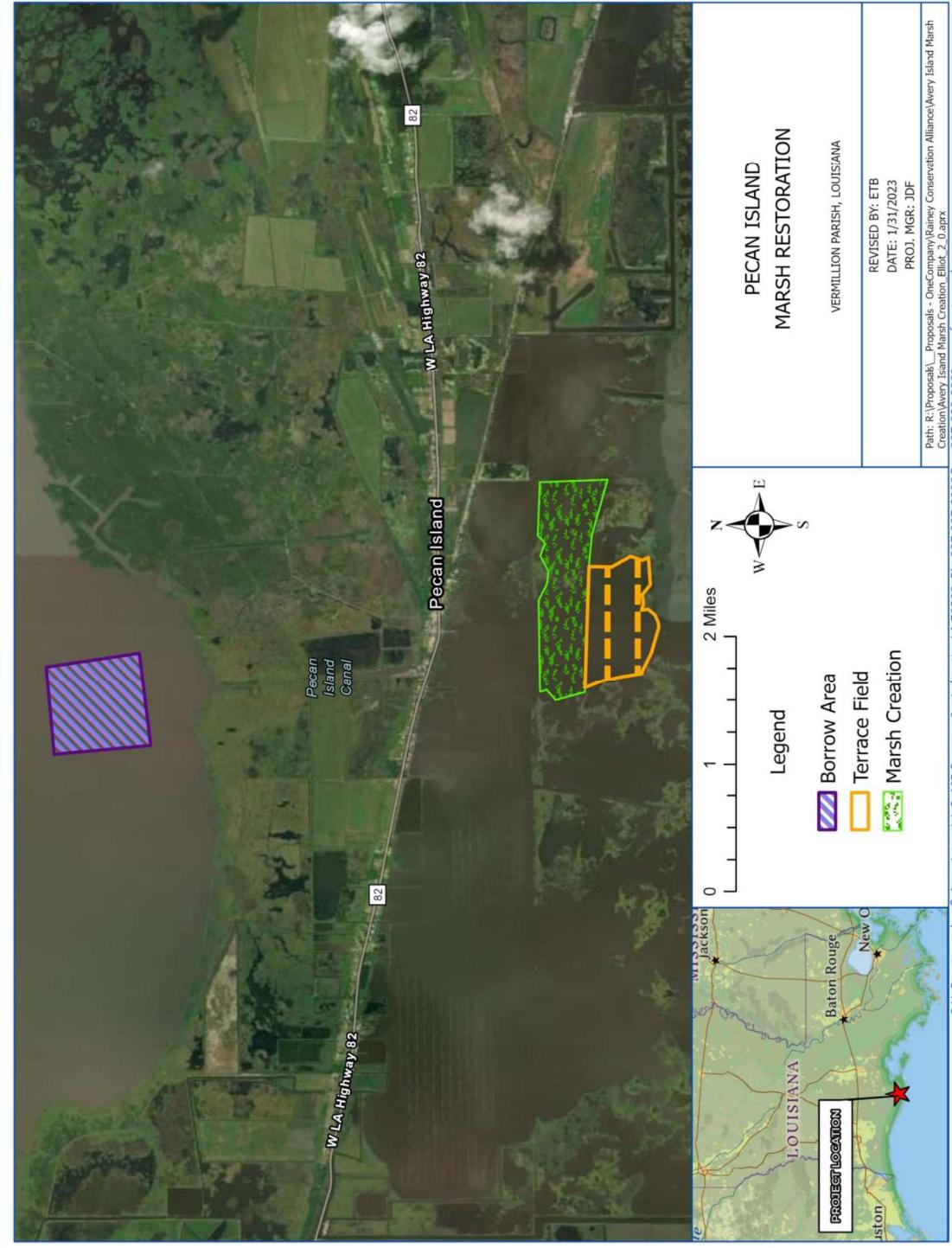
Preliminary Cost

The estimated constructed cost + 25% contingency range is \$30M - \$35M.

Preparer of Fact Sheet

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John Foret, Rainey Conservation Alliance, (337) 322-1701, jdforet@fenstermaker.com

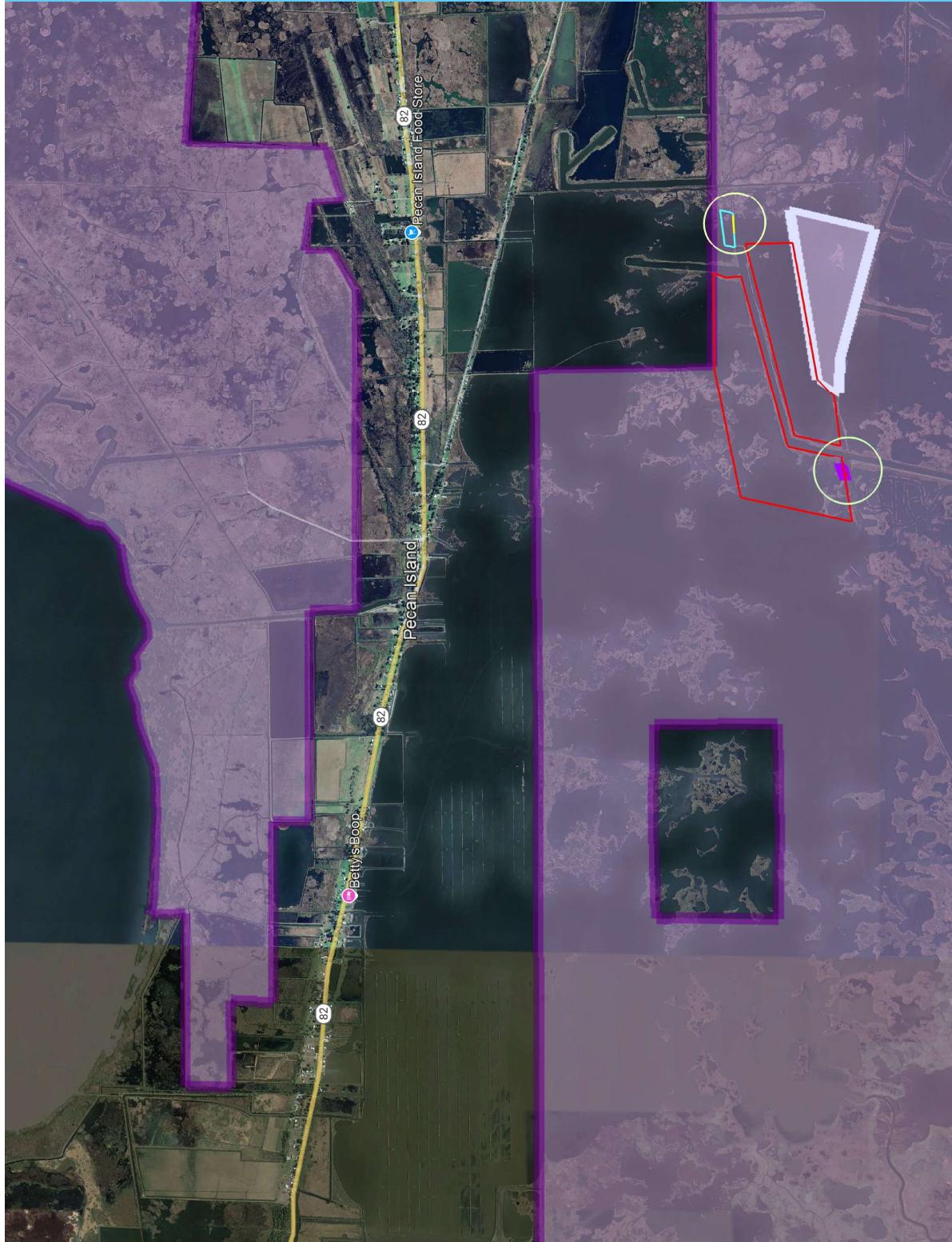


Proposed Features

- 470 acres of MC
- 6 acres of Chenier
- Ridge
- 50,000 lf of earthen terraces
- Hydrologic Structure Replacement
- New Hydrologic Structure

