

Coastal Wetlands Planning Protection & Restoration Act

31st Priority Project List



Region 4

Regional Planning Team Meeting

Lead:
Kevin Roy, USFWS

February 2, 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 4 Parishes

- Eligible parishes for basins in Region 4 include:
- Calcasieu-Sabine Basin
 - **Cameron Parish**
 - **Calcasieu Parish**
- Mermentau Basin
 - **Cameron Parish**
 - **Vermilion 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.



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.



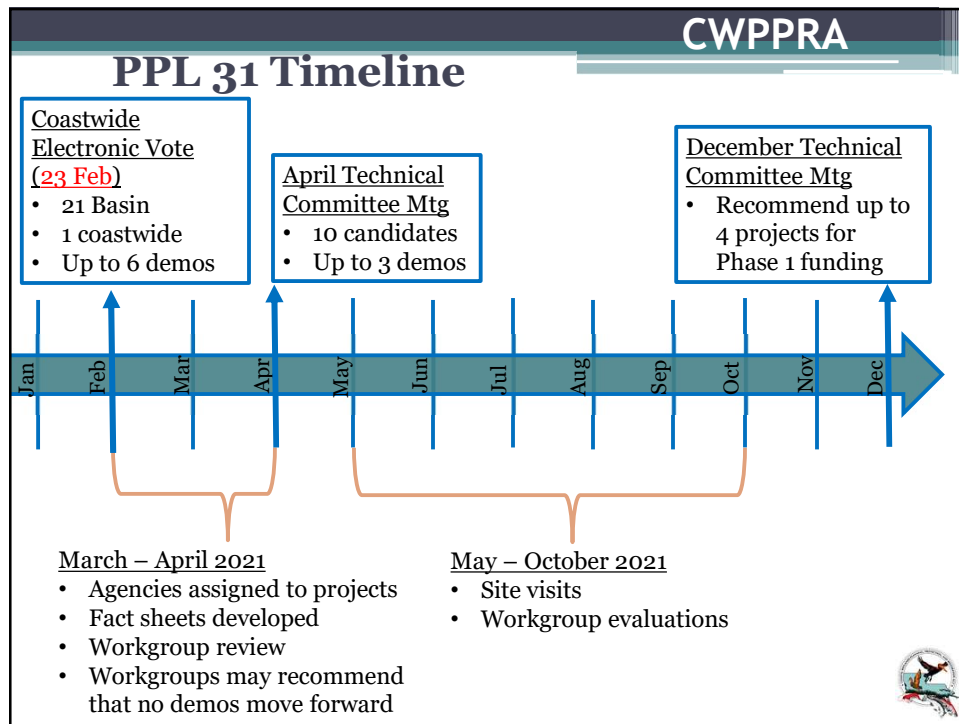
Coastwide Electronic Vote (**Feb. 23rd**) to select:

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

Written Comments


- Send written comments on projects & demos proposed today to the CWPPRA program manager
- **Deadline: February 18, 2021**

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 4

Mermentau

R4, ME-01	West Freshwater Bayou MC	USACE
R4, ME-02	SE Pecan Island MC	NRCS
R4, ME-03	Gulf Shore Protection West	FWS
R4, ME-04	South Pecan Island MC	FWS

Calcasieu/Sabine

R4, CS-01	Lambert Lake MC	USACE
R4, CS-02	West Cove South MC	EPA
R4, CS-03	Mud Lake South MC	EPA
R4, CS-04	Black Bayou South MC & MN	NMFS
R4, CS-05	Mud Lake Peninsula MC	NMFS
R4, CS-06	Hog Island	NMFS
R4, CS-07	Cameron Prairie MC & T	NMFS
R4, CS-08	Three Bayous MC	NRCS
R4, CS-09	East Cove Marsh Creation	NRCS
R4, CS-10	East Prong MC & T	FWS

PPL 31 PROJECT FACT SHEET
February 2021

Project Name

West Freshwater Bayou Marsh Creation

2017 Master Plan Strategy

004.MC.16: East Pecan Island Marsh Creation: Creation of approximately 10,200 acres of marsh between Pecan Island and the west bank of the Freshwater Bayou Canal to create new wetland habitat and restore degraded marsh.

Project Location

This project is located in Vermilion Parish, Mermentau Basin, Louisiana (Region 4), west of Freshwater Bayou Canal.

Problem

The wetlands in this area suffer from saltwater intrusion and erosion due to more frequently occurring higher intensity storms. The project will restore the marsh and work synergistically with the projects nearby: Freshwater Bayou Shoreline Stabilization (ME-13, est. 1996), the Freshwater Bayou Wetlands Protection (ME-04, est. 1992) project, and the Freshwater Bayou Marsh Creation (ME-31, est. 2010) projects. Historically, tropical Storm Rita scoured around 1,500 acres of marsh in the area and Hurricanes Gustav and Ike created additional vulnerability. Recently, Ducks Unlimited completed the Freshwater Bayou Shoreline Stabilization project in October 2016, with a second phase constructed by the end of 2020.

This project includes consideration for oil and gas canals, aquatic species access, and species of conservation concern.

Proposed Project Features

Approximately 2.2 million CY of material would be mined from the Gulf of Mexico located roughly 6 miles away. It would be used to restore a total of 266 acres of marsh. Containment dikes would be constructed around the entire perimeter, however existing spoil banks and ridges will be considered as well for containment of dredge material.

Project Benefits

The project will restore 164 acres of intermediate marsh with sediment dredged from Gulf of Mexico and nourish 102 acres of degraded intermediate marsh. This project will create intermediate marsh in current open water areas that were historically marsh to provide a natural storm barrier and reduce the effects of coastal storm surge. It will also reestablish the natural habitat for a wide range of recreationally and commercially significant species, which in turn will improve the seafood industry and economy for Vermilion Parish.

Preliminary Construction Costs

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

Preparers of Fact Sheet

Danielle Keller, USACE, 504-862-1744 danielle.a.keller@usace.army.mil



**US Army Corps
of Engineers®**
New Orleans District



**West Freshwater Bayou Marsh
Creation**

 Marsh Creation/nourishment



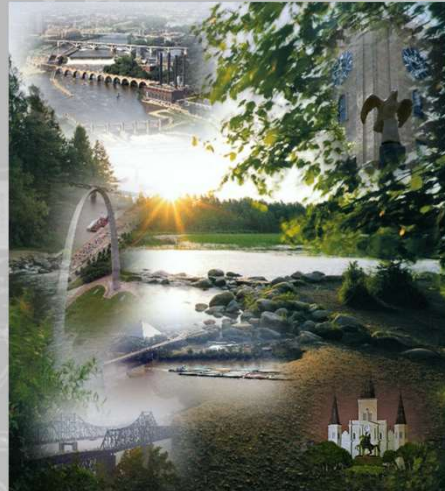
Service Layer Credits: Esri, HERE, Garmin, (c)
OpenStreetMap contributors, and the GIS user
community

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

Map Date: December 30, 2020

WEST FRESHWATER BAYOU MARSH CREATION

February 2, 2021
Region 4
Mermentau Basin



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PROJECT LOCATION



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MASTER PLAN CONSISTENCY

15



004.MC.16: East Pecan Island Marsh Creation: Creation of approximately 10,200 acres of marsh between Pecan Island and the west bank of the Freshwater Bayou Canal to create new wetland habitat and restore degraded marsh.



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HISTORIC LAND LOSS

16



Sept 2004



Oct 2005



April 2020



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PROJECT PROPOSAL

17



Marsh Restoration

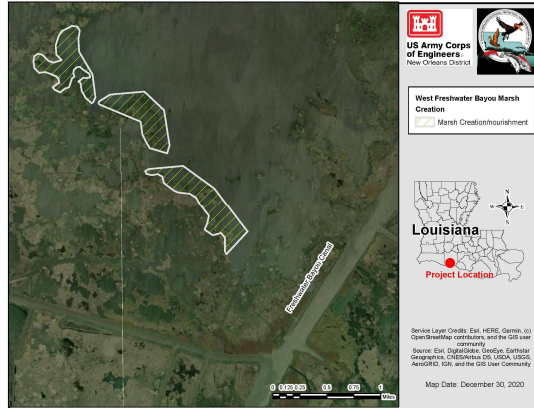
Acres: 266

- 164 Marsh Creation
- 102 Marsh Nourishment

Estimated Cost: \$35-
\$40M

- 25% contingency

Borrow Source: Gulf of
Mexico



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CURRENT SIGNIFICANCE AND NEED

18



Freshwater Bayou Marsh Creation
(ME-31, est. 2010)



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PPL31 PROJECT FACT SHEET
February 2, 2021

Project Name

Southeast Pecan Island Marsh Creation

Project Location

Region 4, Mermentau Basin, Vermilion Parish, south of Highway 82 and east of Pecan Island

Problem

Highway 82 separates the Lakes Subbasin to the north from the marshes to the south. Low spots between cheniers historically allowed drainage from the Lakes Subbasin south into the Chenier Subbasin. Virtually all of the project area marshes have become isolated from the movement of freshwater from the upper basin and therefore experienced increased tidal exchange, saltwater intrusion, and reduced freshwater retention. Recent hurricanes have impacted the area and scour has resulted in large open water areas to form that continue to erode from within. Loss rates are estimated at -0.76 %/year. Consequently, these marshes are highly deteriorated and considered a priority for restoration in the state's Master Plan.

Goals

The goals of this project are to create and nourish marsh from material dredged from the gulf and create several terrace fields to help stabilize the project area.

Proposed Solution

The project would construct approximately 400 acres of marsh and 18,000 linear feet of terraces in the most degraded location of the project area. Material will be borrowed from the gulf. The project site will be fully contained but existing berms will be used to maintain much of the marsh creation.

Preliminary Project Benefits

The project is expected to create and nourish 400 acres of marsh and an additional 10 acres will be created from terracing.

Preliminary Cost

The preliminary cost with 25% contingency is \$25M - \$30M.

Preparer of Fact Sheet

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Eric Whitney, NRCS, (337) 291-3069, eric.whitney@usda.gov






Southeast Pecan Island Marsh Creation and Terraces (PPL30 Candidate)

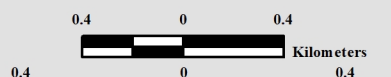


Produced by:
U.S. Department of the Interior
U.S. Geological Survey
Wetland and Aquatic Research Center
Coastal Restoration Assessment Branch
Baton Rouge, La

Image Source:
2019 NAIP CIR

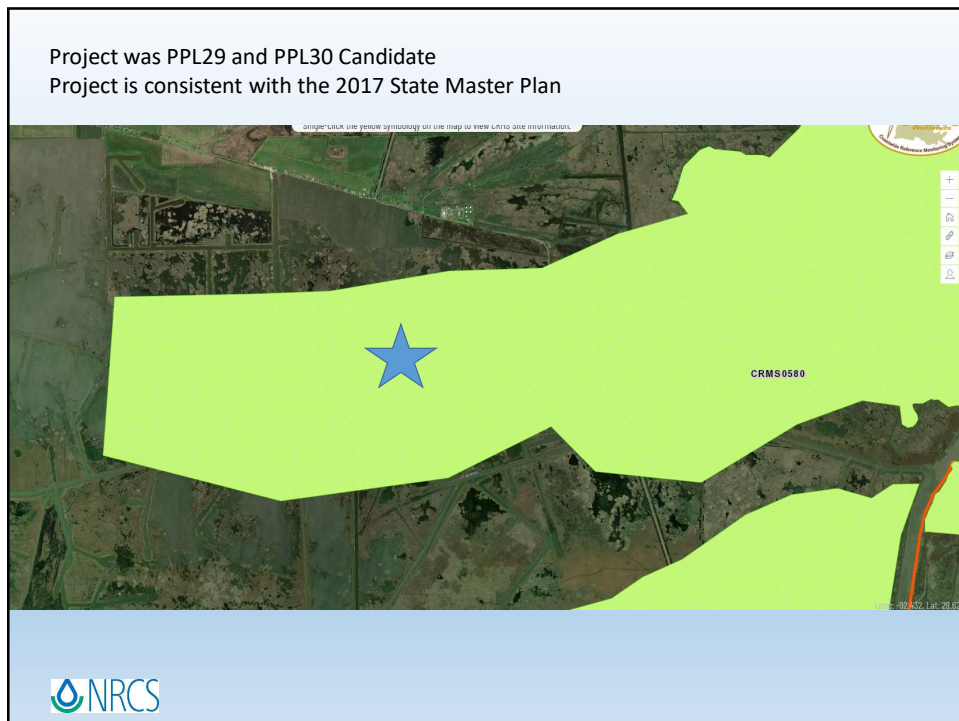
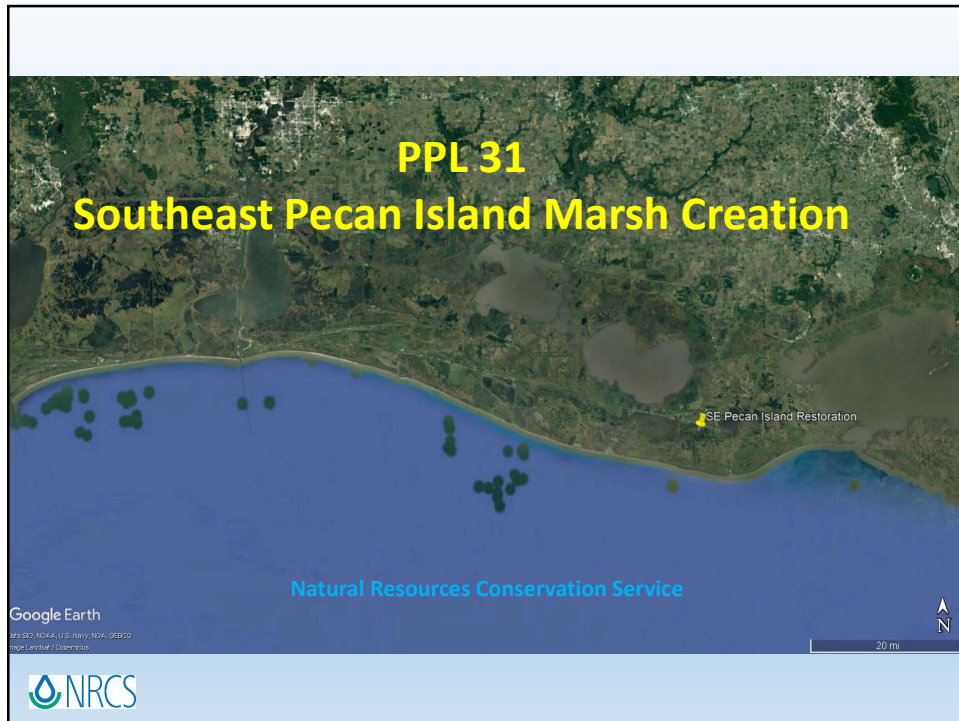


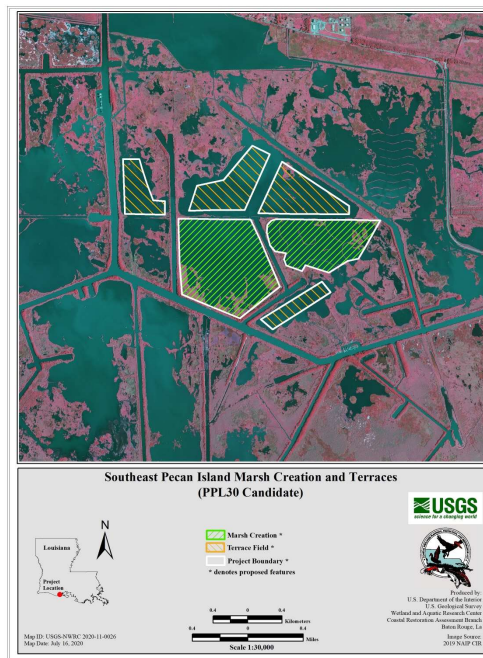
-  Marsh Creation *
 -  Terrace Field *
 -  Project Boundary *
- * denotes proposed features



Scale 1:30,000

Map ID: USGS-NWRC 2020-11-0026
Map Date: July 16, 2020





PPL-31 SE Pecan Island Restoration

Project Objectives:

- Creating marsh from dedicated dredge material pumped via pipeline from the gulf
- Create terraces in shallow open water areas to stabilize the marsh and promote development of submerged aquatic vegetation

Benefits:

- Marsh Creation – 400 acres
- Terraces – Approximately 18,000 lf of the terraces (10 acres)
- Total Estimated Acres = 414 acres

Estimated Cost:

Construction + 25% = \$25-30M

PPL31 PROJECT NOMINEE FACT SHEET
February 2, 2021

Project Name

Gulf Shore Protection at Beach Prong

Project Location

Region 4, Mermentau Basin, Cameron Parish

Problem

Between the Rockefeller Refuge and the Mermentau River Ship Channel, the Gulf of Mexico shoreline erosion rate in the vicinity of Price Lake Road and Beach Prong has been estimated to be 42 feet per year (1998 to 2015). After recent hurricanes in 2020 the erosion rate is probably even higher.. In recent years, the shoreline erosion rates have increased.

Goals

The project goal is to halt erosion of the Gulf shoreline erosion along a critical 3-mile-long reach where continued erosion will threaten the integrity of Price Lake Road and the watershed within Rockerfella Refuge. 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 provides habitat for the recently listed black rail and habitat for at-risk species such as the saltmarsh topminnow.

