

REGION 4

Coastal Wetlands Planning Protection & Restoration Act

27th Priority Project List



Region 4 Regional Planning Team Meeting

January 31, 2017
Abbeville, LA

CWPPRA

1. Welcome and Introductions



- RPT Region 4 Leader: [Darryl Clark - USFWS](#)

CWPPRA

Announcements

- Copies of the PPL 27 Selection Process & Schedule available at the sign-in table.
- PPL 27 RPT meetings to accept project nominees:
 - **Region IV, Vermilion Parish Library, Jan. 31, 2017, 12:30 pm**
 - Region III, Port of Morgan City - Office, Feb. 1, 2017, 9:30 am
 - Region II, USFWS SE LA Refuges Complex (Big Branch), Feb. 2, 2017, 10:00 am
 - Region I, USFWS SE LA Refuges Complex, Feb. 2, 2017, immediately following Region II
- For parishes that do not have a voting registration form filled out already - Parish representatives must identify themselves during the RPT meetings and **fill out a voting registration form**, including contact information for the primary and secondary voting representatives that will cast votes during the Coastwide Electronic Vote.



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Region 4 Parishes

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



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RPT Meetings

- Project proposals should be consistent with the 2012 State Master Plan or the DRAFT 2017 State Master Plan.
- A project can only be nominated in one basin except for coastwide projects
- Proposals that cross multiple basins, excluding coastwide projects, 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 representatives (CWPPRA agencies and only the parishes located within the project's basin) will determine if those projects are sufficiently different
 - If sufficiently different:
 - Each project will move forward
 - If not sufficiently different:
 - Projects will be combined
 - Federal sponsor will be determined prior to coastwide vote (March 7th).
 - *This decision will be made at the meeting where the projects are proposed*



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RPT Meetings

- Presenters without factsheets **MUST** complete a PPL 27 Nomination Sign-Up Sheet for each project nominee (demo projects too).
- Presenters with factsheets, please give a factsheet each to Kaitlyn, Michelle & the minutes taker before your presentation.
- Limit project proposals to 5 minutes and Powerpoint presentations to 5 slides.
- Public comments on project proposals will be accepted orally during the RPT meetings and in writing by **March 1, 2017**.
- Limit comments/questions during meeting to PPL 27 subject proposals and processes.



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Coastwide Projects

- Proposes a technique applicable across the coast (e.g. vegetative planting)
- Nominated at any RPT meeting
- All coastal parishes & agencies will vote on selection of coastwide nominee
- Only one coastwide nominee may be selected from the coastwide nominee pool during the Electronic Coastwide Vote on **March 7, 2017**.
- The Technical Committee may or may not select a coastwide project in April 2017.



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Demonstration Projects

- Demonstrates a technology which can be transferred to other areas in coastal Louisiana
- Engineering/Environmental Workgroups will validate that demos fit CWPPRA Standard Operating Procedures criteria
- The RPTs select up to 6 demos during the **March 7th** Coastwide Electronic Vote.
- The Technical Committee selects up to 3 demos in April 2017.
- Workgroups may recommend that no demos move forward to candidate stage
- Previous demo candidates must be **re-nominated** for PPL 27.



Coastwide Electronic Vote (**March 7th**) 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

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Coastwide Electronic Vote

- Each officially designated parish representative, each Federal agency, and the State (CPRA) will have one vote.
- No additional projects can be nominated after the RPTs.
- No significant changes to projects proposed at the first round of RPT meetings will be allowed (this includes combining projects).
- Public comments will be heard today and written comments must be submitted by **March 1, 2017**.



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Coastwide Electronic Voting Process

- USACE will send out voting sheets as both Excel spreadsheet and PDF documents 1 week prior to the Coastwide Electronic Vote. Voters will only receive voting sheets for the basins that they are eligible to vote for & the column that they need to mark their vote will be highlighted. Voting instructions will be provided with the voting sheets.
- Voters must email their voting sheets to kaitlyn.m.carriere@usace.army.mil

All votes must be received by 10:30 am on March 7, 2017.