Construction Costs +25% =
\$30 - \$35M

Synergy with ME-14 and ME-16



PPL35 CONCEPT FACT SHEET
February 4, 2025

Project Name

Mud Lake South Marsh Restoration

Master Plan Strategy

Mud Lake Marsh Creation (2023 Master Plan Project ID 210, Implementation Period 1): Creation of Marsh within a footprint of approximately 8,100 acres at Mud Lake south of West Cove Calcasieu Lake to create a new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Location

Region 4, Calcasieu/Sabine Basin, Cameron Parish

Problem

The area has experienced wetland loss due to storm events, subsidence and saltwater intrusion. The area faces issues with inundation and poor drainage. The 1984 to 2020 USGS land loss rate for this area is -1.05%/year from the PPL31 WVA.

Proposed Solution

The proposed project would create/nourish marsh using sediment dredged from the Gulf and placed into the project footprint composed of two marsh creation cells (200 ac). 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 at 50% density. An estimated 15,610 LF of terraces would be constructed along the north side of the project area, and fully planted. Lastly, two Chenier Ridges would be constructed (total 7,746 LF) and fully planted.

Project Benefits

The proposed project would restore degraded wetland habitat and provide increased protection from storm surge and flooding while ensuring the project area has sufficient hydrologic connectivity to properly drain. Specific goals of the project are to create approximately 128 acres and nourish approximately 72 acres (200 ac) of marsh with dredged material from the Gulf to create shallow habitat for the Eastern Black Rail (*Laterallus jamaicensis jamaicensis*), including planting the proper plant structure/species composition with spots of elevated refuges to escape high water events; create approx. 15,610 LF of terraces, planted with appropriate species; construct 7,746 LF of Chenier Ridge habitat and plant it with woody and herbaceous species.

Project Innovation

- Multiple restoration strategies (MC + TR + RR)
- Create stable, shallow water marsh habitat for Black Rail

Project Costs

The estimated construction plus 25% contingency is \$15M - \$20M

Preparer(s) of Fact Sheet

Jenny Byrd; EPA; (214) 665-7377; byrd.jennifer@epa.gov

Feature descriptions:

- Green polygons – MCAs, 200 acres.
 - Fully contained
 - Built higher up to create suitable Black Rail habitat.
 - 50% planting
- Blue lines – chenier construction, 7,746 LF
 - Planted
- Red polygon – Terracing area, planted
 - Estimated 15,610 LF within that cell
- Hydrologic restoration (not pictured)
 - Gapping of ECDs by year 3
 - Investigate hydrologic connectivity to Oyster Bayou
- Borrow – Gulf



PPL35 Mud Lake South

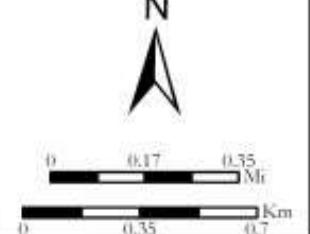


Produced by: EPA Region 6, Dallas, TX

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Esri, USGS

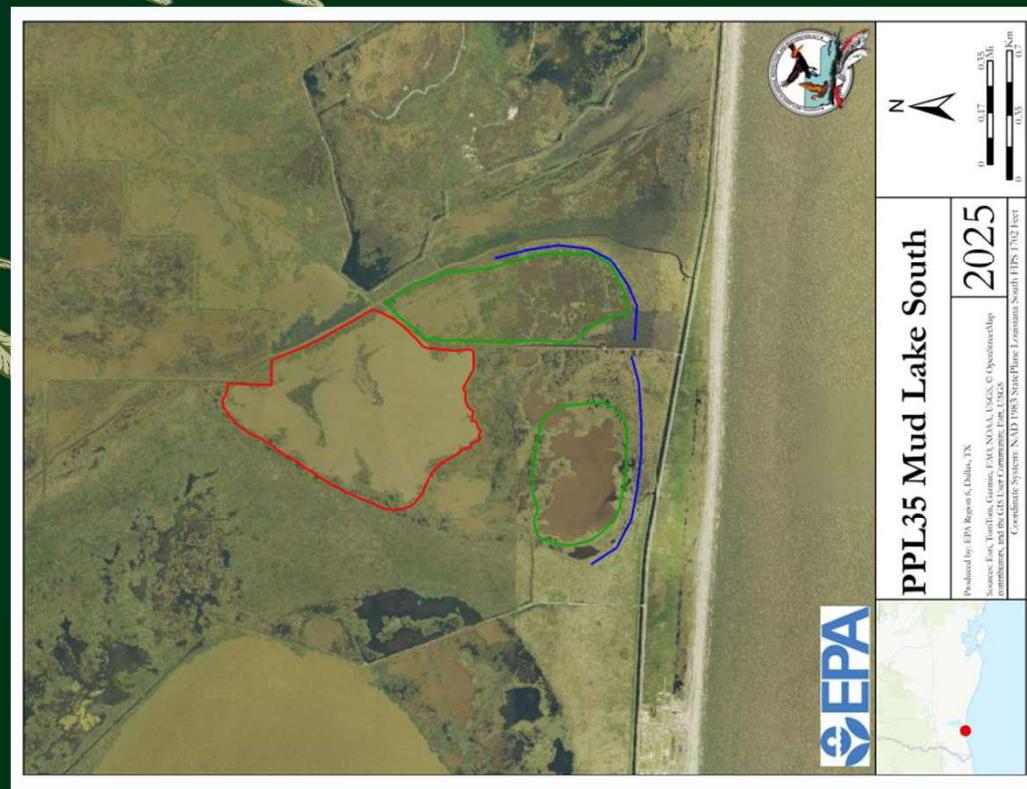
Coordinate System: NAD 1983 StatePlane Louisiana South FIPS 1702 Feet