Proposed Solution

To halt Gulf shoreline erosion, 3 miles of foreshore protection consisting of lightweight aggregate core foreshore rock armor structures would be installed (as per ME-18 design).

Preliminary Project Benefits

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

Approximately 323 acres would be benefited directly.

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

The total net acres protected/created over the project life is approximately 271 acres.

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 loss rate reduction throughout the area of direct benefit is estimated to be 75 to 100%.

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 project would protect and restore the eroding Gulf shore rim and by reducing shoreline erosion and facilitating accumulation of shell hash, that may raise the rim elevations.

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

The project offers no immediate critical infrastructure protection but may provide indirect protection for the community of Grand Cheniere to the north.

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

The project would be synergistic with 3 projects located in the Hog Bayou watershed including the South Grand Chenier Marsh Creation Project (ME-20) , South Grand Chenier – Baker Tract Marsh Creation Project (ME-32) and the adjacent ME18 project.

Considerations

ME-18 construction is complete. Costs for ME-18 were \$28.5 M which was under \$7M/mile and with this project completed, there is a better chance that cost could be even less than ME-18. There are 2 landowners, Rockefeller Refuge and Miller Estate. Both landowners have expressed strong support for the project this project.

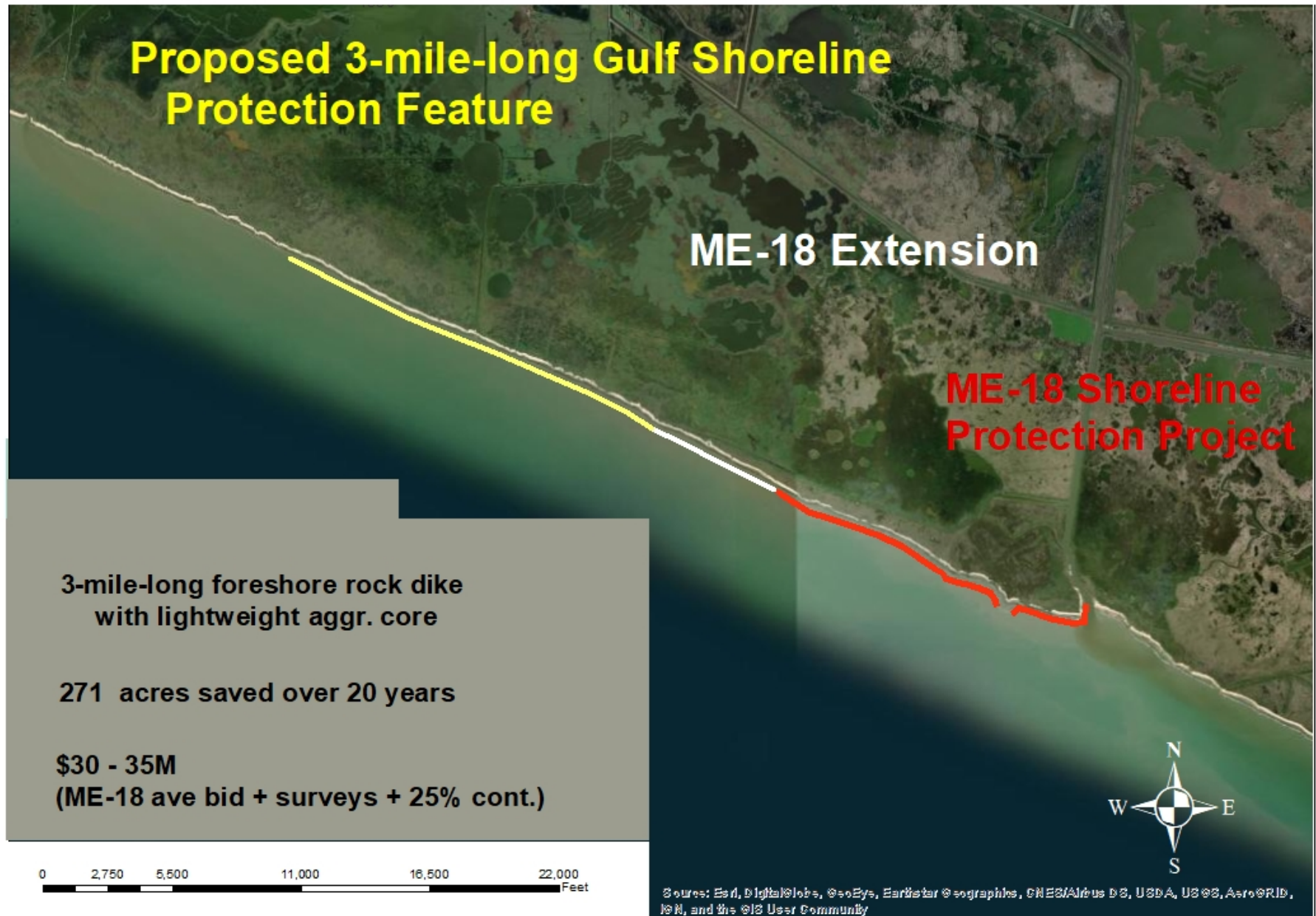
Preliminary Cost

The fully funded cost range is \$30 to \$35M.

Preparer(s) of Fact Sheet:

Robert Dubois: U.S. Fish and Wildlife Service; 337-291-3127; Robert_dubois@fws.gov

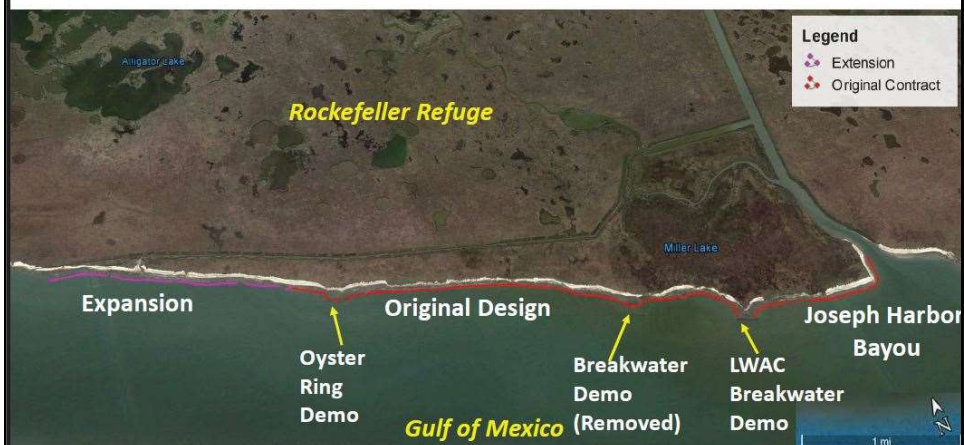
Gulf Shoreline Protection West



PPL30 Gulf Shoreline Protection at Beach Prong Project

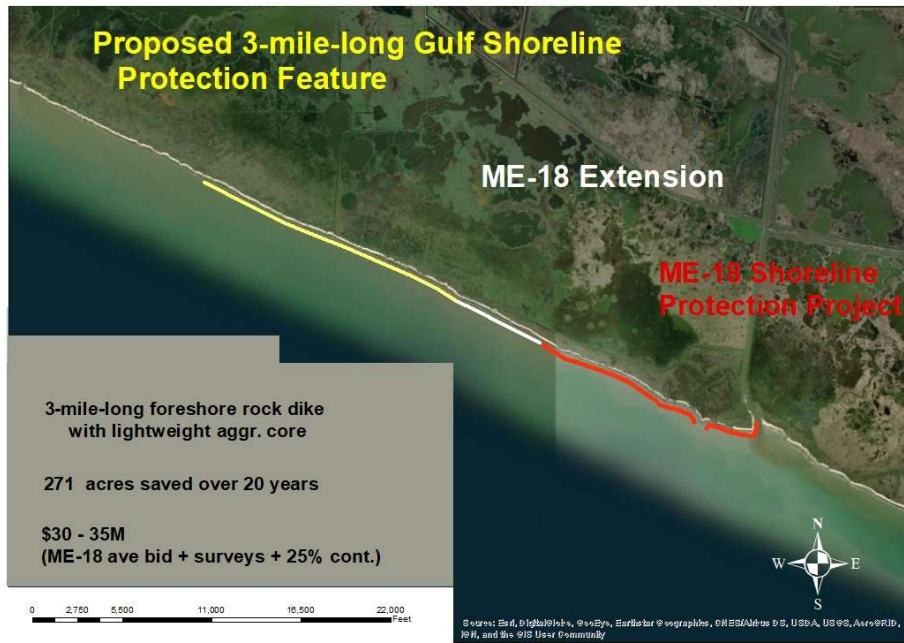


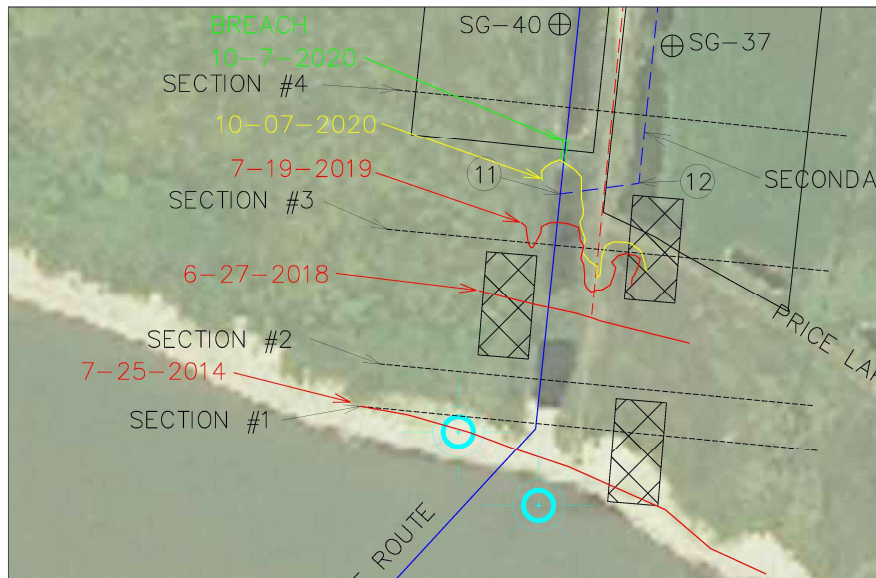
Original Design and Expansion





Gulf Shoreline Protection West





PPL31 PROJECT NOMINEE FACT SHEET
February 02, 2021

Project Name

South Pecan Island Marsh Creation Project

Project Location

Region 4, Mermentau Basin, Vermilion Parish, South of Pecan Island, west of Freshwater Bayou Canal.

Problem

Area wetland loss has been caused by impoundments, saltwater intrusion, hurricane and storm events (Coast 2050). Twenty-five percent (25%; 11,520 acres) of the 46,370 acres of marsh south of Pecan Island, from Freshwater Bayou Canal to Rollover Bayou, converted to open water from 1932 to 1990 (Coast 2050). Another 20% (6,980 acres) present in 1990 is predicted to be lost by 2050. The 1985 to 2016 Rockefeller-Pecan Island unit loss rate was 0.39%/year (USGS LA Land Change Trends 1985-2016). The 49,257-acre area included 61% brackish marsh (29,990 acres), 5% intermediate marsh (2,590 acres), 2% saline marsh (1,720 acres), fresh marsh (550 acres), and 26% open water (12,807 acres) in 1998 (Coast 2050).

Goals

Restore and nourish approximately 478 acres of intermediate to brackish marshes south of Pecan Island.

Specific goals: 1) Create 448 acres and nourish 11 acres of intermediate to low salinity brackish/marsh, 2) Create 42,860 LF of terraces, 3) Plant newly constructed terraces with appropriate types of vegetation.

Proposed Project Features

Create 448 acres and nourish 11 acres of intermediate to brackish marsh south of Pecan Island with material dredged from the Gulf of Mexico. Create 42,860 linear feet of earthen terraces (19 acres marsh) which would be vegetated for a project total of 478 acres of restored marsh. Water depths range from 1.0 to 1.5 feet. Retention dikes will be gapped or degraded and tidal creeks and ponds will be constructed post-construction in marsh creation areas to restore area hydrology, allow fisheries access, and improve wetland productivity.

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*
Approximately 2,000 acres would be directly benefited. Direct benefits include 448 acres of created marsh, 11 acres nourished marsh, 42,860 LF of terraces and surrounding marshes.
- 2) *How many acres of wetlands will be protected/created over the project life?*
The total net acres protected/created over the project life is 445 acres.
- 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 approximately 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?*
No.
- 5) *What is the net impact of the project on critical and non-critical infrastructure?*
This project would help protect oil and gas infrastructure, the town of Pecan Island and Hwy. 82.
- 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 ME-14 and ME-16.

Considerations

No significant issues have been identified.

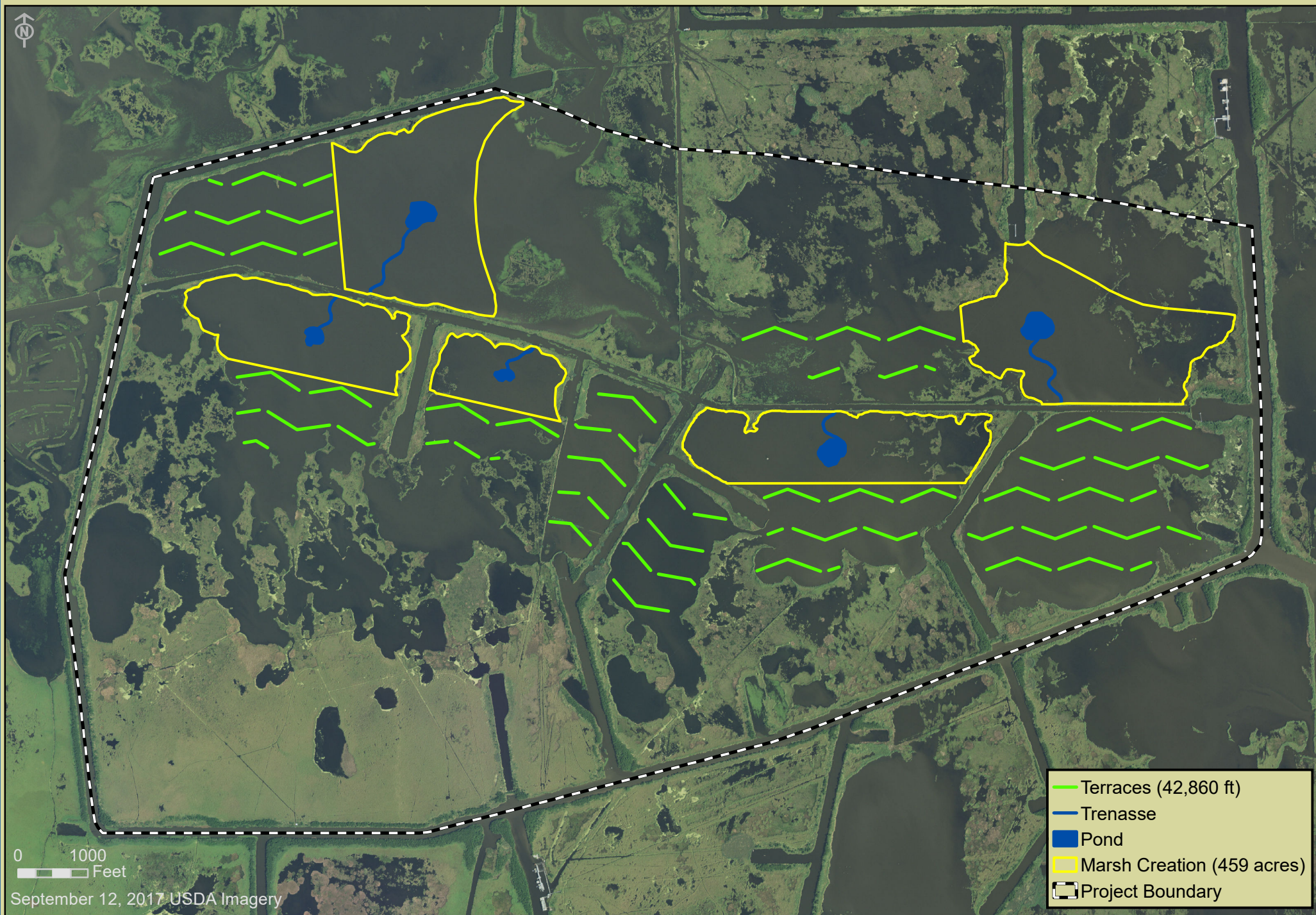
Preliminary Cost

Construction cost plus 25% contingency is estimated between \$30 - \$35M.