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Nominee Project Evaluations

- Following the Coastwide Electronic Vote, an agency will be assigned to each project to prepare a Nominee Project factsheet (1 page + map).
- CWPPRA Engineering & Environmental Workgroups review draft features and assign preliminary cost and benefit ranges.
- Work groups will also review demo & coastwide projects and verify that they meet PPL 27 criteria.



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PPL 27 Candidate
Project Selection

Candidates evaluated between May and October

- Workgroups conduct site visits and meetings to identify needs and establish project baselines and boundaries.
- Workgroups determine benefits, project features, and cost estimates



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PPL 27 Candidate
Project Evaluation & Selection

- **Coastwide Electronic Vote, Mar. 7, 2017**
 - 21 basin-project nominees, 1 coastwide nominee, and 6 demos selected
- **Technical Committee Mtg, Apr. 27, 2017, New Orleans**
 - Selection of 10 candidates and up to 3 demos
- **Technical Committee Mtg, Dec. 7, 2017, Baton Rouge**
 - Typically recommend up to 4 projects for Phase 1 funding
- **Task Force Mtg, Jan. 2018, New Orleans**
 - Final Selection of projects for Phase 1 funding



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Written Comments

- Send written comments on projects & demos proposed today to the CWPPRA program manager
- **Deadline: March 1, 2017**

Brad Inman
CWPPRA Program Manager
U.S. Army Corps of Engineers
7400 Leake Avenue
New Orleans, Louisiana 70118

Email: Brad.L.Inman@usace.army.mil

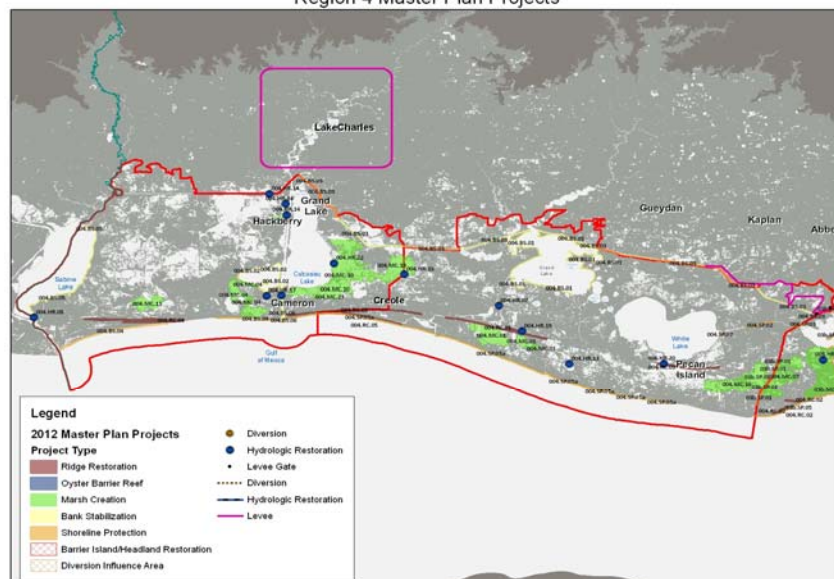
(this information is on the back of the agenda)