2025

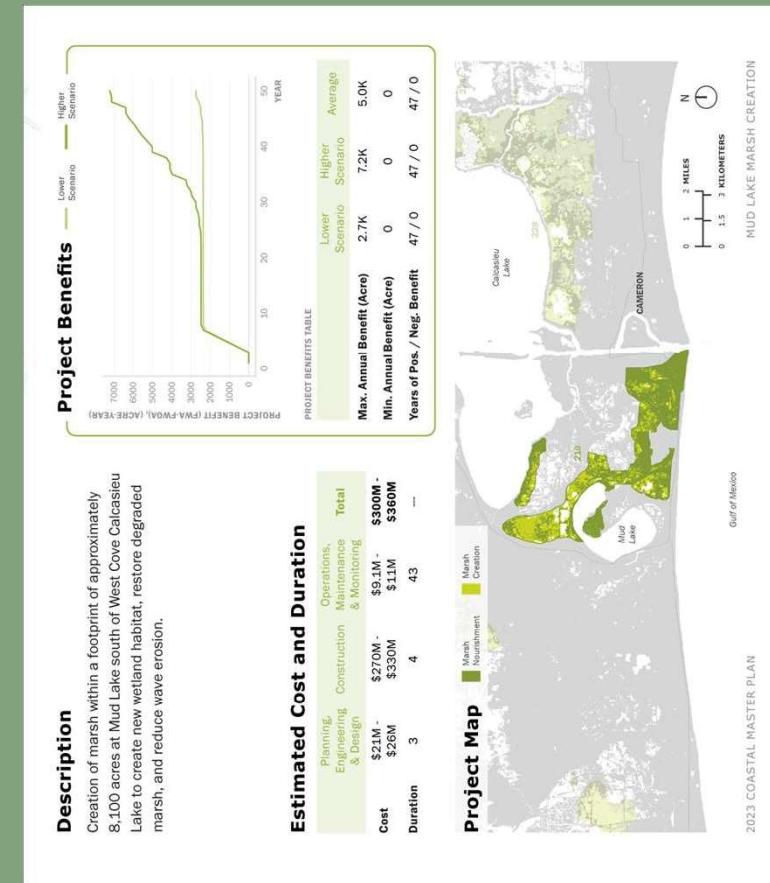


PPL35

Mud Lake South



2023 Master Plan Strategy



Mud Lake Marsh Creation Project ID: 210 / Implementation Period 1

Summary of Information and Features

Problem	Wetland loss due to storm events, subsidence, sea level rise, inundation/poor drainage
Benefits	Create 200 ac shallow, intertidal marsh, planted; Construct 15,610 LF of terraces, planted; Construct 7,746 LF of Chenier Ridge, planted.
Cost	\$15-\$20M
Innovation	* Multiple restoration strategies (MC + TR + RR) * Create habitat tailored for endangered Black Rail





Feature descriptions:

- Green polygons – MCAs, 200 acres.
 - Fully contained
 - Built higher up to create suitable Black Rail habitat.
 - Blue lines – chenier construction
 - 7,746 LF
 - Red polygon – terracing area
 - Estimated 15,610 LF within that cell
 - Hydrologic restoration (not pictured)
 - Gapping of ECDs by year 3
 - Investigate hydrologic connectivity to Oyster Bayou
 - Borrow – Gulf

EPA Region 6 CWPRA Team Goals

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



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PPL35 CONCEPT FACT SHEET

February 4, 2025

Project Name

West Cove South Marsh Creation

Master Plan Strategy

Mud Lake Marsh Creation (2023 Master Plan Project ID 210, Implementation Period 1):

Creation of marsh within a footprint of approximately 8,100 acres at Mud Lake south of West Cove Calcasieu Lake to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Location

Region 4, Calcasieu/Sabine Basin, Cameron Parish

Problem

The project proposed is a fragmented wetland area water located immediately southeast of West Cove, approximately 1 mile north of Mud Lake. Cameron Parish faces wetland loss over the next 50 years and with no further action, the parish faces severely increased future exposure to storm surge-based flooding (2023 State Master Plan). The project area is located near the PPL29/PPL31 Candidate Mud Lake South Marsh Creation project (WVA) which shows a land loss rate of -1.05%/yr.

Proposed Solution

The proposed project would create/nourish up to approximately 724 acres of marsh using sediment dredged from the Calcasieu Ship Channel. The dredged material may be fully contained or partially contained depending upon the borrow sediment characteristics and site conditions. Containment dikes would be degraded as necessary to reestablish hydrologic connectivity with adjacent wetlands.

Project Benefits

Create/nourish up to approximately 724 acres (create 434 acres and nourish 290 acres) of marsh using sediment dredged from the Calcasieu Ship Channel.

Project Innovation

- BUDMAT from lower reaches of Calcasieu Ship Channel
- Partially contained marsh creation cells
- Could be completed in cycles
- Potential for collaboration

Project Costs

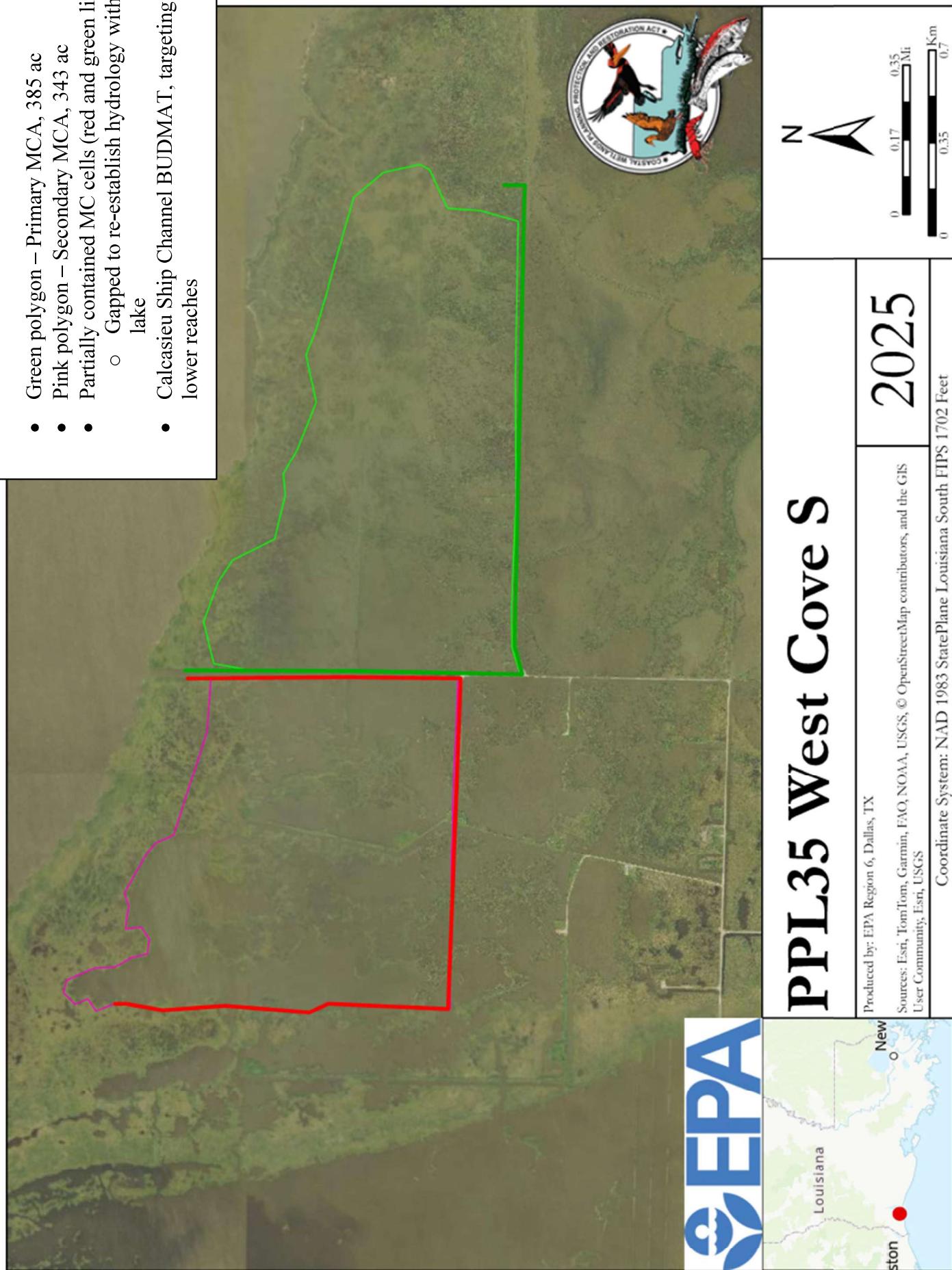
The estimated construction cost plus 25% contingency is \$20M-25M with USACE credit.