Preparer(s) of Fact Sheet:

Billy Broussard, Vermilion Corporation, 337-893-0268 vc1958@vermcorp.com

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



South Pecan Island Marsh Creation Project PPL 31 Nominee

Problem

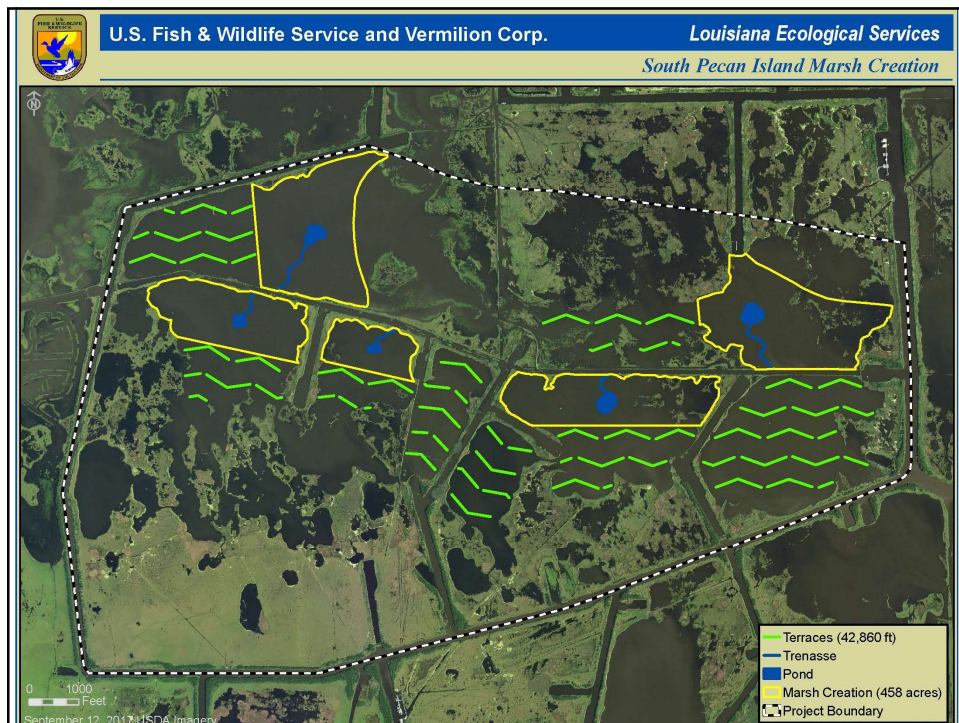
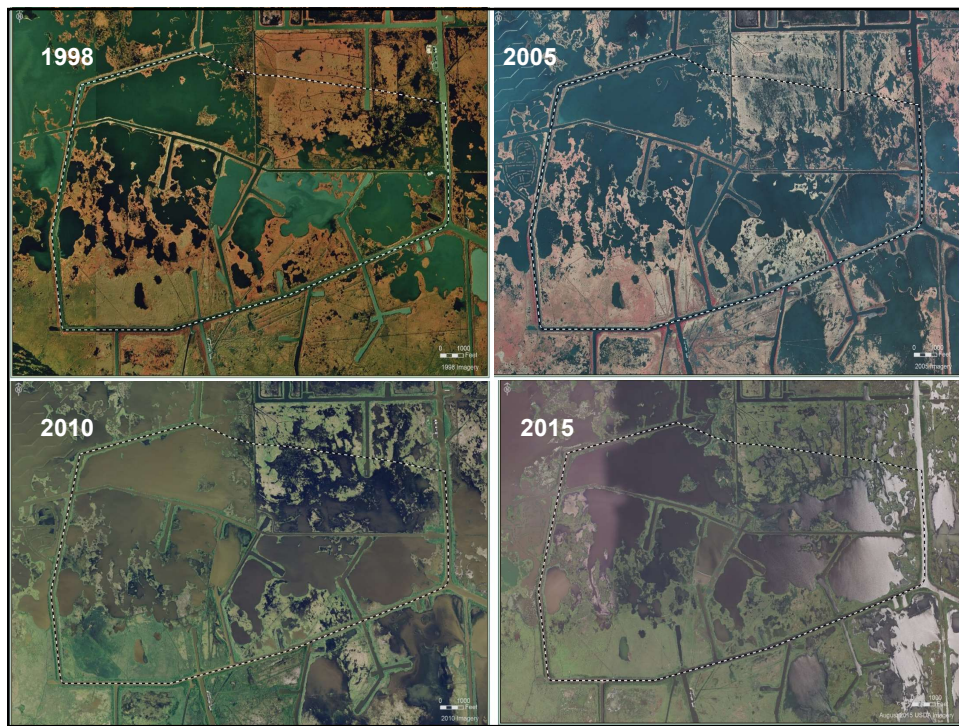
- 25% of the 46,000 acres so. of Pecan Island were lost (1932 to 1990).
- Another 20% loss is predicted by 2050
- Current 1985 to 2016 land loss rate is -0.39%/year

Goal

- 1) Restore & nourish 478 acres of brackish & intermediate marsh via marsh creation & terraces.

Sponsors – Vermilion Corp., FWS





SOUTH PECAN ISLAND FEATURES BENEFITS & COSTS

- **Features – Restore 478 acres of brackish/ intermediate marsh so. of Pecan Island with Gulf dredged material (459 acres MC/MN) & terraces (42,860 ft.; 19 acres).**
- **Preliminary Project Benefits – Total net marsh benefited over 20-year project life = 445 acres at a loss rate of 0.39 %/year.**
- **2) The project would restore marsh, protect Pecan Island, & benefit black rail (a proposed listed species), glossy ibis, mottled duck, other waterfowl & geese, little blue heron, seaside sparrow at-risk & FWS Joint Venture species.**
- **Cost - Estimated construction cost is \$30 to \$35 M. Cost effectiveness ~ \$78,600/acre.**

Calcasieu-Sabine Basin

PPL 31 PROJECT FACT SHEET
February 2021

Project Name

Lambert Lake Marsh Creation

2017 Master Plan Strategy

004.MC.10 Southeast Calcasieu Lake Marsh Creation: Creation of approximately 9,000 acres of marsh southeast of Calcasieu Lake to create new wetland habitat and restore degraded marsh.

Project Location

This project is located in Cameron Parish, Calcasieu-Sabine Basin, Louisiana (Region 4) 6 miles northeast from Cameron, in the southeast corner of Calcasieu Lake, south of Grand Bayou.

Problem

Subsidence, saltwater intrusion, and storms are the major causes of land loss in the project area and contributed to 25 % (~200 mi²) of its coastal wetland loss (Couvillion et al. 2017). In the Calcasieu/Sabine Basin, subsidence and sea level rise result in an average water level rise of 0.25 inches per year. Though rates of wetland loss have slowly decreased since 1970, there is still evidence of hurricane-induced losses which were seen in 2005 and 2008. With projections of increased storm frequency and intensity projected as a factor of climate change, the land loss rates will continue to increase. The land cover surrounding Lambert Lake has decreased dramatically since 1989.

Proposed Project Features

Approximately 2.2 million CY of material would be mined from Calcasieu Lake. It would be used to restore a total of 276 acres of brackish marsh. Containment dikes will be gapped and/or degraded after construction to support estuarine fisheries access and to achieve a functional marsh.

Project Benefits

The project will restore 121 acres of brackish marsh with sediment dredged from Calcasieu Lake and nourish 155 acres of degraded brackish marsh. This project will create brackish marsh in current open water areas that were historically marsh to provide a natural storm barrier and reduce the effects of coastal storm surge and restore the natural shoreline of Lambert Lake. It will also reestablish the natural habitat for a wide range of recreationally and commercially significant species, which in turn will improve the seafood industry and economy for the Parish.

Preliminary Construction Costs

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

Preparers of Fact Sheet

Danielle Keller, USACE, 504-862-1744 danielle.a.keller@usace.army.mil



**US Army Corps
of Engineers**
New Orleans District



Lambert Lake Marsh Creation

 Marsh creation / nourishment



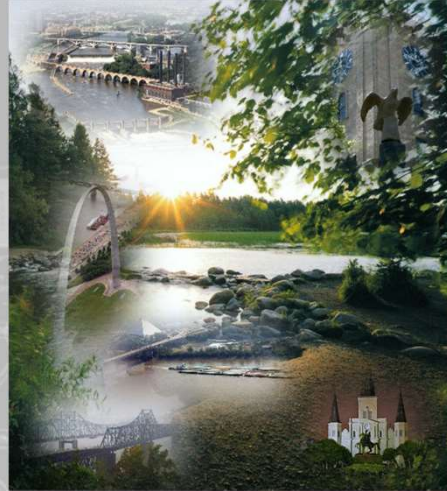
Service Layer Credits: Esri, HERE, Garmin, (c)
OpenStreetMap contributors, and the GIS user
community

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

Map Date: December 30, 2020

LAMBERT LAKE MARSH CREATION

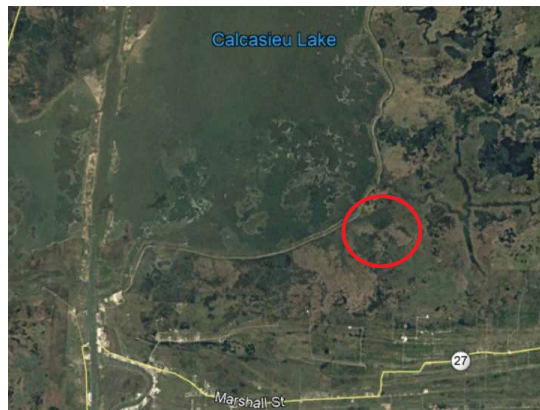
Regional Planning Team Meeting
Region 4
2 Feb 2021
Calcasieu-Sabine Basin



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PROJECT LOCATION



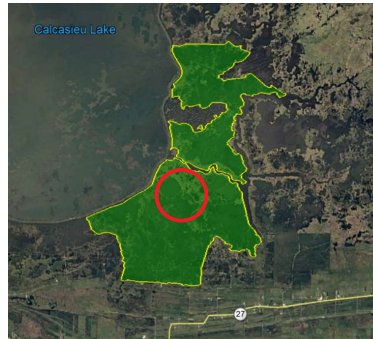
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STATE MASTER PLAN CONSISTENCY



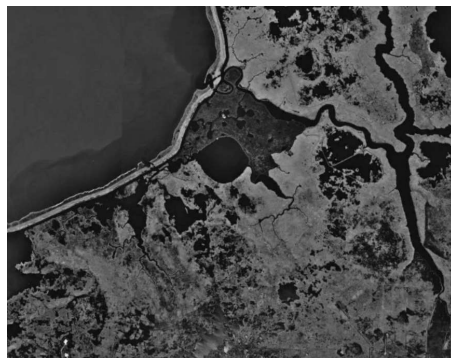
004.MC.10 Southeast Calcasieu Lake Marsh Creation: Creation of approximately 9,000 acres of marsh southeast of Calcasieu Lake to create new wetland habitat and restore degraded marsh.



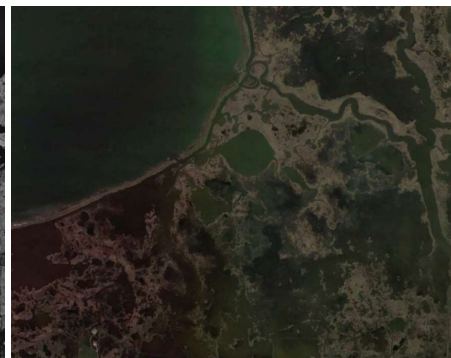
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HISTORIC LAND LOSS



1998



2017

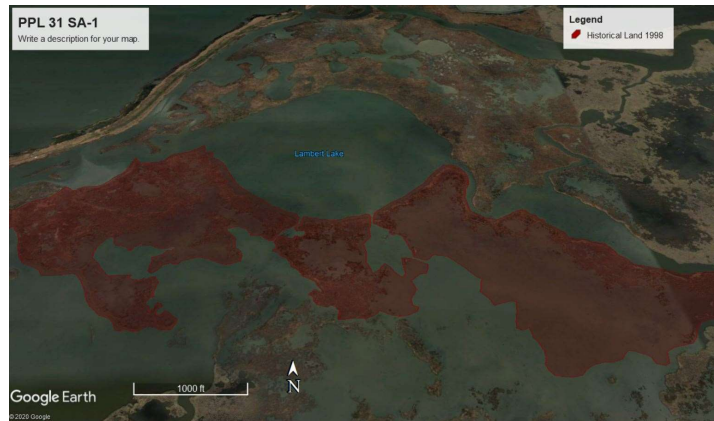


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HISTORIC LAND LOSS

45



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PROJECT PROPOSAL

46



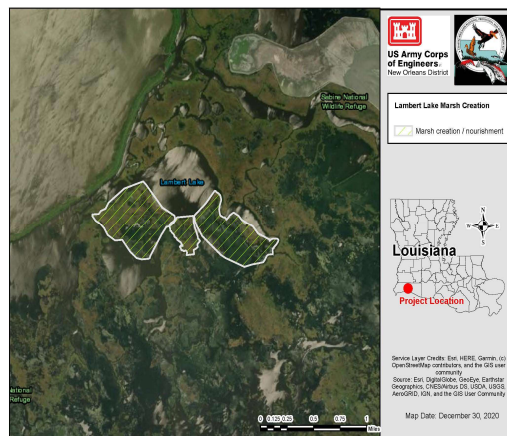
Acres: 276

- 121 Marsh Creation
- 155 Marsh Nourishment

Estimated Cost: \$20-
\$25M

- 25% contingency

Borrow Source: Calcasieu
Lake

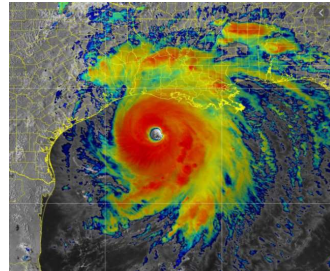


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CURRENT SIGNIFICANCE AND NEED

47



Hurricane Laura 2020

- Create storm barrier;
- Reduce the effects of coastal storm surge;
- Restore the natural shoreline of Lambert Lake.



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PPL31 PROJECT FACT SHEET
February 2, 2021

Project Name

West Cove South Marsh Creation

Master Plan Strategy

Mud Lake Marsh Creation (2017 Master Plan 004.MC.04): Creation of approximately 5,200 acres of marsh at Mud Lake south of West Cove, Calcasieu Lake to create new wetland habitat and restore degraded marsh.

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. The area has experienced wetland loss due to storm events, subsidence and saltwater intrusion.

Proposed Solution

The proposed project would create/nourish approximately 728 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. The created marsh would be planted.

Project Benefits

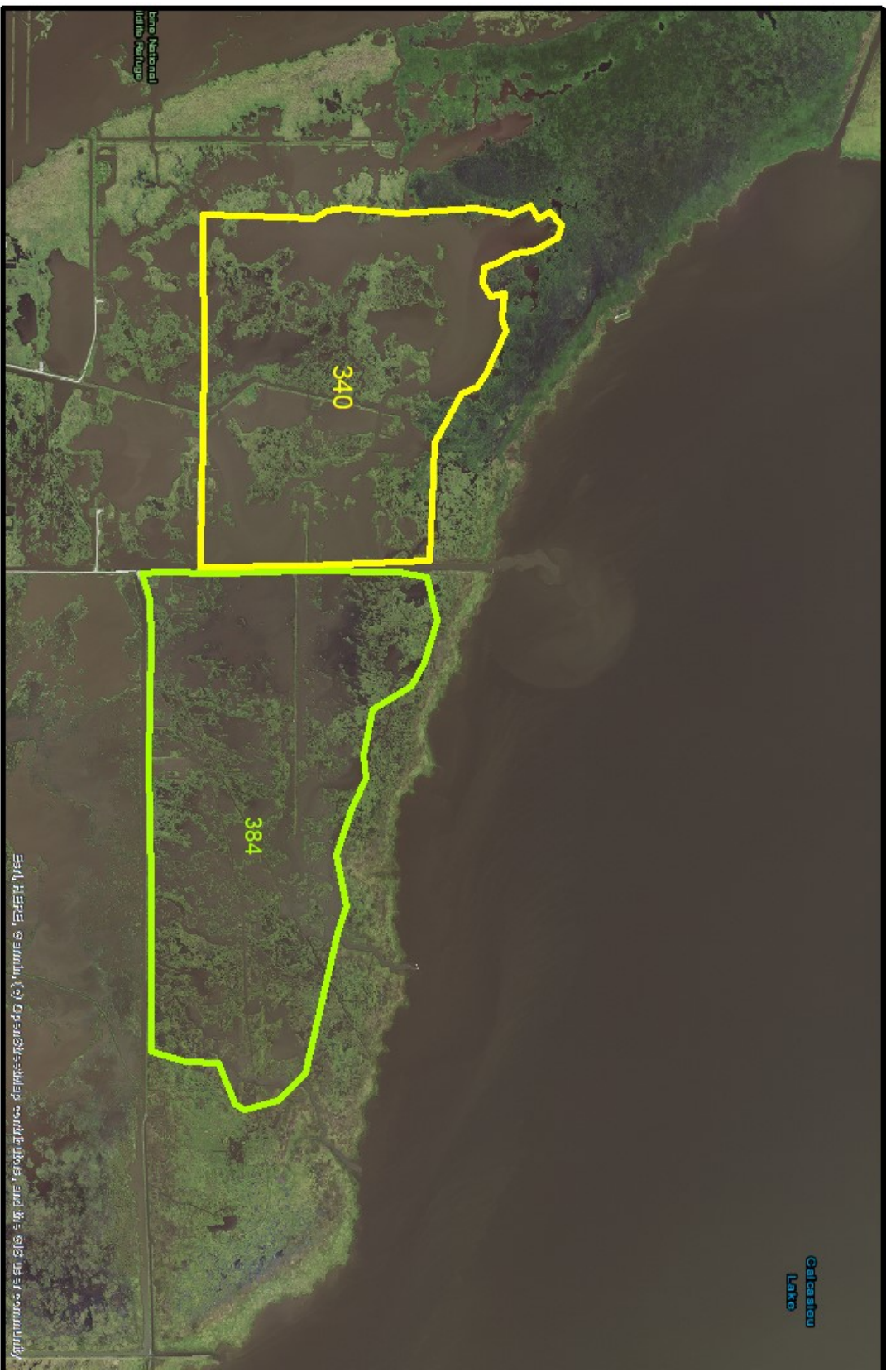
Create/nourish approximately 728 acres (create 437 acres and nourish 291 acres) of marsh using sediment dredged from the Calcasieu Ship Channel.