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2012 State Master Plan

Region 4 Master Plan Projects



CWPPRA

Project Type	Project Name	Project Costs	Project No.
Bank Stabilization	Grand Lake Bank Stabilization: Bank stabilization through earthen fill placement and vegetative plantings of approximately 497,000 feet of perimeter shoreline at Grand Lake to preserve shoreline integrity and reduce wetland degradation from wave erosion.	\$74M	004.BS.01
Bank Stabilization	West Cove Bank Stabilization: Bank stabilization through earthen fill placement and vegetative plantings of approximately 106,000 feet of perimeter shoreline in the West Cove area of Calcasieu Lake to preserve shoreline integrity and reduce wetland degradation from wave erosion.	\$16M	004.BS.02
Bank Stabilization	GIWW Bank Stabilization (Freshwater Bayou to Calcasieu Ship Channel): Bank stabilization through earthen fill placement and vegetative plantings of approximately 421,000 feet of GIWW bankline between Freshwater Bayou Canal and Calcasieu Ship Channel.	\$63M	004.BS.03
Bank Stabilization	Sabine Lake Bank Stabilization: Bank stabilization through earthen fill placement and vegetative plantings of approximately 133,000 feet of the eastern shoreline of Sabine Lake to preserve shoreline integrity and reduce wetland degradation from wave erosion.	\$21M	004.BS.05
Bank Stabilization	Calcasieu Ship Channel Bank Stabilization (Gulf to Calcasieu Lake): Bank stabilization through earthen fill and placement of approximately 75,000 feet of Calcasieu Ship Channel bankline from the Gulf of Mexico to Calcasieu Lake to preserve shoreline integrity and reduce wetland degradation from wave erosion.	\$12M	004.BS.06
Hydrologic Restoration	Calcasieu Ship Channel Salinity Control Measures: Construction of measures designed to prevent saltwater from entering Calcasieu Lake through the Calcasieu Ship Channel. Measures would control salinity spikes, provide storm surge benefits, and would be constructed in a manner that would allow for the continued functioning, and ideally improvement and increased viability of the Calcasieu Ship Channel and the Port of Lake Charles.	\$398M	004.HR.06
Hydrologic Restoration	Little Pecan Bayou Silt: Construction of a saltwater sill at the confluence of Little Pecan Bayou and the Mermentau River to retain freshwater and reduce saltwater intrusion in the Mermentau watershed.	\$5M	004.HR.07

CWPPRA

Project Type	Project Name	Project Costs	Project No.
Hydrologic Restoration	Sabine Pass Hydrologic Restoration: Isolation of the southern end of Sabine Lake from the Sabine Ship Channel through a rock dike to retain freshwater in Sabine Lake and reduce saltwater intrusion from the ship channel.	\$33M	004.HR.08
Hydrologic Restoration	Tom's Bayou Hydrologic Restoration: Construction of a sheetpile crested weir at Tom's Bayou to provide salinity control for Rainey Marsh.	\$1M	004.HR.12
Hydrologic Restoration	Deep Lake Hydrologic Restoration: Dredging of a 700-foot spillway structure (with 100-foot width and 15-foot depth) north of Deep Lake to increase freshwater exchange within the Rockefeller Wildlife Management Area and Game Preserve.	\$2M	004.HR.13
Hydrologic Restoration	Alkali Ditch Area Hydrologic Restoration: Construction of structures at Alkali Ditch, Crab Gully, and Black Lake Bayou to provide salinity control in the Calcasieu watershed.	\$38M	004.HR.14
Hydrologic Restoration	Oyster Bayou Hydrologic Restoration: Construction of a salinity barrier at Oyster Bayou south of West Cove, Calcasieu Lake to reduce saltwater intrusion into the Calcasieu watershed.	\$5M	004.HR.17
Hydrologic Restoration	Mermentau Basin Hydrologic Restoration (East of Calcasieu Lake): Construction of a water control structure east of Calcasieu Lake with operation to introduce freshwater to wetlands west of Highway LA-27 near Creole.	\$7M	004.HR.18
Hydrologic Restoration	Mermentau Basin Hydrologic Restoration (South of Grand Lake): Construction of a water control structure south of Grand Lake with operation to introduce freshwater to wetlands south of Highway LA-82 near Grand Chenier.	\$7M	004.HR.19

CWPPRA

Project Type	Project Name	Project Costs	Project No.
Hydrologic Restoration	Mermentau Basin Hydrologic Restoration (South of White Lake): Construction of a water control structure south of White Lake with operation to introduce freshwater to wetlands south of Highway LA-82 near Pecan Island.	\$7M	004.HR.20
Hydrologic Restoration	East Calcasieu Lake Hydrologic Restoration: Dredging of a 1,500-foot spillway structure (with 200-foot width and 15-foot depth) in the Cameron-Creole Levee at East Calcasieu Lake to increase freshwater exchange with adjacent wetlands.	\$5M	004.HR.22
Marsh Creation	East Rainey Marsh Creation: Creation of approximately 3,080 acres of marsh in the eastern portion of Rainey Marsh to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	\$429M	03b.MC.07
Marsh Creation	South Grand Chenier Marsh Creation: Creation of approximately 7,330 acres of marsh south of Highway LA-82 near Grand Chenier to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	\$708M	004.MC.01
Marsh Creation	Mud Lake Marsh Creation: Creation of approximately 3,910 acres of marsh at Mud Lake south of West Cove, Calcasieu Lake to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	\$581M	004.MC.04
Marsh Creation	West Rainey Marsh Creation: Creation of approximately 3,550 acres of marsh at Rainey Marsh near the southeast bank of the Freshwater Bayou Canal to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	\$615M	004.MC.07
Marsh Creation	Southeast Calcasieu Lake Marsh Creation: Creation of approximately 7,600 acres of marsh southeast of Calcasieu Lake to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	\$666M	004.MC.10