Preparer(s) of Fact Sheet:

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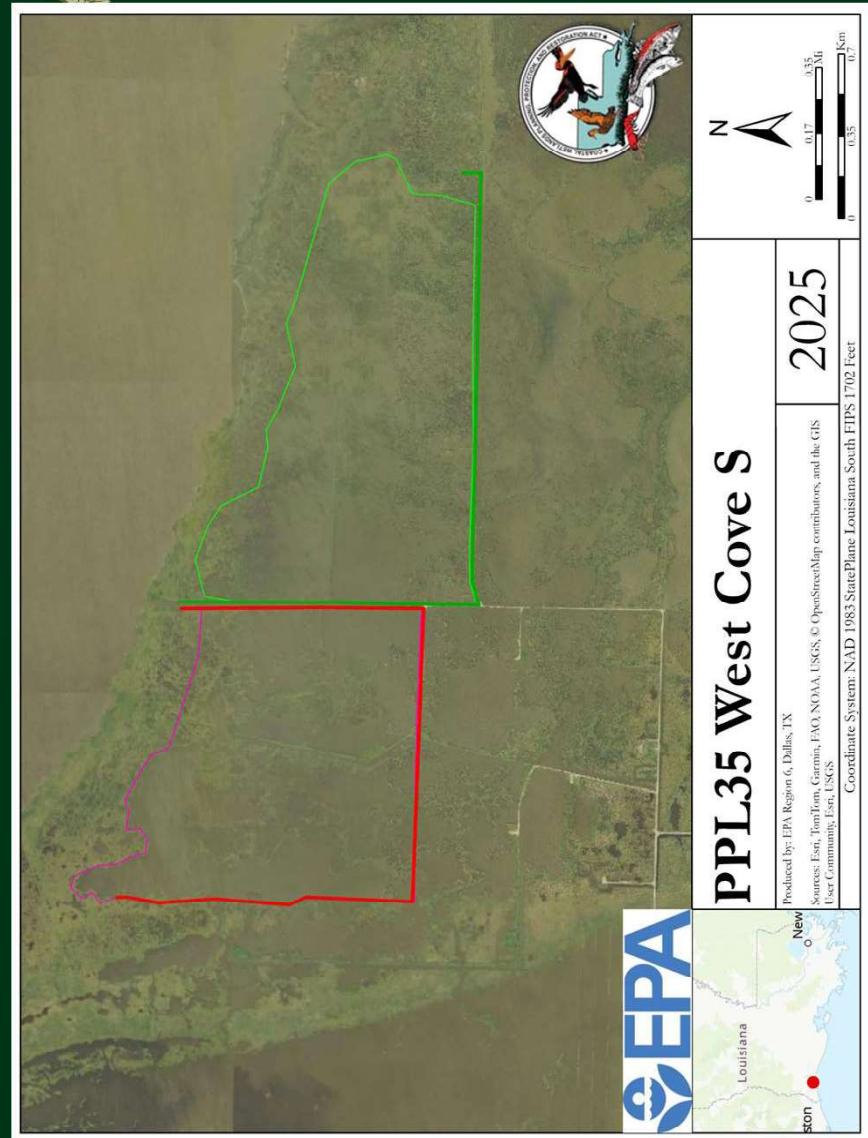
Feature descriptions:

- Green polygon – Primary MCA, 385 ac
- Pink polygon – Secondary MCA, 343 ac
- Partially contained MC cells (red and green lines)
 - Gapped to re-establish hydrology with the lake
- Calcasieu Ship Channel BUDMAT, targeting lower reaches