Project Costs



The estimated construction cost plus 25% contingency is \$20M-25M with USACE Credit
The estimated construction cost plus 25% contingency is \$30M-35M w/o USACE Credit


Preparer(s) of Fact Sheet:

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Brad Crawford, P.E., EPA; (214) 665-7255; Crawford.brad@epa.gov




West Cove South MC

-  West Cove S Marsh Creation
-  West Cove S Marsh Creation Expansion Cells




N

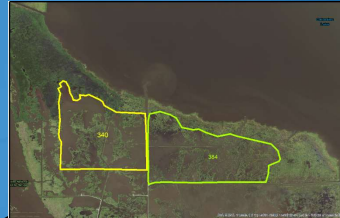
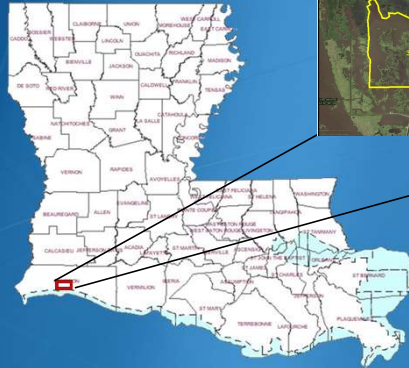
Basemap: 2019 NAIP DOQQ
Cameron Parish
Produced by EPA Region 6, Dallas, TX



0 0.1 0.2 0.4 0.6 0.8
Miles



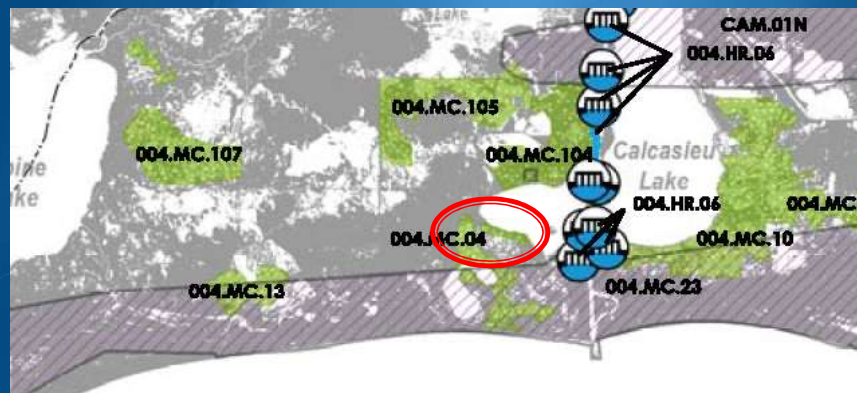
West Cove South Marsh Creation



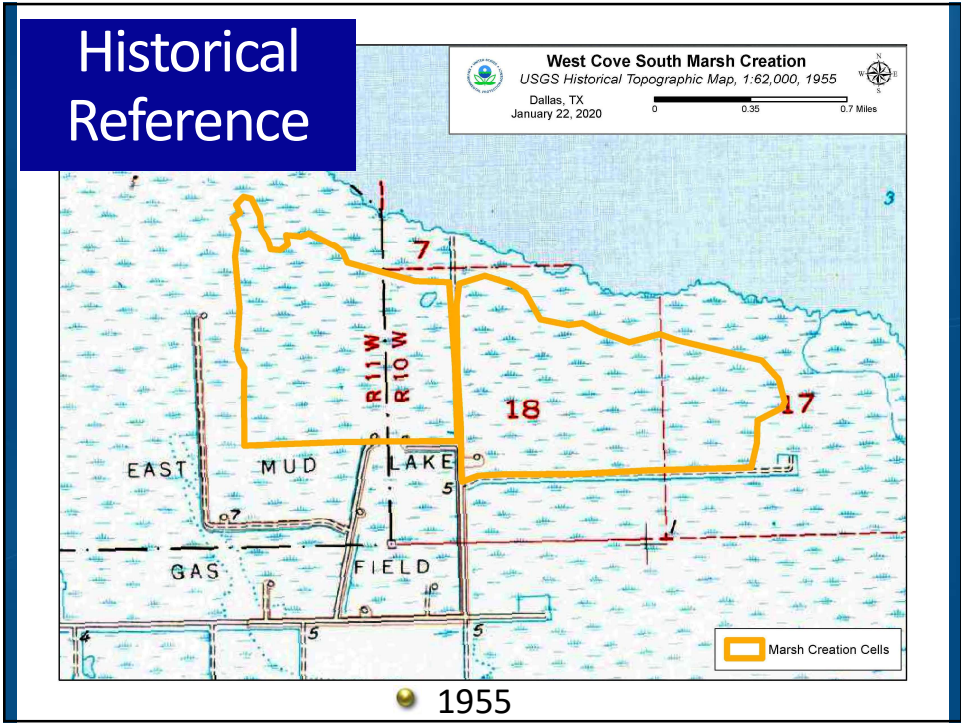
Coastal Wetlands Planning, Protection and Restoration Act

2017 Master Plan Solution

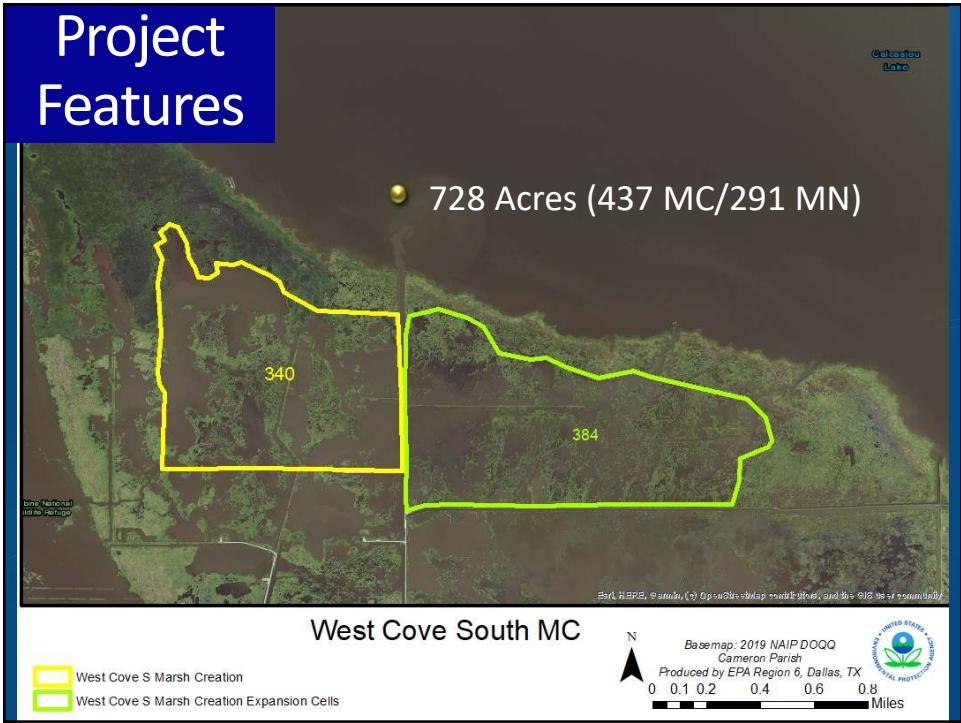
004.MC.04 Mud Lake Marsh Creation: Creation of approximately 5,200 acres of marsh at Mud Lake south of West Cove, Calcasieu Lake to create new wetland habitat and restore degraded marsh.



Historical Reference



Project Features



Project Goals

- Create/nourish 728 acres (create 437 acres and nourish 291 acres) of emergent marsh with sediment from the Calcasieu Ship Channel maintenance event
- Provide increased protection from storm surge and flooding
- Restore degraded wetland habitat
- Construction cost + 25% contingency is \$20M-\$25M
 - w/USACE Credit

PPL31 PROJECT FACT SHEET
February 2, 2021

Project Name

Mud Lake South Marsh Creation

Master Plan Strategy

Mud Lake Marsh Creation (2017 Master Plan 004.MC.04): Creation of approximately 5,200 acres of marsh at Mud Lake south of West Cove, Calcasieu Lake to create new wetland habitat and restore degraded marsh.

Project Location

Region 4, Calcasieu/Sabine Basin, Cameron Parish

Problem

The project proposed is a fragmented wetland area located immediately west of Mud Lake, just north of LA Hwy 27. The area has experienced wetland loss due to storm events, subsidence and saltwater intrusion.

Proposed Solution

The proposed project would create/nourish approximately 321 acres of marsh using sediment dredged from the Gulf of Mexico. 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. The created marsh would be planted.

Project Benefits

Create/nourish approximately 321 acres (create 267 acres and nourish 54 acres) of marsh using sediment dredged from the Gulf of Mexico.

Project Costs

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

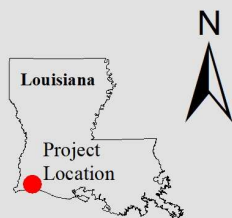
Preparer(s) of Fact Sheet:



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

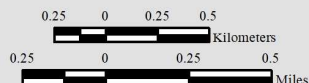
Brad Crawford, P.E., EPA; (214) 665-7255; Crawford.brad@epa.gov



Mud Lake South Marsh Creation



-  **Marsh Creation ***
-  **Project Boundary**
- * denotes proposed features**



Scale: 1:35,000

Map ID: 2019-11-0023
Map Date: July 23, 2019

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal and Ocean Restoration Branch
Baton Rouge, LA

Image Source:
2017 NAIP

Mud Lake South Marsh Creation



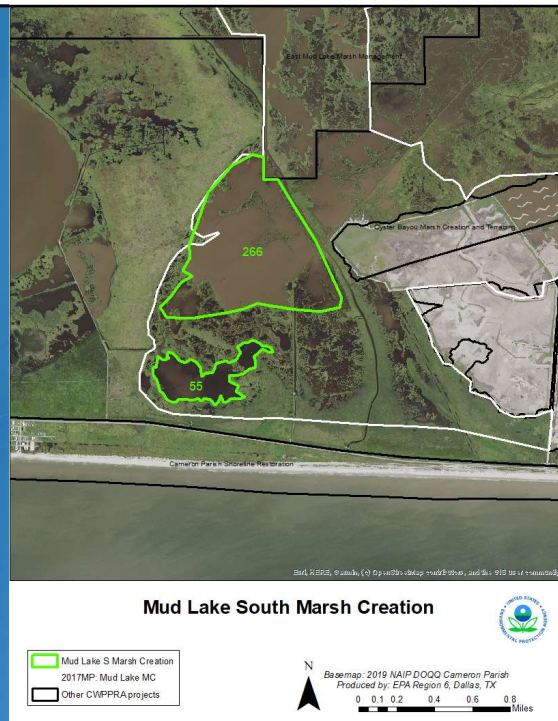
Coastal Wetlands Planning, Protection and Restoration Act

2017 Master Plan Solution

004.MC.04 Mud Lake Marsh Creation: Creation of approximately 5,200 acres of marsh at Mud Lake south of West Cove, Calcasieu Lake to create new wetland habitat and restore degraded marsh.



2017 Master Plan Consistency & Project Synergy

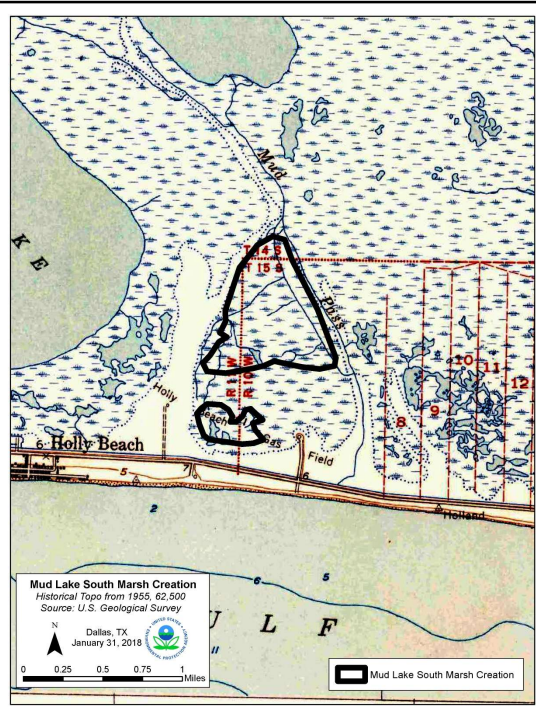


Problems

- Wetland loss due to storm and hurricane impacts
- Subsidence
- Saltwater intrusion
- Cameron Parish could lose an additional 40% of its land area, especially to coastal towns, over the next 50 years and face severe storm surge flood risk (2017 MP).

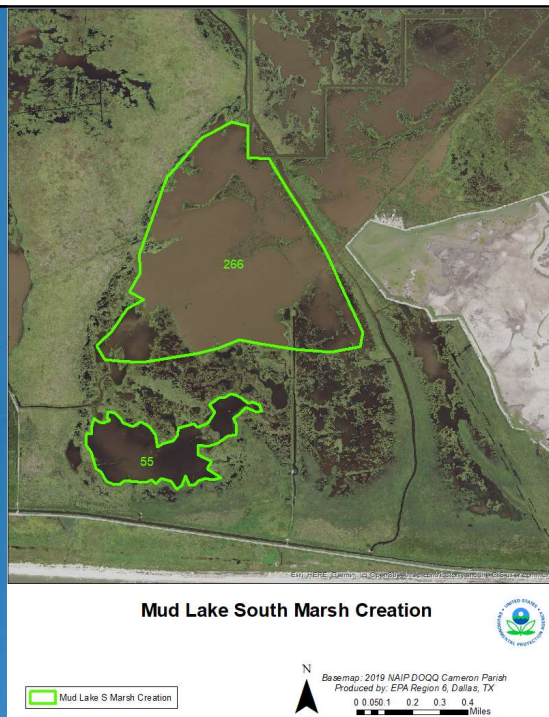
Historical Reference

1955



Project Features

- Create/nourish 321 acres (create 267 acres and nourish 54 acres) of emergent marsh with sediment from the Gulf of Mexico
- Provide increased protection from storm surge and flooding
- Restore degraded wetland habitat
- Construction cost + 25% contingency is \$15M - \$20M



PPL31 PROJECT NOMINEE FACT SHEET
February 2, 2021

Project Name

Black Bayou South Marsh Creation and Nourishment

Project Location

Region 4, Calcasieu-Sabine Basin, Cameron Parish

Problem

Wetland loss in the project area is due to hurricanes (Rita 2005 and Ike 2008), subsidence, sea level rise, and conversion to open water. Wind erosion and saltwater intrusion have also resulted in loss of marsh vegetation and wetland soils. The loss of marsh has also enabled the establishment of an increase in cross-system hydrologic connection between Sabine Lake (via The Pines Canal) and Black Bayou. The USGS estimates land loss rates in the project area at - 0.23%/yr from 1985 to 2016.

Goals

The project goal is to create and nourish approximately 544 acres (ac) of emergent brackish marsh.

Proposed Solution

The project goal is to create and nourish approximately 544 acres (ac) of marsh (393 ac creation 151 ac nourishment). Sediment would be dredged from the Sabine River north of the project area and placed via pipeline. Preliminary estimates based on information provided by the U.S. Army Corps of Engineers, Galveston District, indicate approximately 5.5-6.5 miles of the federally maintained navigation channel would need to be dredged to provide sufficient materials for the project as proposed. The cell layout would halt the cross-system hydrologic connection that currently exacerbates wetland loss. During both Phase 0 and Phase 1, opportunities would be explored to increase the amount of marsh creation.

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*
This total project area is 544 ac.
- 2) *How many acres of wetlands will be protected/created over the project life?*
Approximately 350 – 400 ac of marsh will be protected/created over the project life.
- 3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (e.g., 50% reduction in the background loss rate)?*
The anticipated land loss rate reduction throughout the area of direct benefits will be 50-74% over the projects life.
- 4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*
The project will help protect the rim of Sabine Lake.

- 5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project would help protect water control structures and weirs in the nearby Black Bayou Hydrologic Restoration Project (CS-27) and the East Sabine Lake Hydrologic Restoration Project (CS-32).
- 6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
The project will have a synergistic effect CS-27 to the north and CS-32.

Considerations

The proposed project has potential utility/pipeline considerations and oil and gas infrastructure.

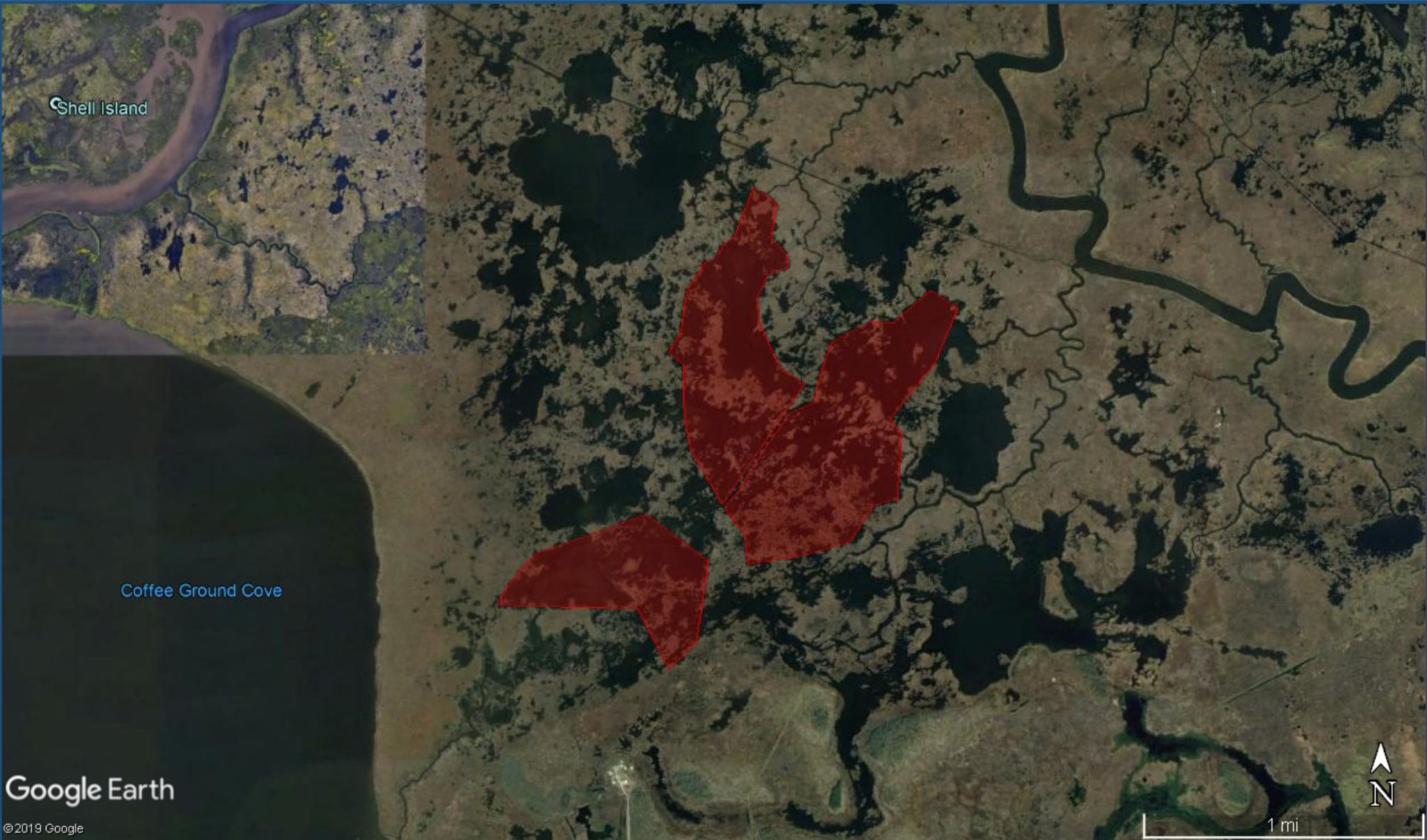
Preliminary Construction Costs

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

Preparer(s) of Fact Sheet:

Brandon Howard, NOAA Fisheries, 225-380-0050, brandon.howard@noaa.gov

Jason Kroll, NOAA Restoration Center, 225-757-5411, jason.kroll@noaa.gov



PPL31 Black Bayou South Marsh Creation and Nourishment

393 acres of marsh creation
151 acres of marsh nourishment

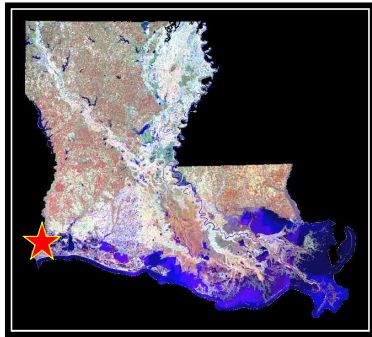
Federal Sponsor: NOAA Fisheries
2019 Aerial Imagery
Map Date 2-2-2021

Legend

 Marsh Creation and Nourishment



Black Bayou South Marsh Creation and Nourishment Project



REGION 4 – Calcasieu Sabine Basin

Presenter: Brandon Howard, Fishery Biologist, NOAA

Special Thanks

Terry Delane, FWS

Cameron Parish

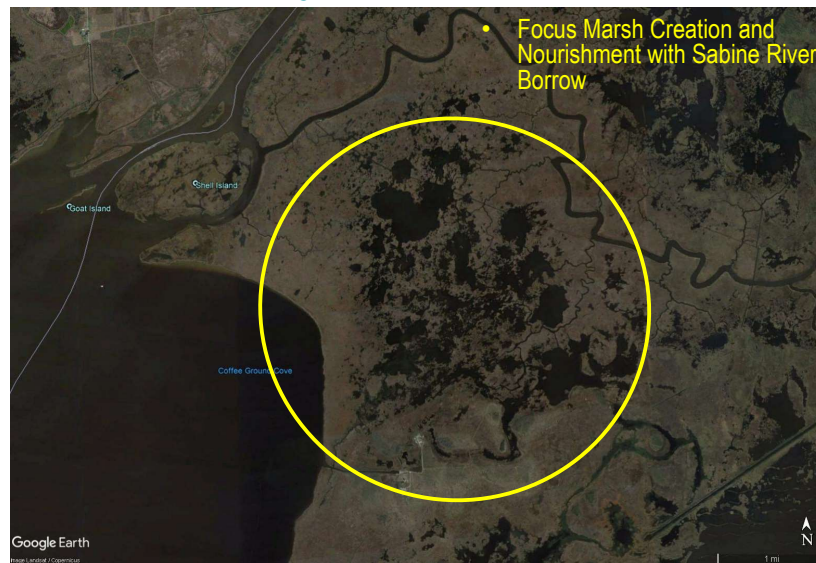
Belynda Kinman, USACE-SWG

PPL30 CWPPRA Regional Planning Team Meeting

February 2, 2021

Black Bayou South Marsh Creation and Nourishment Project

Project Location



Project Area Problem

2009



Google Earth



NOAA FISHERIES

U.S. Department of Commerce | National Oceanic and Atmospheric Administration | NOAA Fisheries | Page 66

Project Goals

- Marsh Creation and Nourishment
 - Restore intertidal marsh habitat on Sabine National Wildlife Refuge and private property.
 - Design and construct resilient wetlands to maximize wetland benefits throughout the 20 year project life.



NOAA FISHERIES

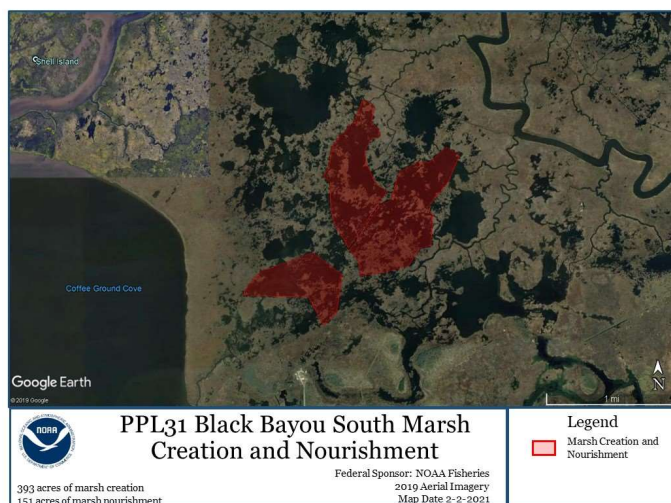
U.S. Department of Commerce | National Oceanic and Atmospheric Administration | NOAA Fisheries | Page 67

Restoration Solution

- 544 Acres of Marsh Creation/Nourishment
 - 393 acres of marsh creation & 151 acres of marsh nourishment
 - Hydraulically dredge material from the Sabine River
 - Contained fill areas with dike gapping after construction
 - Incremental cost sharing with USACE-SWG



Project Map



- 2017 State Master Plan Polygon 004.MC.107
- 544 Acres TOTAL of marsh creation/nourishment
- Approximately 393 acres of creation and 151 acres of nourishment
- Sabine River borrow area



Summary of Features, Cost, and Benefits

- **544 Acres Total**
 - 393 acres Marsh Creation
 - 151 acres Nourishment
- **Construction Cost + 25% Contingency \$15M - \$20M**
- **Net Benefits: 350-400 acres**

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PPL31 PROJECT NOMINEE FACT SHEET
February 2, 2021

Project Name

Mud Lake Peninsula Marsh Creation

Louisiana's 2017 Coastal Master Plan

Marsh Creation – 004.MC.04

Project Location

Region 4, Calcasieu-Sabine Basin, Cameron Parish

Problem

The wetlands in this portion of Cameron Parish have been significantly altered by hydrologic modifications, saltwater intrusion, and conversion of marsh to open water. Anthropogenic factors, including the construction of the Calcasieu Ship Channel and LA Highway 27 have caused significant hydrologic changes to this system. In addition, rapid fluid extraction may have contributed to the surface downwarping within this area. These factors contributed to the weakening of the wetland plant community, reducing its ability to respond to increasing salinities and flood duration. Wetlands also converted to open water during increased tidal action (i.e. tropical events), leaving open water areas. Hurricane Rita in 2005, Hurricane Ike in 2008, and Laura in 2020 resulted in marsh loss in the area. Salinity levels and flood duration have improved with time; however, water depths are not conducive to reestablish emergent vegetation. In addition, submerged aquatic vegetation development in the project area is limited by wave action and turbidity within the large, open water areas.

Goals

The project goal is to restore intertidal marsh habitat on the perimeter and within the peninsula of land located in and around Mud Lake. The project should be designed and constructed to maximize wetland benefits throughout the twenty year project life.

Proposed Solution

The proposed solution is create and/or nourish approximately 412 acres (307 acres created and 105 acres nourished) in critical target areas of open water in the northern vicinity of Mud Lake. Sediment would be hydraulically dredged from Mud Lake borrow areas into the shallow marsh creation areas using a small dredge. Containment dikes would be constructed around the marsh creation area to retain material on-site during pumping. Tidal creeks and ponds may be incorporated into the design process, where applicable. Containment dikes would be degraded to the current platform elevation and gapped to improve hydrologic connectivity. Creation areas may be planted with native vegetation if necessary.

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*
The project area comprised of marsh creation and nourishment is 412 acres (307 acres created and 105 acres nourished).
- 2) *How many acres of wetlands will be protected/created over the project life?*
The net acres benefit is 300-350 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 nourishment area 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?*

Yes. Project helps to maintain the integrity the lake rim.

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

The project would provide positive impacts to critical infrastructure. The loss of wetlands in this area increases the vulnerability of infrastructure to wave energy. Protecting/creating wetlands in this area may also assist in reducing storm damages to oil and gas infrastructure.

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

The project provides a synergistic effect with East Mud Lake Marsh Management (CS-20), Oyster Bayou Marsh Restoration (CS-59), and Oyster Lake Marsh Creation and Nourishment (CS-79).

Considerations

Pipelines and other infrastructure, and protection of the Mud Lake shoreline, are considerations in the project design.

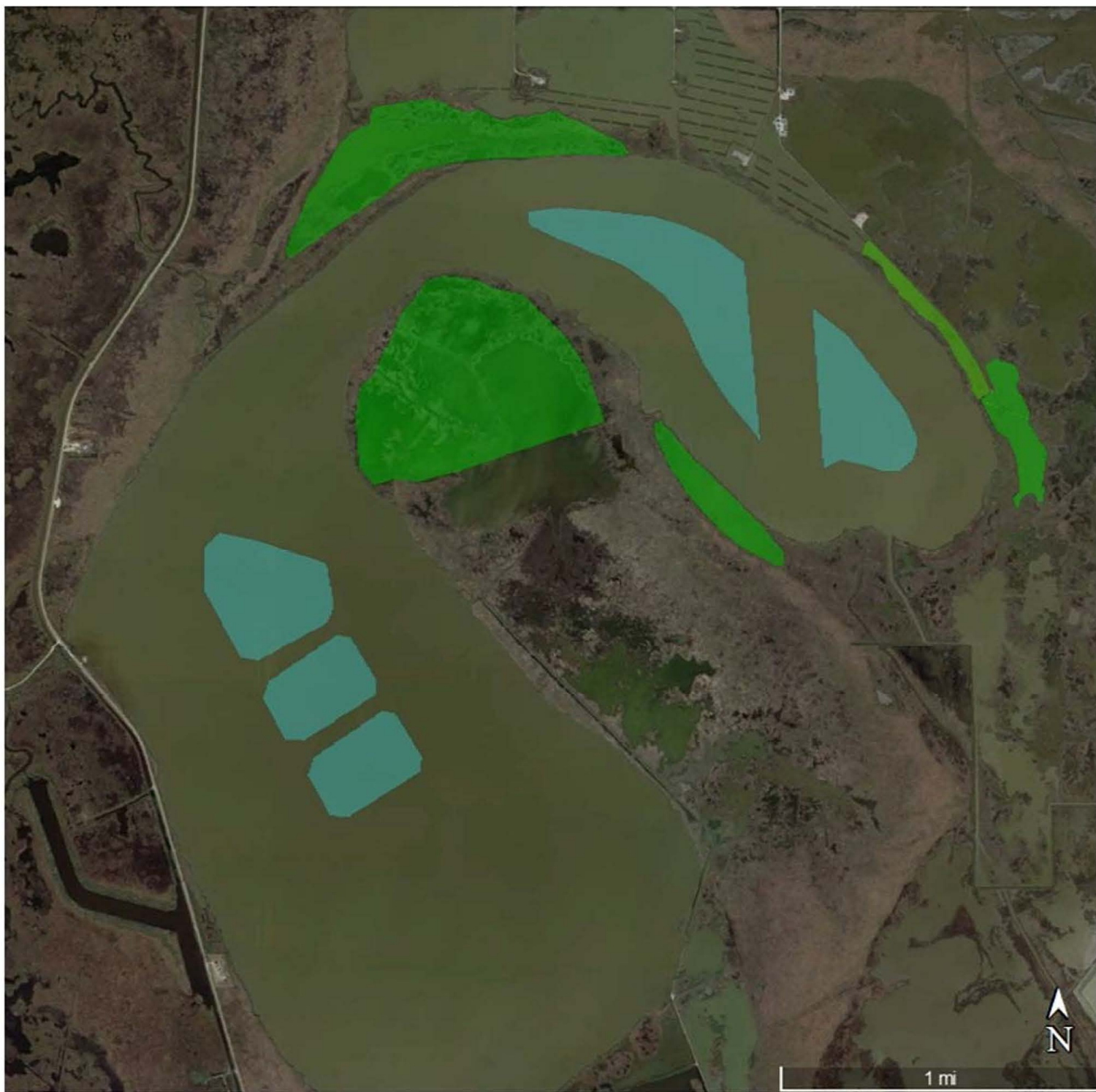
Preliminary Construction Costs

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

Preparer(s) of Fact Sheet:

Jennifer Smith; NOAA Fisheries Service, 225-954-6654, Jennifer.Smith@noaa.gov

Jason Kroll; NOAA Fisheries Service, 225-335-9659, Jason.Kroll@noaa.gov





PPL31 Mud Lake Peninsula Marsh Creation

Approximately
307 Acres Marsh Creation
105 Acres Marsh Nourishment

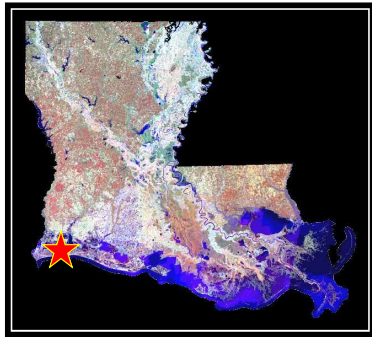
Federal Sponsor: NOAA Fisheries
2017 Aerial Imagery
Map Date 01-23-2020

Legend

-  Marsh Creation
-  Potential Borrow Areas



Mud Lake Peninsula Marsh Creation Project



REGION 4 Calcasieu-Sabine Basin

Presenter: Jennifer Smith, NOAA

Special Thanks

Tim Allen and Francis Fields with Apache Corp.

David Richard and Stream Properties

Jason Kroll and NOAA Team

PPL31 CWPPRA Regional Planning Team Meeting

Virtual Meeting

February 2, 2021

Mud Lake Peninsula Marsh Creation Project

Project Vicinity



Project Area Problems

- Major loss of wetlands
- Coastwide subsidence and sea level rise
- Hydrologic Impacts
- Hurricane impacts
- Conversion of contiguous marsh to large areas of open water
- Going to continue to see further degradation with increased water depths and wave fetch distances

Project Goals

- Marsh Creation and Nourishment
 - Restore intertidal marsh habitat on the perimeter and peninsula of Mud Lake.
 - Design and construct resilient wetlands to maximize wetland benefits throughout the 20 year project life.