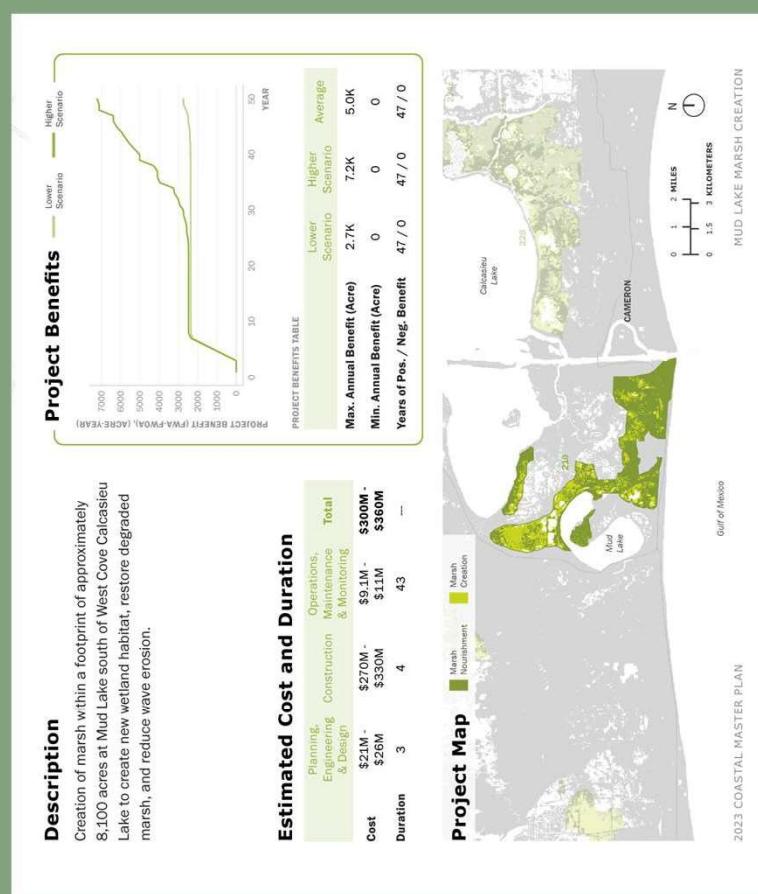


West Cove South Marsh Creation

PPL35



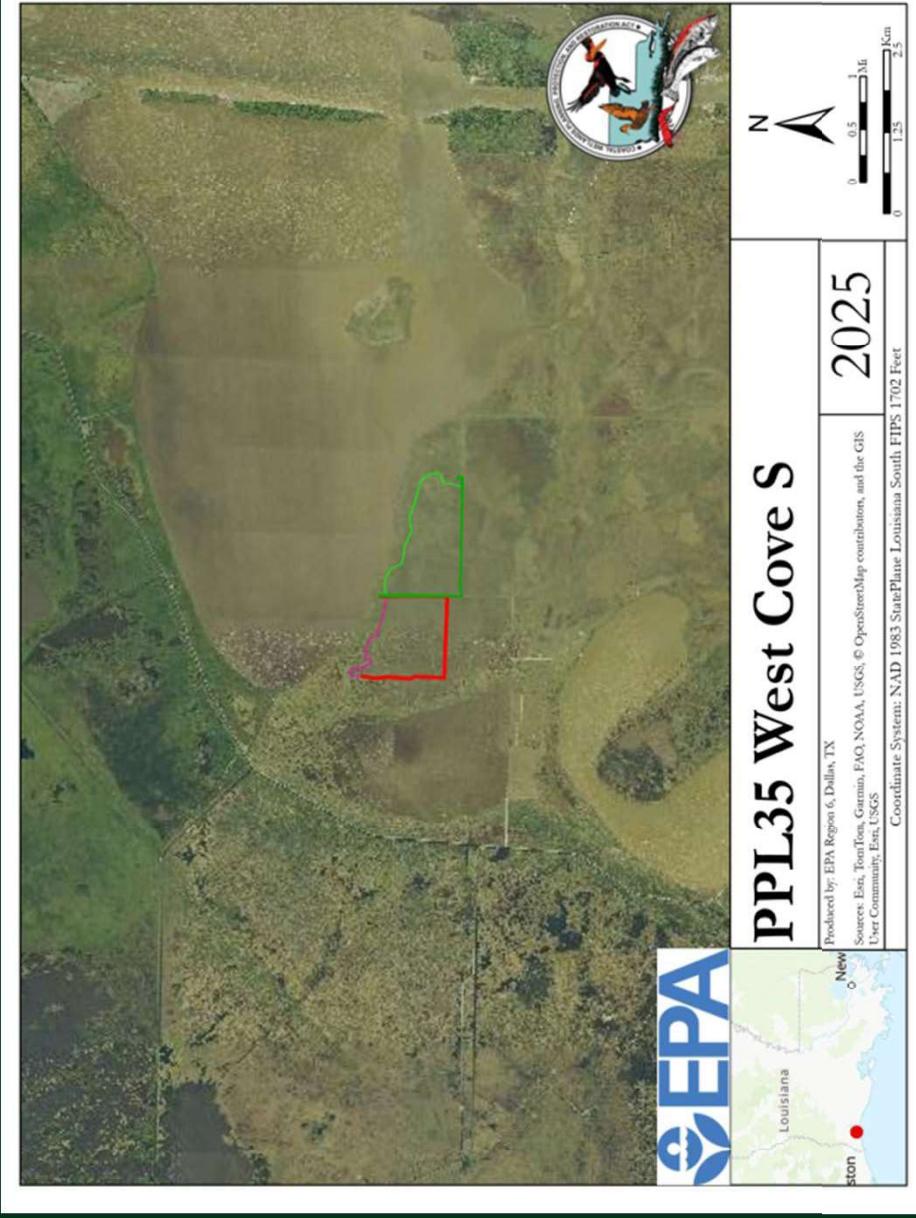
2023 Master Plan Strategy



Summary of Information and Features

Problem	Impacts from storm surge, hurricanes, subsidence, altered hydrology from manmade canals, and wave erosion
Benefits	Restore degraded marsh; create/nourish UP TO 724 acres of vulnerable wetlands; solidify the southern lake rim
Cost	\$20–\$25M
Innovation	* BUDMAT from the lower reaches of Calcasieu Ship Channel * Could be completed in cycles * Partially contained marsh creation cells * Potential for collaboration

Feature descriptions:



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- Pink polygon – Secondary MCA, 343 ac
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 - Gapped to re-establish hydrology with the lake
- Calcasieu Ship Channel BUDMAT, targeting lower reaches

EPA Region 6 CWPRA Team Goals

- ❖ Protect human health and the environment, including water quality, by restoring coastal wetlands
- ❖ Improve local community resilience

- ❖ Restore wetland habitats and protect critical infrastructure

- ❖ Support local stakeholder priorities in synergy with EPA's mission



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PPL35 PROJECT NOMINEE FACT SHEET

February 4, 2025

Project Name

Peconi Bayou Marsh Creation

Project Location

Region 4, Calcasieu-Sabine Basin, Cameron Parish

Problem

Wetland loss in the Calcasieu-Sabine Basin is due to altered hydrology, drought and inundation stress, subsidence, and hurricane-induced damage. For instance, data from the nearby CRMS 1743 station show an average marsh elevation of +0.52 ft NAVD88 GEOID 12B, whereas the 5-year average water elevation is +0.61 ft NAVD88 GEOID 12B. Additionally, deep subsidence from the GEOTIFF Raster file is 0.88 mm/yr or 0.06 ft over 20 years (CRMS 1743). Moreover, the USGS land change trend from 1985 to 2020 for the Lambert Lake subunit (024) is -1.00% per year. The project area is estimated to be 25% brackish marsh and 75% open water, and is located adjacent to the eastern Calcasieu Lake rim near the Peconi water control structure.

Proposed Solution

The proposed solution is to create and nourish approximately 318 of brackish tidal marsh along the Calcasieu Lake rim, using material dredged from Peconi Bayou. The project is being synergistically developed through efforts from the Calcasieu-Sabine Large Scale Marsh and Hydrologic Restoration project (CS-0087), which would also add additional drainage capacity through the lake rim including two adjacent to the proposed project area. Sediment would be hydraulically dredged from Peconi Bayou, in an effort to also improve drainage conveyance, and placed in two confined disposal areas. Containment dikes will be gapped no later than three years after construction to allow fisheries access and reestablish hydrologic connectivity.

Goals

The project goal is to create/nourish 318 acres of brackish marsh to create intertidal habitat, and provide resiliency to the Calcasieu Lake rim and the Cameron-Creole watershed (Figure 1).

Project Features

Marsh Creation – 238 acres

Marsh Nourishment – 80 acres

Preliminary Project Benefits

1) *What is the project's estimated total net acres after 20 years?*

Net Acres – 200-250 acres

2) *What is the estimated construction cost plus 25% contingency and the estimated fully funded cost?*

The estimated construction cost (CC) plus 25% contingency is \$20-25M. The fully funded cost (FFC) is \$31,264,279.

3) *What is the project cost effectiveness using fully funded cost/net acres?*

Cost effectiveness - \$140,199 FFC/net acre

FFC (\$31,264,279) / Total Net Acres (223 ac) = Cost effectiveness (\$140,199 FFC/net acre)

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

- CS-04a Cameron-Creole Maintenance
 - Adjacent to the north of the project footprint, constructed
- CS-17 Cameron-Creole Plugs
 - 0.8 miles south of the project footprint, constructed
- CS-54 Cameron-Creole Watershed Grand Bayou Marsh Creation
 - 1.3 miles south of the project footprint, constructed
- CS-49 Cameron-Creole Freshwater Introduction
 - 6.0 miles east of the proposed project, constructed
- CS-78 No Name Bayou Marsh Creation
 - 6.8 mile to the southwest of the proposed project, under construction
- CS-87 Calcasieu-Sabine Large Scale Marsh and Hydrologic Restoration project
 - Adjacent to the west and south, funded for construction

The Peconi Bayou Marsh Creation project along with the above projects will work together to restore and maintain the Cameron-Creole watershed (Figure 2).