Proposed Project Solution

- 412 Acres of Marsh Creation/Nourishment
 - Dredge material from Mud Lake
 - Contained Fill areas with dike gapping after construction
 - Opportunity for design to expand in acreage.
 - Opportunity for Semi-Confined placement
 - Small Dredge plant trucked in with access off HWY27.
 - Short pumping distance, less than 1.5 miles.



Project Map

- 2017 State Master Plan Polygon 004.MC.04
- Segmented Borrow Area Design
- 412 Acres of Marsh Restoration (307 Marsh Creation and 105 Marsh Nourishment)
- Expandable Project for more acreage
- Borrow Area in Mud Lake – design to prevent impacts to shorelines



PPL31 Mud Lake Peninsula Marsh Creation

Approximately
307 Acres Marsh Creation
105 Acres Marsh Nourishment

Federal Sponsor: NOAA Fisheries
2017 Aerial Imagery
Map Date 01-23-2020

Legend

- Marsh Creation
- Potential Borrow Areas



Summary

- 412 Acres of Marsh Restoration Total
- 307 Acres Marsh Creation
- 105 Acres Marsh Nourishment
- Estimated Construction Cost plus 25% Contingency is \$15M - \$20M
- Estimated 300-350 NET ACRES



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PPL31 PROJECT NOMINEE FACT SHEET
February 2, 2021

Project Name

Hog Island Marsh Creation and Nourishment

Project Location

Region 4, Calcasieu-Sabine Basin, Cameron Parish

Problem

Wetland loss in the project area is due to altered hydrology, subsidence, sea level rise, and hurricane-induced damage. Wind erosion and saltwater intrusion have also resulted in loss of marsh vegetation and wetland soils. The USGS estimated land loss rate from 1985 to 2016 for the West Calcasieu Lake Dredge subunit is -0.21% per year.

Goals

The project goal is to create and nourish approximately 310 acres (ac) of emergent saline marsh on the Hog Island portion of the Sabine National Wildlife Refuge (SNWR), north of the West Cove of Calcasieu Lake.

Proposed Solution

The proposed solution is to create 265 ac of saline marsh and nourish 45 ac of existing marsh on the Hog Island area of the SNWR. Sediment would be hydraulically pumped from the Calcasieu Ship Channel during an upcoming dredging cycle, and deposited in the project area via pipeline.

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*
The total project area is 310 ac.
- 2) *How many acres of wetlands will be protected/created over the project life?*
The net acre benefit range is 250-300 ac 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 nourishment areas.
- 4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*
The project would help protect the northern rim of West Cove in Calcasieu Lake.
- 5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project would help protect Hwy 27, and may have minor net positive impact to non-critical infrastructure comprised of nearby boat launches, water control structures, and possible pipelines.

- 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 nearby terrace fields, and the West Cove Canal/Sabine Cycles Ship Channel dredge disposal areas.

Considerations

Public oyster seed grounds, possible pipelines, and public access areas.

Preliminary Construction Costs

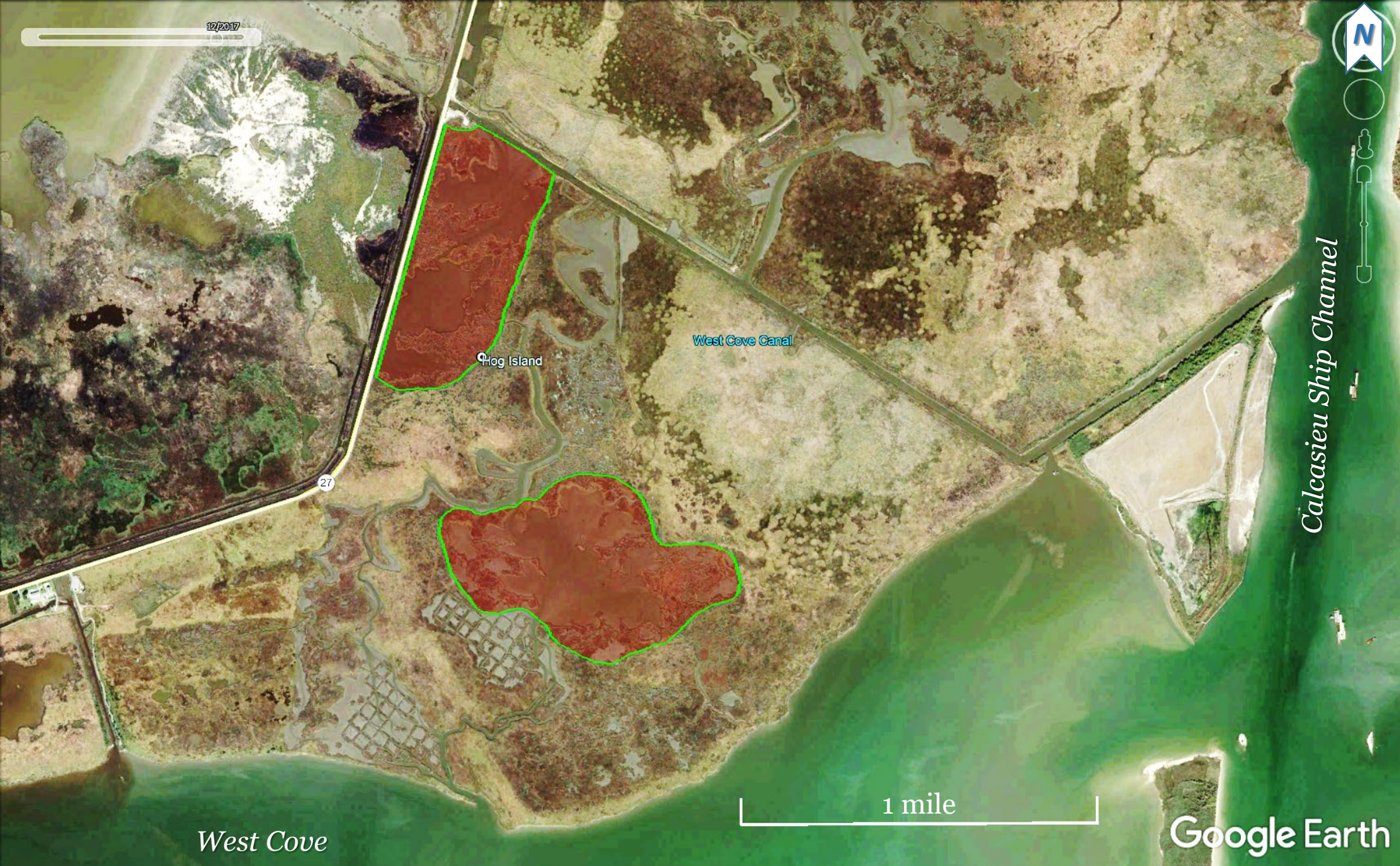
The estimated construction cost including 25% contingency is \$5M-\$10M.

Preparer(s) of Fact Sheet:

Craig Gothreaux, NOAA Fisheries, 225-380-0078, craig.gothreaux@noaa.gov

Jason Kroll, NOAA Restoration Center, 225-757-5411, jason.kroll@noaa.gov

12/2017



West Cove

1 mile

Google Earth

PPL31 Hog Island Marsh Creation and Nourishment Project

265 acres of marsh creation
45 acres of marsh nourishment

Federal Sponsor: NOAA Fisheries
2017 Aerial Imagery
Map Date 2-2-2021

Legend

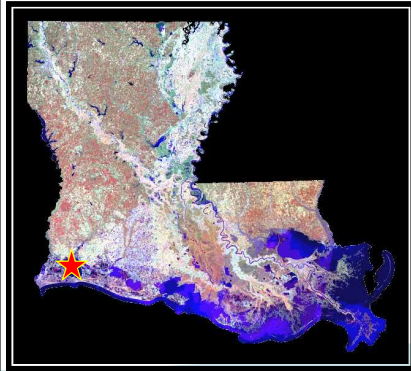
-  Marsh Creation and Nourishment Cells





NOAA
FISHERIES

Hog Island Marsh Creation and Nourishment Project



REGION 4: Calcasieu-Sabine Basin

Presenter: Craig Gothreaux, Fishery Biologist, NOAA

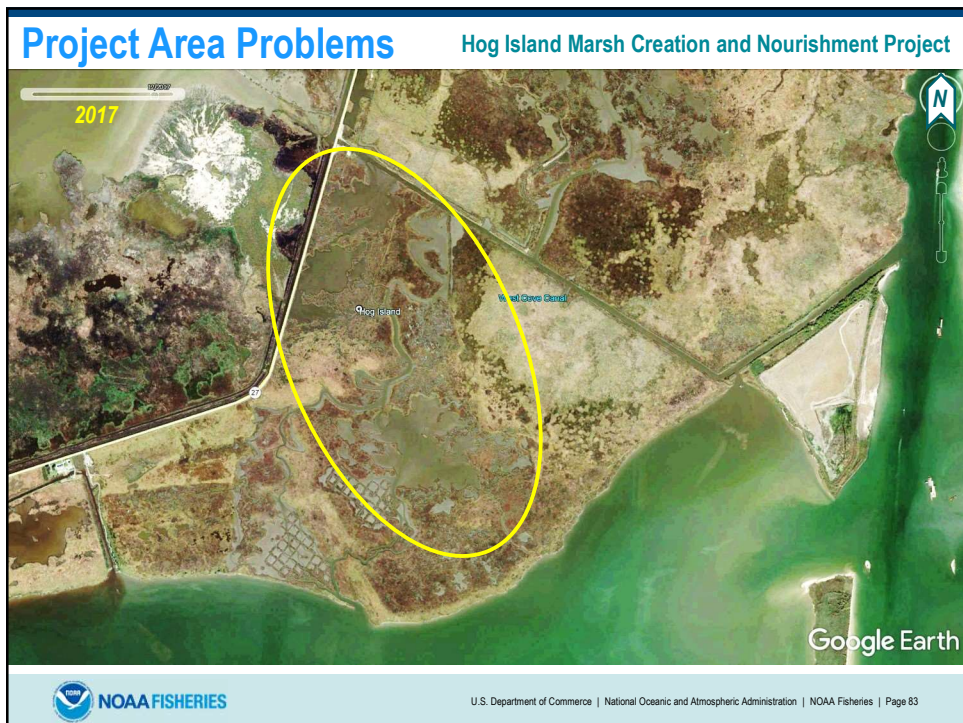
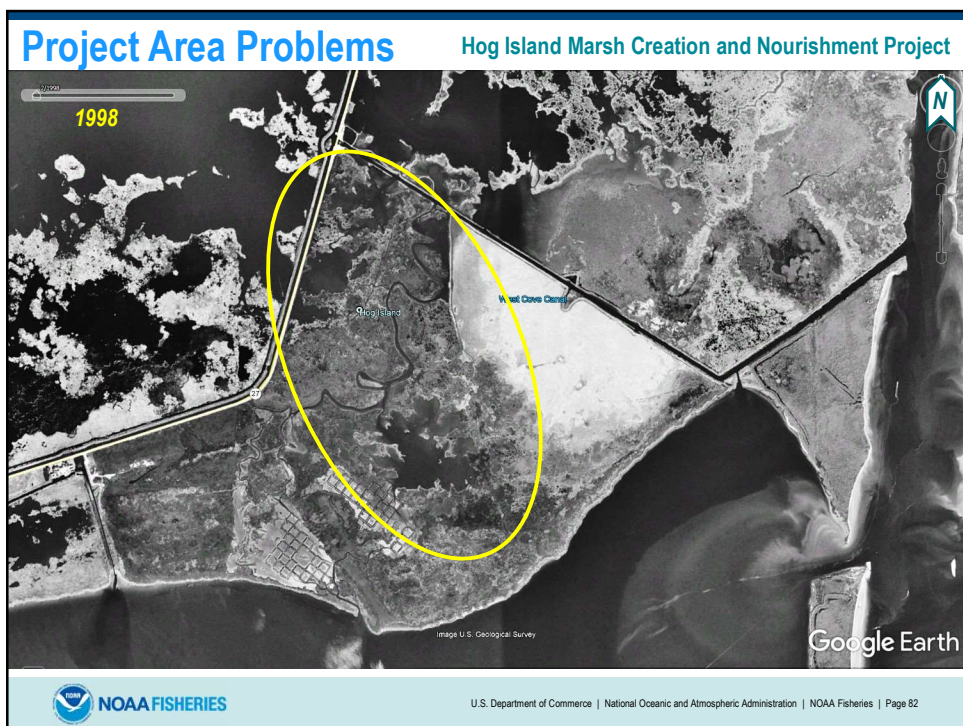
PPL31 CWPPRA Regional Planning Team Meeting

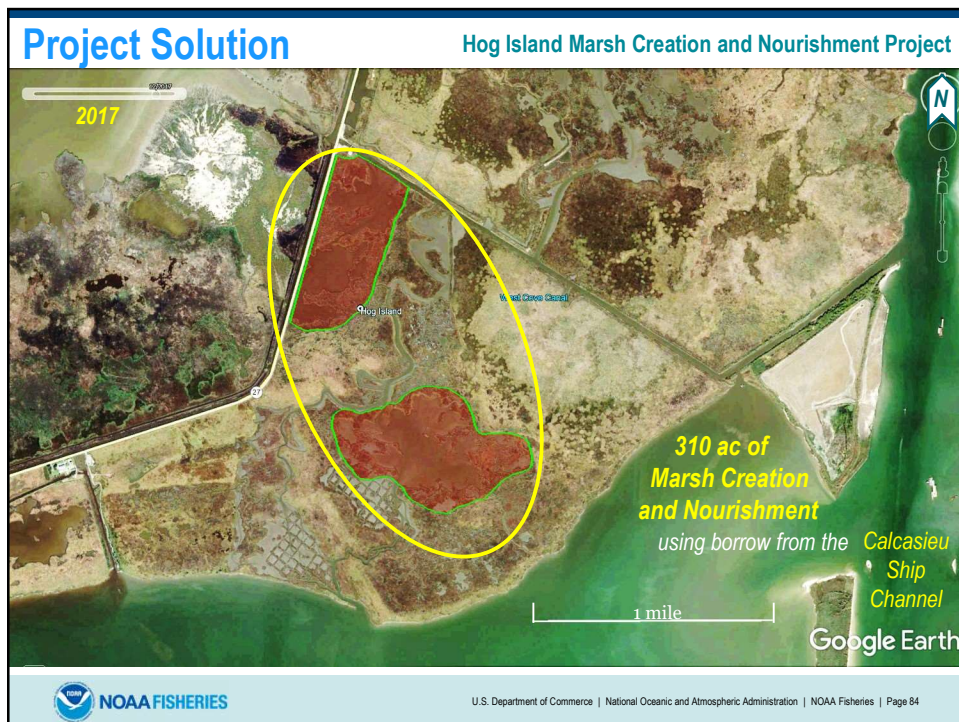
February 2, 2021

Project Location

Hog Island Marsh Creation and Nourishment Project







Project Goals

Hog Island Marsh Creation and Nourishment Project

- ❖ **Marsh Creation and Nourishment**
 - Restore intertidal marsh habitat on Hog Island located on the Sabine National Wildlife Refuge
 - Design and construct resilient wetlands to maximize wetland benefits throughout the 20 year project life
- ❖ **Maximize project synergy and fishery access**

NOAA FISHERIES

U.S. Department of Commerce | National Oceanic and Atmospheric Administration | NOAA Fisheries | Page 85

Restoration Solutions

Hog Island Marsh Creation and Nourishment Project

❖ Marsh Creation and Nourishment **310 ac total**

- Restore intertidal marsh habitat on Hog Island located on the Sabine National Wildlife Refuge

Help maintain the integrity of the West Cove lake rim

- Design and construct resilient wetlands to maximize wetland benefits throughout the 20 year project life

Help protect Hwy 39 and other infrastructure

❖ Maximize project synergy and fishery access

Beneficially use dredged material from CSC deepening

- Incremental cost sharing with USACE



U.S. Department of Commerce | National Oceanic and Atmospheric Administration | NOAA Fisheries | Page 86

Project Map

Hog Island Marsh Creation and Nourishment Project



PPL31 Hog Island Marsh Creation and Nourishment Project

265 acres of marsh creation
45 acres of marsh nourishment

Federal Sponsor: NOAA Fisheries
2017 Aerial Imagery
Map Date 2-2-2021

Legend

Marsh Creation and Nourishment Cells



U.S. Department of Commerce | National Oceanic and Atmospheric Administration | NOAA Fisheries | Page 87

Hog Island Marsh Creation and Nourishment Project

Summary of Features, Cost, and Benefits

- ❖ **310 acres Total**
 - 265 acres Marsh Creation
 - 45 acres Nourishment
- ❖ Construction Cost + 25% Contingency: **\$5M - \$10M**
- ❖ Net Benefits: **250-300 acres**

Contact information:

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PPL31 PROJECT NOMINEE FACT SHEET
February 2, 2021

Project Name

Cameron Prairie Marsh Creation and Terracing

Louisiana's 2017 Coastal Master Plan

Marsh Creation – 004.MC.10

Project Location

Region 4, Calcasieu-Sabine Basin, Cameron Parish

Problem

The Calcasieu Ship Channel, west of the project area, provides an avenue for the rapid movement of high-salinity water into the marshes around Calcasieu Lake. This movement increased salinity in the area, resulting in plant stress and marsh loss. The weakened brackish marshes located west of South Prong have been decimated by synoptic losses from hurricanes and are now shallow open water areas. Historic and forecasted water elevation trends in Calcasieu Lake in comparison to marshes within the Calcasieu/Sabine Basin illustrate the need to restore elevations conducive to marsh establishment. The USGS 1985 to 2016 Lambert Lake loss rate is -1.67%/yr.