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

The land loss rate is -1.00% per year for the Lambert Lake subunit based on the USGS land trends spreadsheet from 1985 to 2020.

- 6) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc or is part of a land bridge feature?*

The project will help maintain and add resiliency to the Calcasieu Lake rim.

- 7) *Does the project result in net positive and direct benefits on critical infrastructure?*
The project would have moderate net positive impact to the Calcasieu Lake rim and drainage structures, as well as for nearby pipelines.

Other Considerations

Calcasieu Lake public oyster seed grounds and pipelines.

Preparer(s) of Fact Sheet and Contact Information

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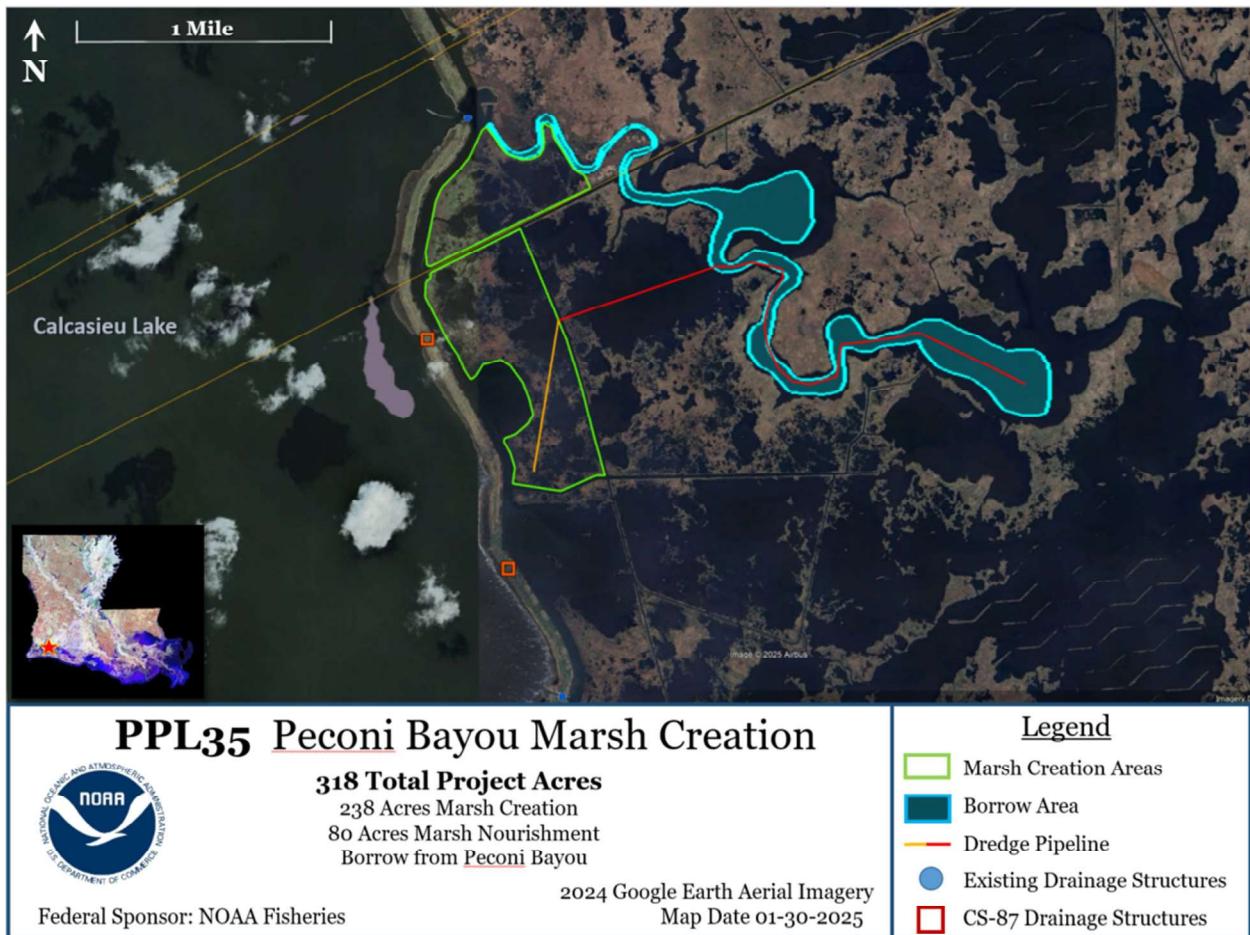


Figure 1. Project Map.

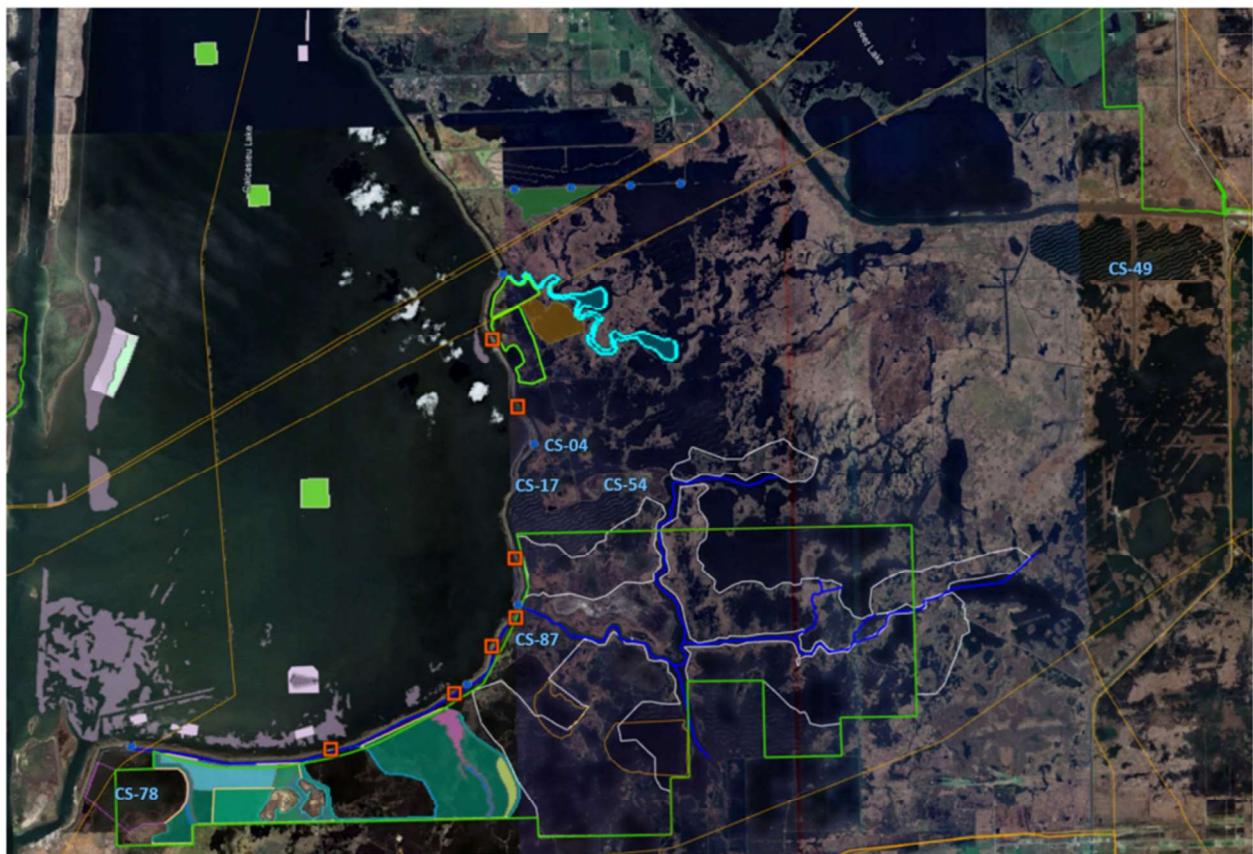


Figure 2. Synergy, Critical Infrastructure, and Critical Landscape Features.

Pecconi Bayou Marsh Creation Project



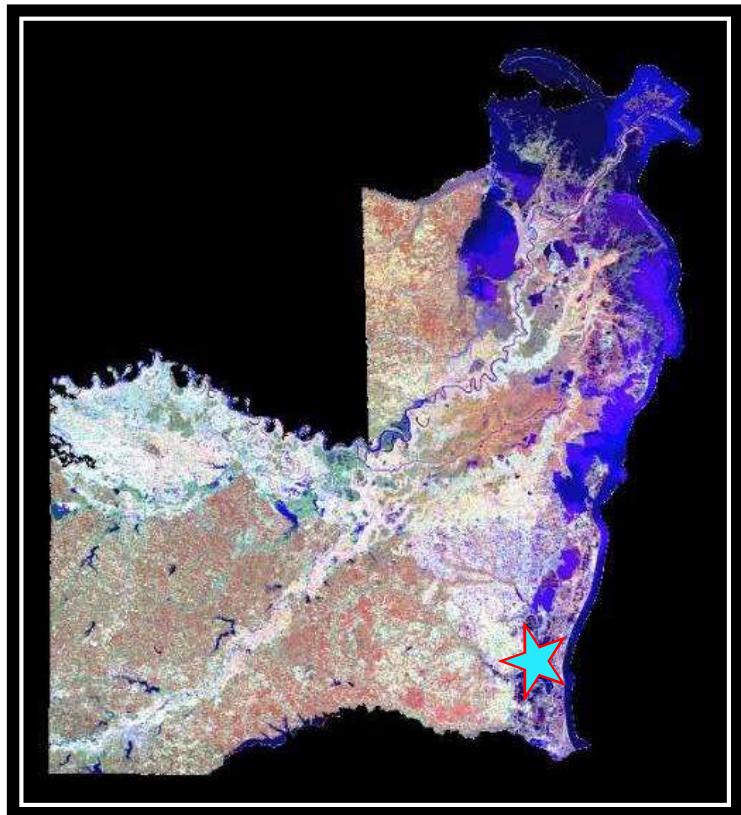
NOAA
FISHERIES

REGION 4: Calcasieu-Sabine Basin

Presenter: Craig Goethreaux, Fish Biologist, NOAA

Special Thanks

Sweet Lake Land
Miami Corporation
CPRA CS-87 Team



PPL 35 CWPRA Regional Planning Team Meeting

February 4, 2025

Project Vicinity

Peconi Bayou Marsh Creation Project



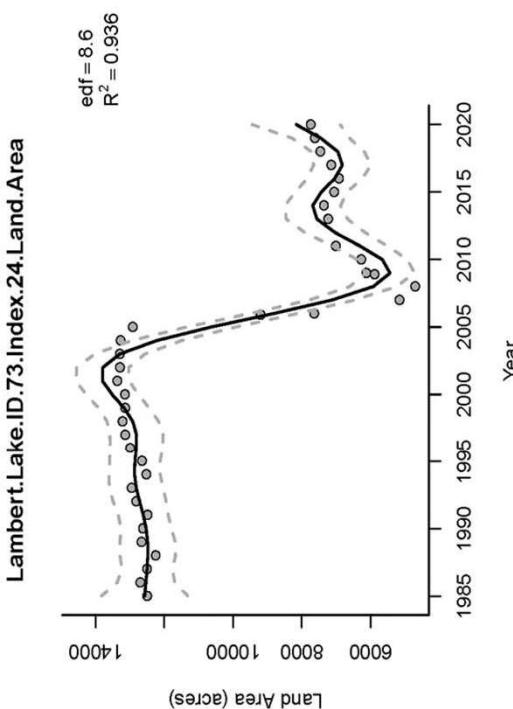
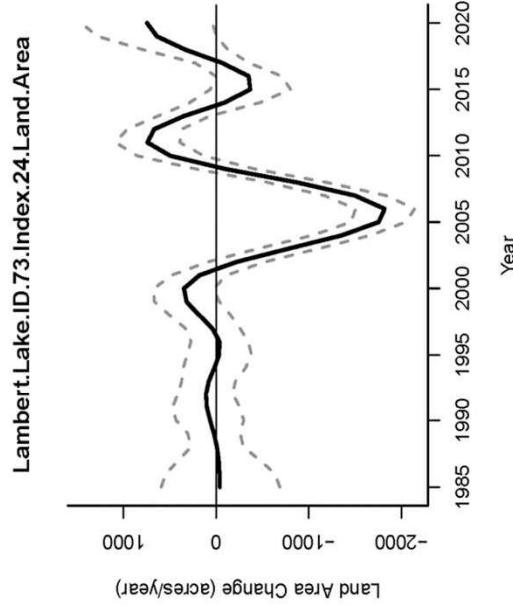
**318 Acres of Marsh
Creation/Nourishment**