Goals

The project goal is to create approximately 330 acres and nourish approximately 54 acres of emergent brackish marsh using sediment dredged from Calcasieu Lake. In addition, approximately 11,760 linear feet acres of terraces would be constructed.

Proposed Solution

The proposed project's primary feature is to create approximately 330 acres and nourish approximately 54 acres of marsh east of Calcasieu Lake. Sediment would be hydraulically dredged from Calcasieu Lake and placed in confined disposal areas to create marsh elevations. In addition, approximately 11,760 linear feet of terraces (16 acres) would be constructed from in situ material and planted. Dikes would be degraded or gapped no later than three years after construction.

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*
This total project area is 552 acres. Some indirect benefits to marshes around the proposed restoration footprint may result.
- 2) *How many acres of wetlands will be protected/created over the project life?*
Based on a 50% rate reduction to the projected -1.67%/yr land loss rate, marsh creation and nourishment in the project area would yield 302 net acres, 20 years after initial construction.
- 3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (e.g., 50% reduction in the background loss rate)?*
The anticipated land loss rate reduction over the project area is 50%.
- 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, helps to prevent coalescence of Lambert Lake and the Paired Ponds with the open water area west of South Prong.

- 5) *What is the net impact of the project on critical and non-critical infrastructure?*
No major impacts to critical infrastructure. Oil and gas facilities in area would be benefited by the project acreage created.
- 6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
This project would have a synergistic effect with CWPPRA projects (CS-04a and CS-54) and a constructed NAWCA project.

Considerations

Land rights for a small portion of the project have yet to be determined. Borrow area siting to minimize impacts to oysters in Calcasieu Lake.

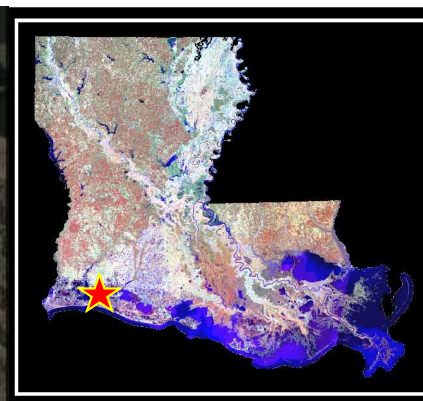
Preliminary Construction Costs

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

Preparer(s) of Fact Sheet:

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300 Acres Marsh Creation

PPL31 Cameron Prairie Marsh Creation and Terracing

Federal Sponsor: NOAA Fisheries
2017 Aerial Imagery
Map Date 02-02-2019

Legend



Marsh Creation

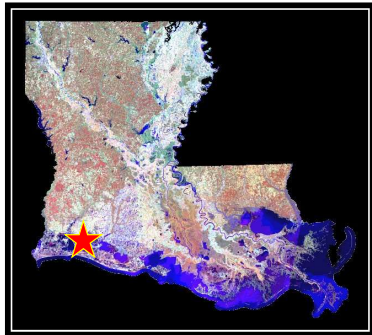


Borrow Area



Cameron Prairie Marsh Creation and Terracing

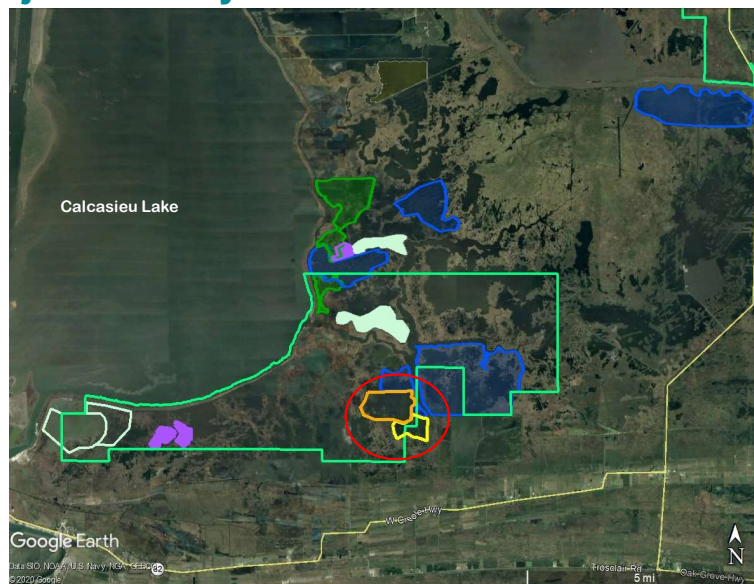
REGION 4 – Calcasieu/Sabine Basin

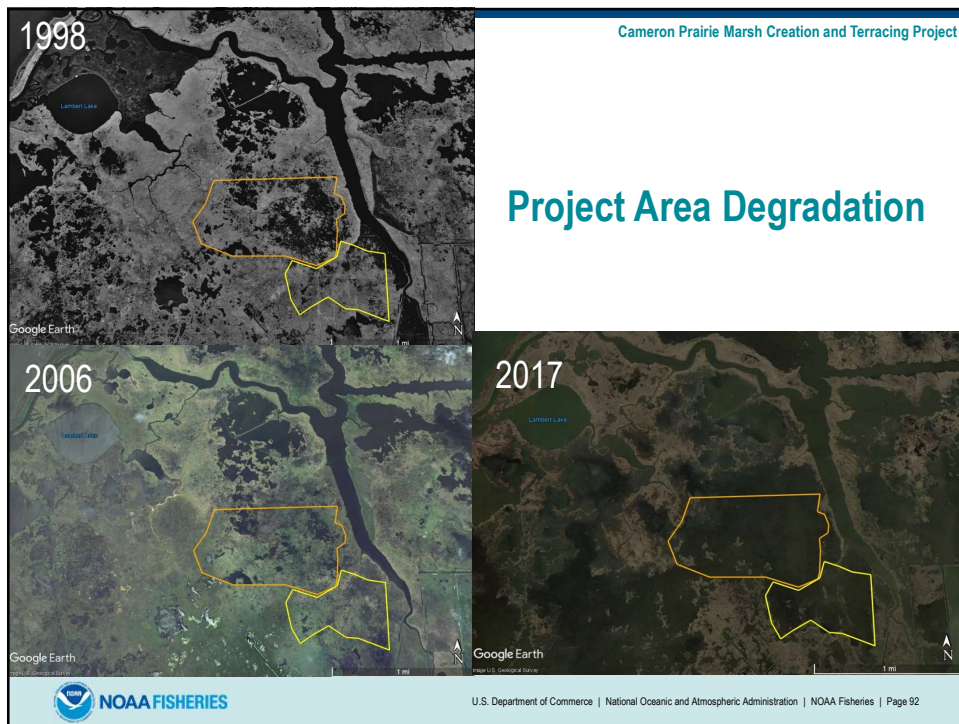


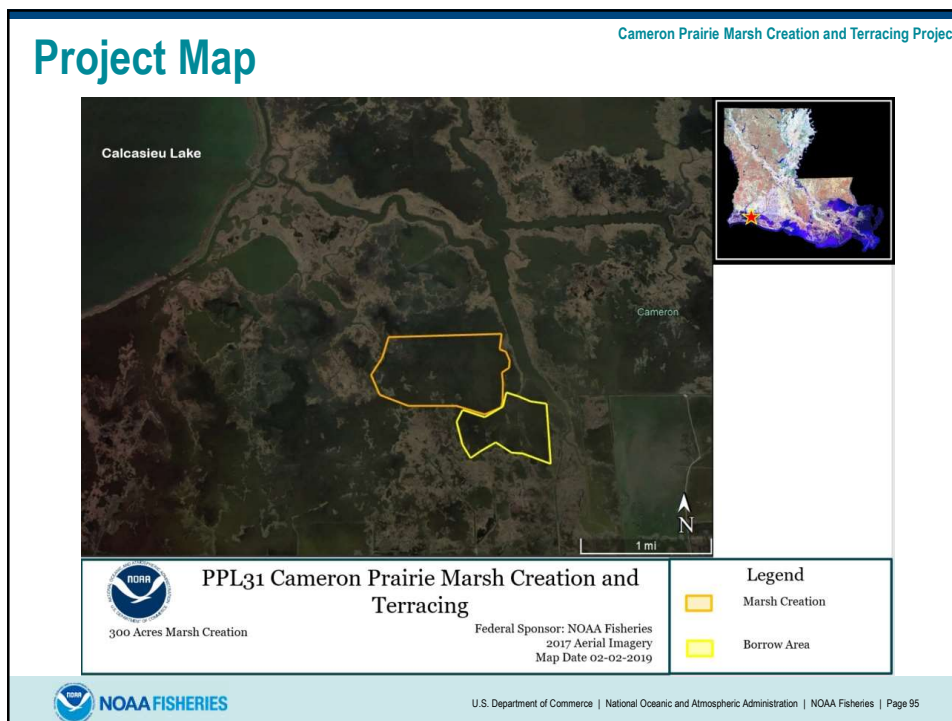
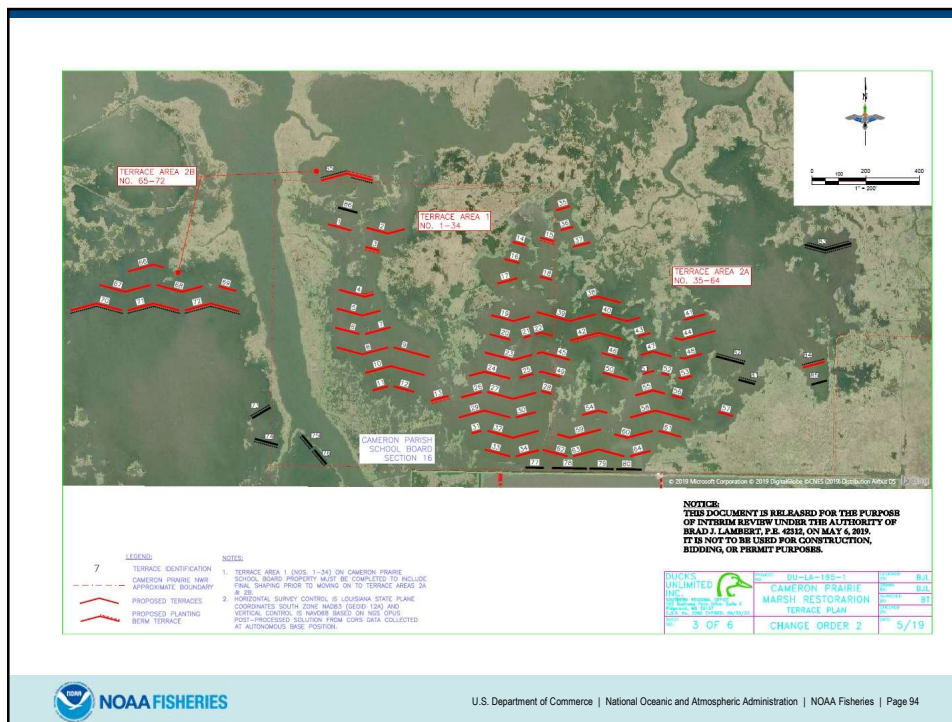
PPL31 CWPPRA Regional Planning Team
Virtual Meeting
February 2021

Project Vicinity

Cameron Prairie Marsh Creation and Terracing Project







Summary

- 384 acres Marsh Creation/Nourishment
- 11,760 LF Terraces (16 acres)
- Construction Cost + 25% Contingency \$15M - \$20M
- Net Benefits: 302 acres

Synergy

- Synergy with other CWPPRA (CS-04a, CS-54, East Prong) and NAWCA projects

Contact information:

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Thanks to Cameron Prairie NWR and Ducks Unlimited



NOAA FISHERIES

U.S. Department of Commerce | National Oceanic and Atmospheric Administration | NOAA Fisheries | Page 96

PPL31 PROJECT FACT SHEET
February 2, 2021

Project Name

Three Bayous Marsh Creation

Project Location

Region 4, Calcasieu/Sabin Basin, Cameron Parish, Three Bayous area adjacent to Sabine Lake.

Problem

Construction of the Sabine/Neches Waterway has allowed an increase in the vulnerability of the marshes along Sabine Lake to salinity intrusion particularly during times of drought. Recent hurricanes have further deteriorated the marsh which has allowed more frequent tidal flushes within the marsh that have increased interior erosion. As the area continues to open up, winds and increased fetch across the area has accelerated erosion. Land loss in the project region is estimated by USGS to be -0.12%/y with a subsidence of at least 3.8 mm/y. Marsh creation would quickly restore marshes and reduce the volume of tidal flux into the area to stabilize conditions for existing marsh.

Goals

The goal of the project is to create and nourish marsh to restore habitat and limit the tidal flux to the complex of marshes in the area.

Proposed Solution

Sediments will be hydraulically dredged from Sabine Lake and pumped via pipeline to create and nourish approximately 503 acres of marsh habitat. The marsh creation areas will be fully contained, and the containment will be degraded after construction.

Preliminary Project Benefits

The project will initially create approximately 503 acres of marsh through hydraulically dredge material from Sabine Lake.

Preliminary Cost

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

Preparer of Fact Sheet

Ron Boustany, NRCS, (337) 291-3067, ron.boustany@usda.gov

Google Earth

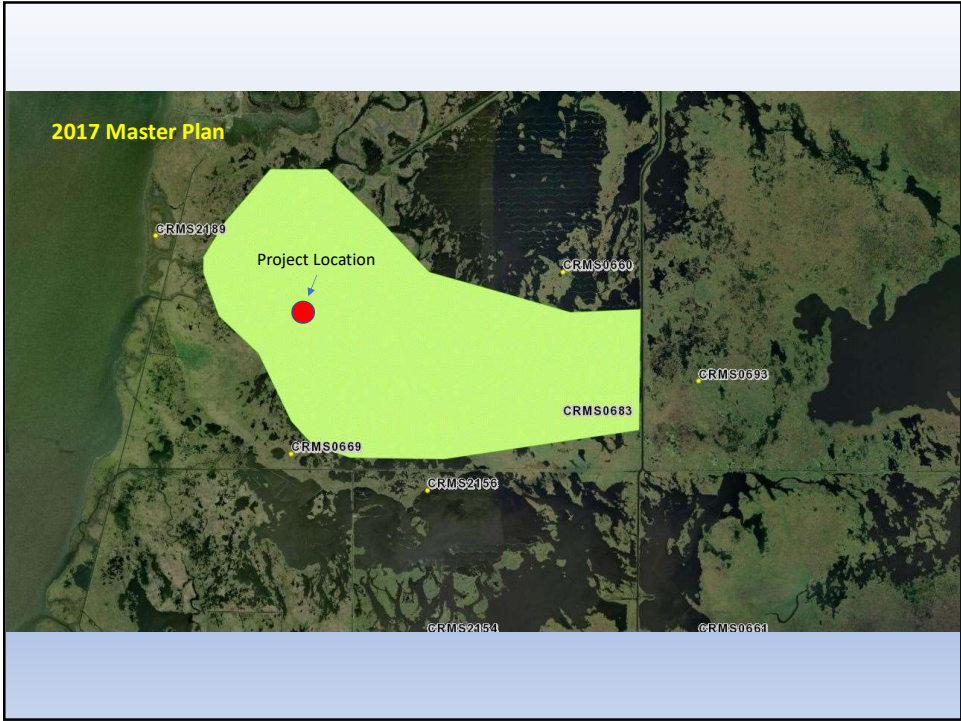
© 2020 Google

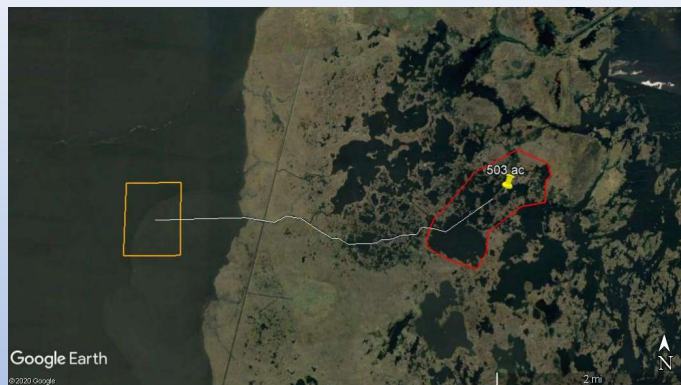
503 ac

N

2 mi







PPL-31

Three Bayous Marsh Creation

Project Objectives:

- Create/nourish marsh with material dredged from Sabine Lake.
- Reduce interior erosion by creating marsh to connect land mass to reduce the tidal prism in the interior marsh

Project Features and Benefits:

- Create 503 acres of marsh

Project Cost:

- \$20-25 million



PPL31 PROJECT FACT SHEET
February 2, 2021

Project Name

East Cove Marsh Creation

Project Location

Region 4, Calcasieu/Sabin Basin, Cameron Parish, East Cove Unit of the Cameron Creole marsh complex south of Grand Bayou and adjacent to Calcasieu Lake.