Project Area Problems

Peconi Bayou MC

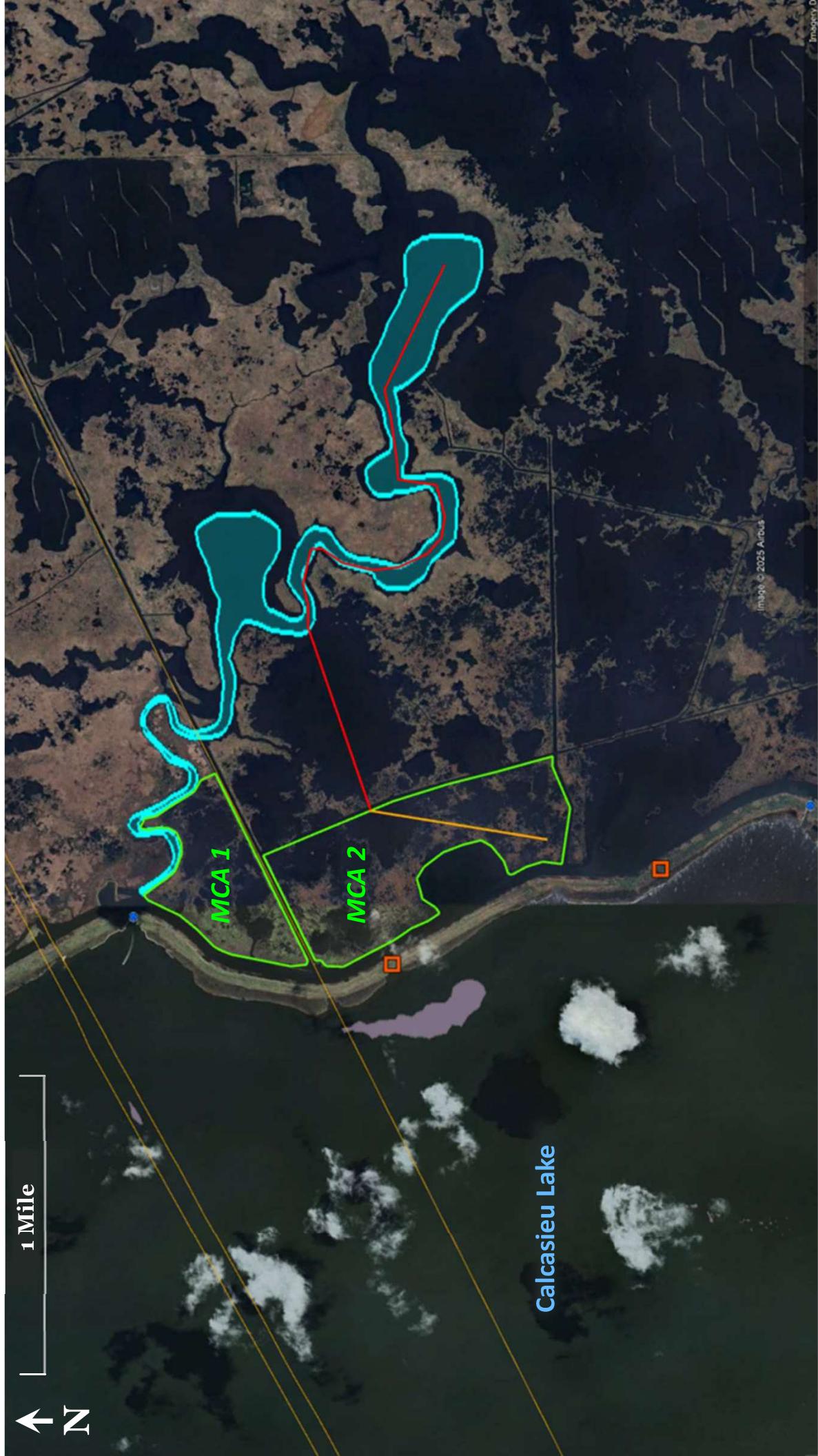


Land change rate (1985-2020 USGS data) for the Lambert Lake subunit (024) is -1.00%/yr



Project Elements

Peconi Bayou MC



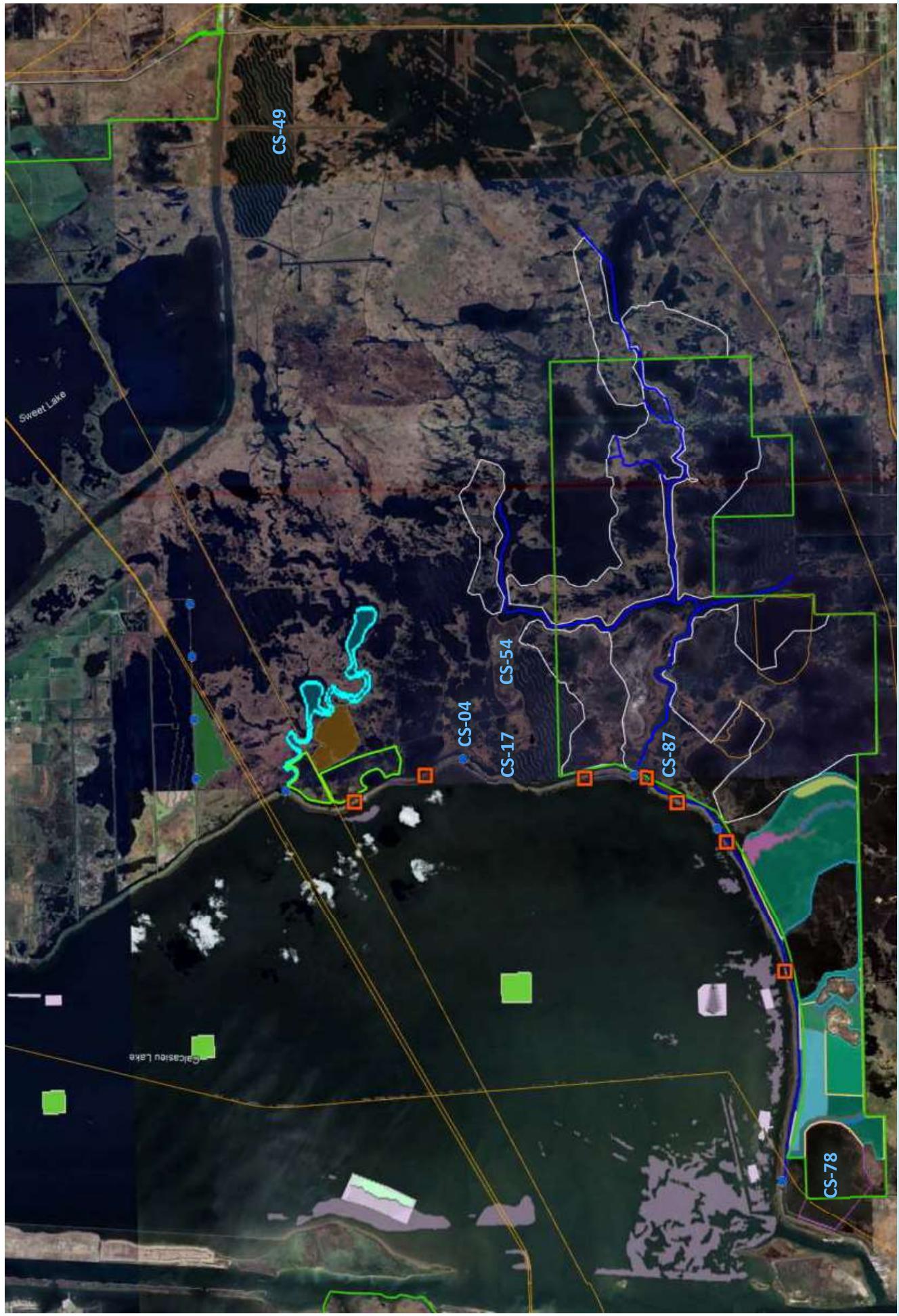
- ❖ MCA 1 = 108 ac
- ❖ MCA 2 = 210 ac
- ❖ 318 Total Project Acres
- ❖ Bayou Peconi Borrow



NOAA FISHERIES

Selection Criteria

Peconi Bayou MC



Summary

Peconic Bayou Marsh Creation Project

- ❖ **318 Total Project Acres**
 - 238 Acres Marsh Creation
 - 80 Acres Marsh Nourishment
 - MCA 1 = 108 ac, MCA 2 = 210 ac
 - *Borrow from Peconic Bayou*
- ❖ **Construction Cost + 25% Contingency: \$20M – \$25M**
- ❖ **Net Benefits: 200 – 250 Acres**

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