Problem

The Cameron Creole marshes has suffered extensive losses due to subsidence, sea level rise, salinity intrusion and hurricanes Rita, Ike and, most recently, Hurricane Laura. This area has therefore been the focus of coastal restoration efforts involving hydrologic restoration, freshwater diversions, terracing and marsh creation. The regional land loss rate is estimated by USGS to be -1.67%/y with a subsidence of at least 3.8 mm/y in the moderate scenario. Marsh creation would quickly restore marshes and reduce the volume of tidal flux into the area to stabilize conditions for existing marsh.

Goals

The goal of the project is to create and nourish marsh to restore habitat and limit the tidal flux to the complex of marshes in the area.

Proposed Solution

Sediments will be hydraulically dredged from Calcasieu Lake and pumped via pipeline to create and nourish approximately 449 acres of marsh habitat. The marsh creation areas will be fully contained, and the containment will be degraded after construction.

Preliminary Project Benefits

The project will initially create approximately 449 acres of marsh through hydraulically dredge material from Calcasieu Lake.

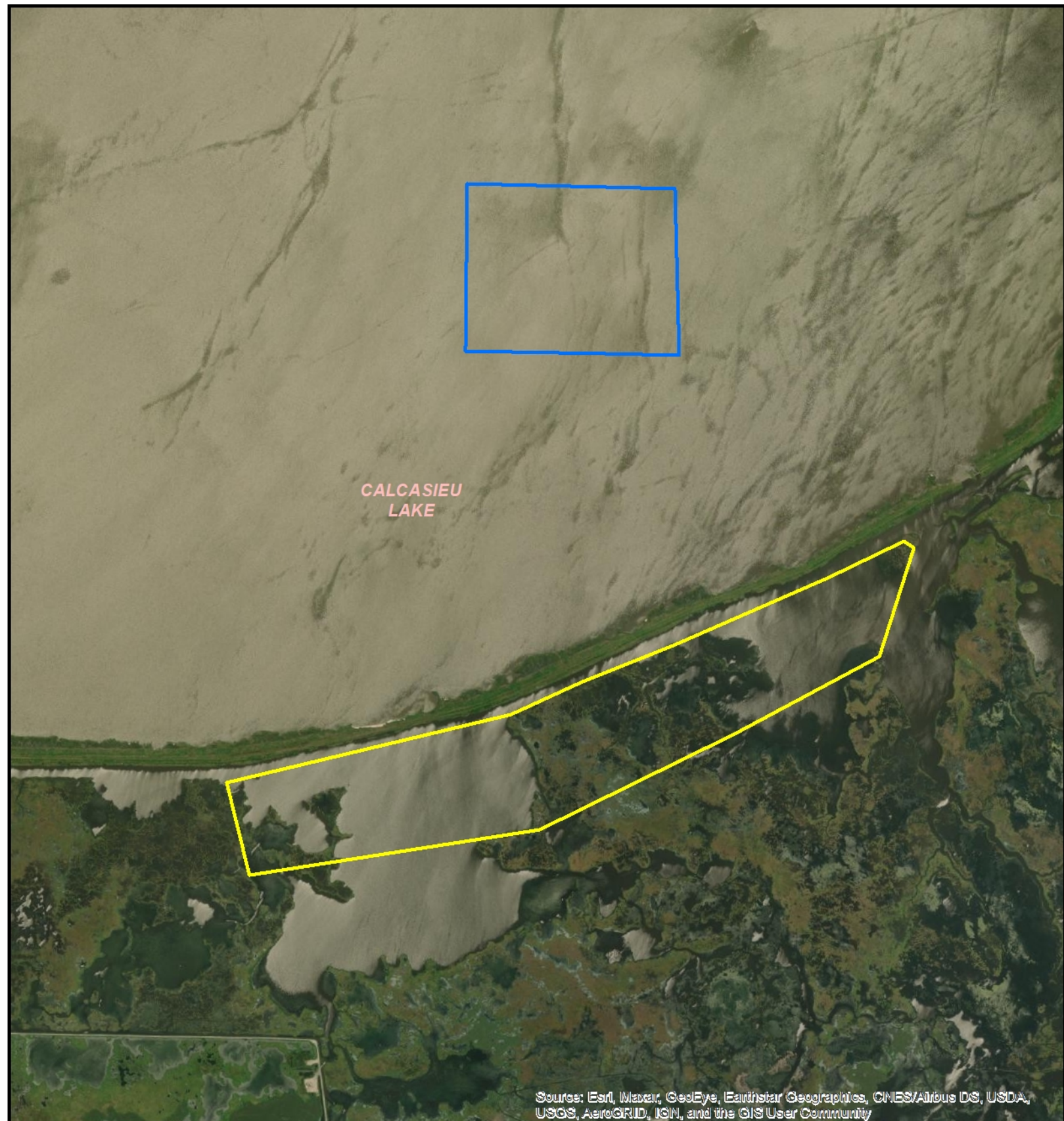
Preliminary Cost

The estimated construction cost including 25% contingency is \$20.5M.

Preparer of Fact Sheet

Ron Boustany, NRCS, (337) 291-3067, ron.boustany@usda.gov

Eric Whitney, NRCS, (337) 291-3064, eric.whitney@usda.gov



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

Data Source: ESRI JUNE 2019

Map Date: JANUARY 25, 2021



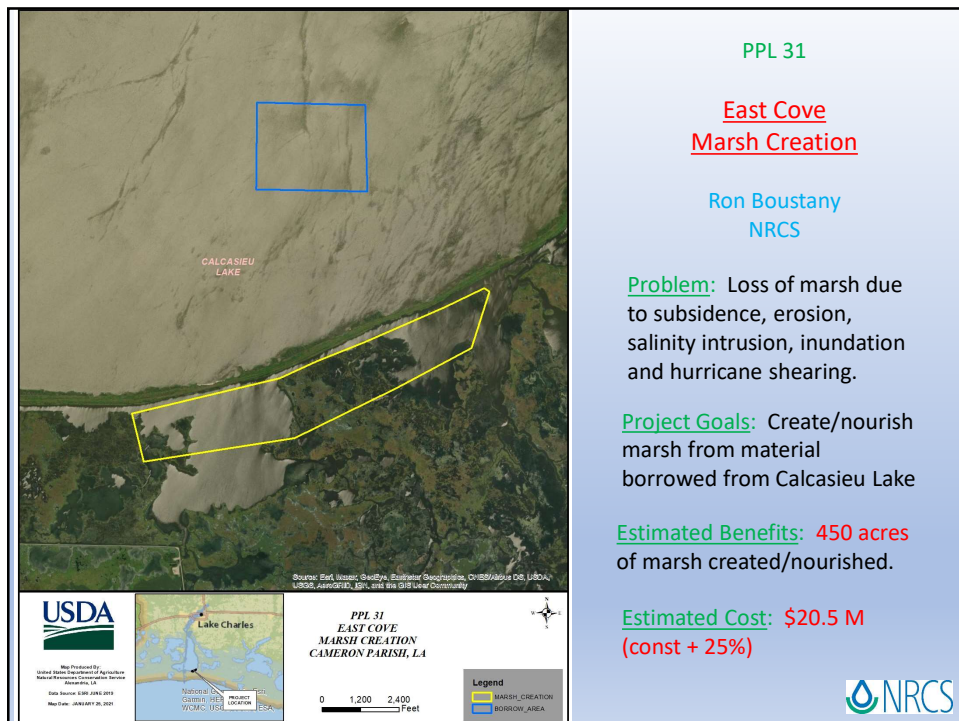
**PPL 31
EAST COVE
MARSH CREATION
CAMERON PARISH, LA**



0 1,200 2,400
Feet

Legend

- MARSH_CREATION
- BORROW_AREA



PPL31 East Prong Marsh Creation and Terracing

Project Location:

Region 4, Calcasieu-Sabine Basin, Cameron Parish, Cameron Prairie NWR

Problem:

Historically this area was dominated by saw grass marsh. Loss of the historical saw grass marsh can be attributed to saltwater intrusion from the Calcasieu Ship Channel in the 1950s. Hurricane Audrey (1957) exacerbated the impacts to the dying saw grass system. A combination of human-induced hydrologic changes and severe storm events has resulted in virtually all of the habitat changes and land losses in the Calcasieu-Sabine Basin. The Cameron-Creole Watershed Project (CCWP) was implemented by the NRCS in 1989 to reduce saltwater intrusion and stimulate restoration through revegetation. Land loss is estimated to be -0.06 %/yr. based on USGS data from 1984 to 2019. Comparatively, USGS - LA Land Change Trends data from 1985-2016, estimates land change for the Calcasieu-Sabine Basin, Lambert Lake Unit at -1.67 %/yr.

Goals:

The primary goals of this project are to restore degraded wetland habitat and provide increased protection from storm surge and flooding. Specific objectives: 1) create 435 acres of emergent marsh, 2) nourish 101 acres of emergent marsh, and 3) create 16 acres (25,000 LF) of terraces.

Restoring marsh in the Cameron-Creole Watershed is a strategy identified by the FWS' *Vision for a Healthy Gulf of Mexico Watershed*, and would benefit trust resources such as migratory waterfowl, shorebirds, and wading birds. Additionally, restoring these marshes may be beneficial to at-risk species such as the black rail, seaside sparrow, and salt-marsh topminnow.

Proposed Solution:

This project would create 435 acres of marsh, nourish 101 acres of existing fragmented marsh, and create 16 acres of terraces (25,000 LF) in Cameron Prairie National Wildlife Refuge. The initial target fill elevation is +1.00 feet (NAVD88). Constructed containment dikes would be gapped as needed by year 3 to provide tidal exchange after fill materials settle and consolidate. Terraces would be planted with appropriate marsh species. Adjacent bayous would be dredged with a spray dredge nourishing 101 acres of marsh 100 ft. inland of the bayous. In addition, dredging the bayous would increase the storage capacity of those bayous and help reestablish the natural tidal ingress and egress of the watershed. The proposed project would be synergistic with the following projects: CS-04a, CS-17, CS-49, CS-54, and CS-78.

Project Benefits:

The project would result in approximately 440 net acres over the 20-year project life.

Project Costs:

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

Preparer of Fact Sheet:

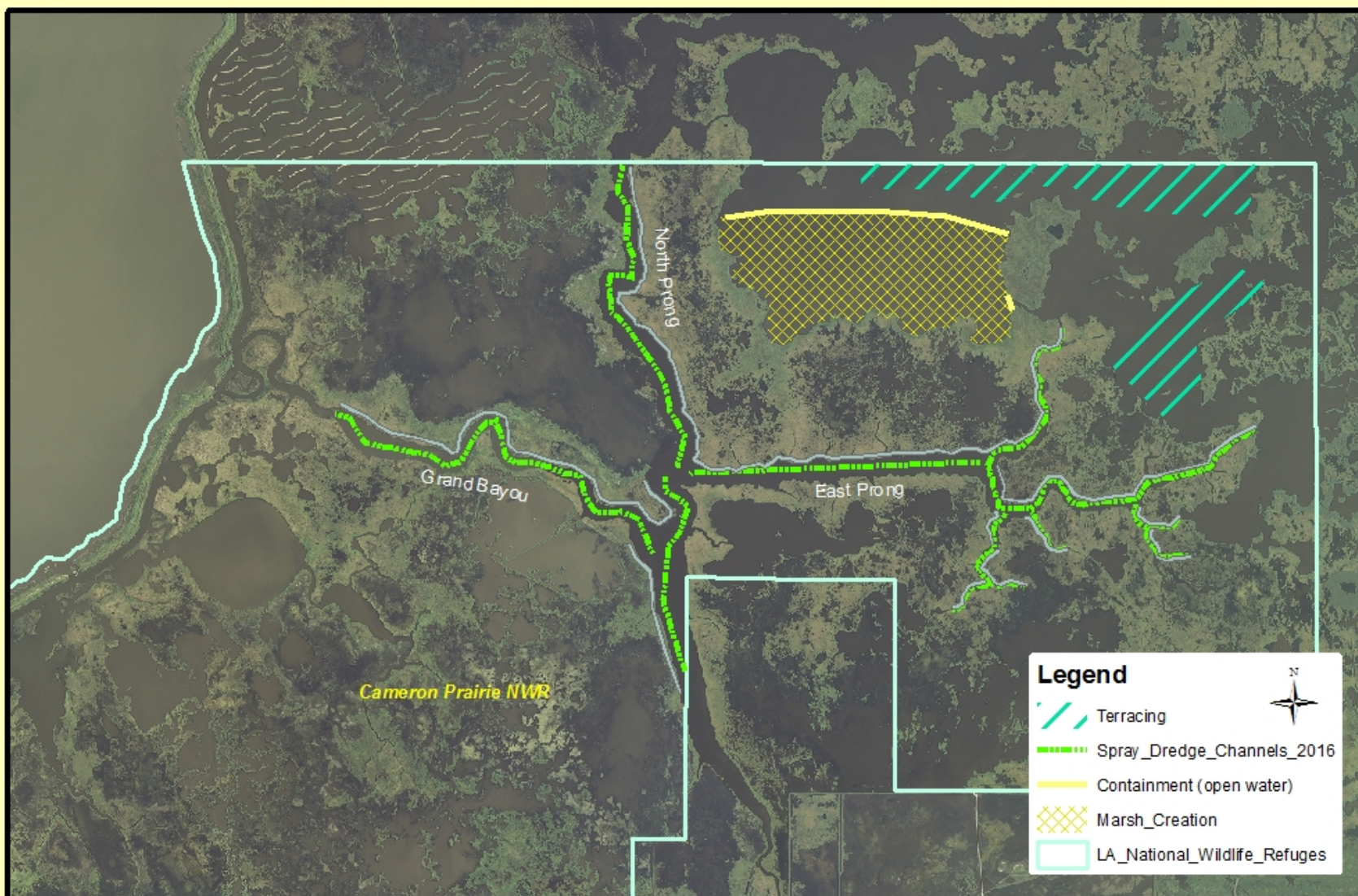
Robert Dubois, FWS; (337) 291-3127; robert_dubois@fws.gov



Fish and Wildlife Service

Louisiana Ecological Services Office

East Prong Marsh Creation Project





REGION IV

REGIONAL PLANNING TEAM MEETING

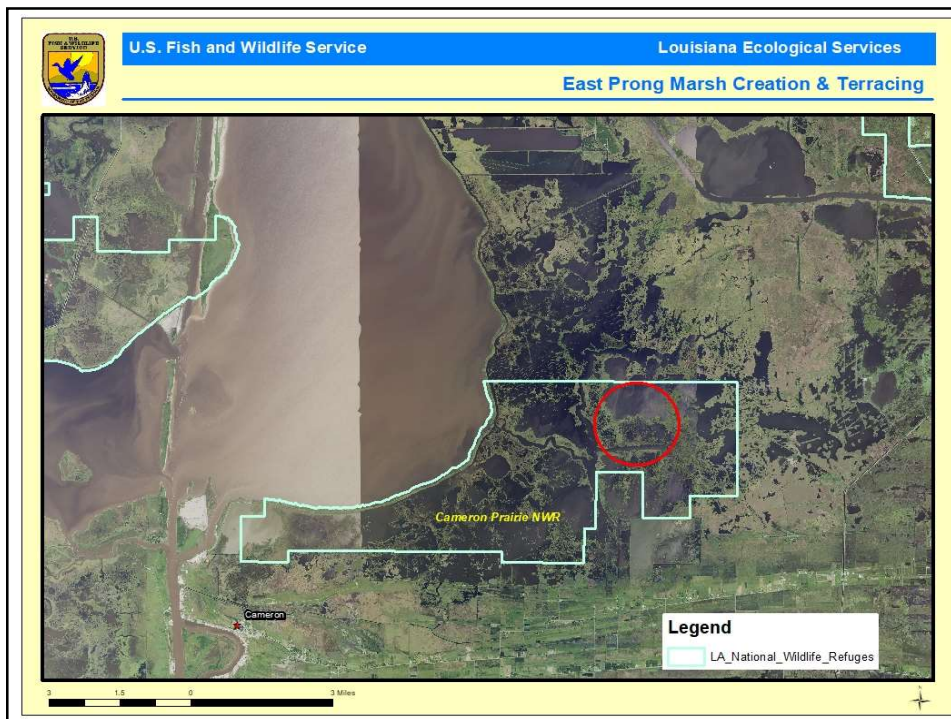
CALCASIEU- SABINE BASIN

Lake Charles, LA

February 2, 2021



Robert Dubois
Lafayette, LA



Cameron Creole Watershed–Grand Bayou Marsh Creation (CS-54)

Completed

Notice To Proceed – September 13, 2017

Construction Cost: \$12.4M (awarded contract + change orders)

- LDNR In Lieu Fee Mitigation funds (\$1.2M)
60-ac expansion
- State Beneficial Use funds (\$1M) and
\$500,000 from leftover construction funds
107-acre expansion
- 772-ac total project footprint

Completion - November 2019



East Prong Marsh Creation & Terracing

Problems: salt water intrusion, storm-induced impacts, prolonged inundation

Goal: restore marsh within large open water areas; nourish marsh along the bayous; restore the natural hydrology

Sabine NWR Marsh Creation



ME-16
Freshwater Intro.
South of 82





U.S. Fish and Wildlife Service

Louisiana Ecological Services

East Prong Marsh Creation & Terracing

Marsh Creation – 435 ac
Nourish Marsh – 101 ac
(Spray Dredging – 55,308 LF)
Terraces – 25,000 LF (16 ac)