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Project Type	Project Name	Project Costs	Project No.
Marsh Creation	Cameron Meadows Marsh Creation: Creation of approximately 3,290 acres of marsh at Cameron Meadows north of Johnsons Bayou to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	\$290M	004.MC.13
Marsh Creation	East Pecan Island Marsh Creation: Creation of approximately 7,340 acres of marsh between Pecan Island and the west bank of the Freshwater Bayou Canal to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	\$1,180M	004.MC.16
Marsh Creation	Calcasieu Ship Channel Marsh Creation: Creation of approximately 2,640 acres of marsh south of Calcasieu Lake near Cameron to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	\$185M	004.MC.23
Marsh Creation	East Calcasieu Lake Marsh Creation: Creation of approximately 14,840 acres of marsh in the eastern Cameron-Creole watershed to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	\$2,484M	004.MC.19
Marsh Creation	Kelso Bayou Marsh Creation: Creation of approximately 260 acres of marsh at Kelso Bayou immediately west of Calcasieu Ship Channel to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	\$32M	004.MC.25
Ridge Restoration	Grand Chenier Ridge Restoration: Restoration of approximately 86,000 feet (200 acres) of historic ridge at Grand Chenier Ridge to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.	\$11M	004.RC.01
Ridge Restoration	Cheniere au Tigre Ridge Restoration: Restoration of approximately 60,000 feet (140 acres) of historic ridge along Bill Ridge and Cheniere au Tigre near the Gulf shoreline to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.	\$10M	004.RC.02

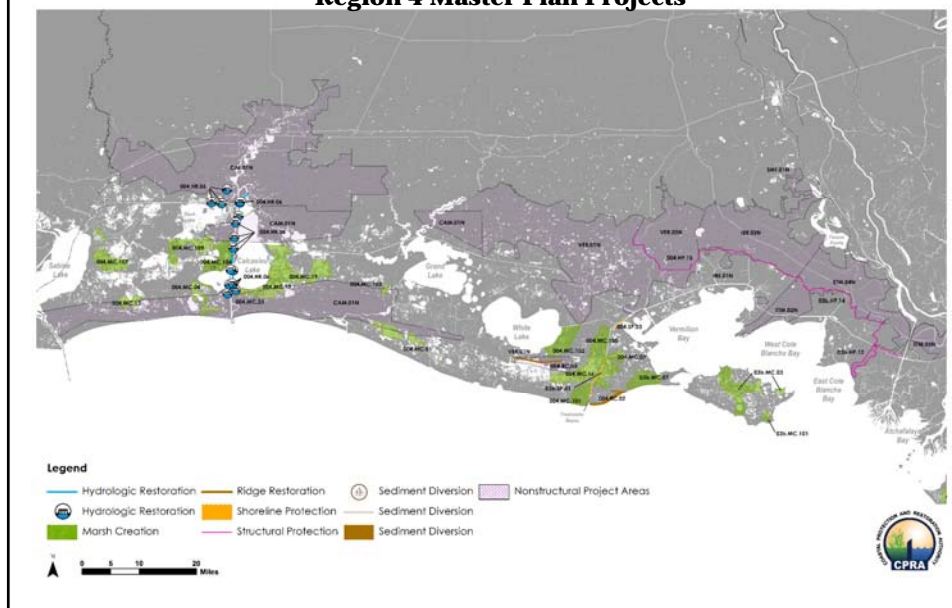
CWPPRA

Project Type	Project Name	Project Costs	Project No.
Ridge Restoration	Pecan Island Ridge Restoration: Restoration of approximately 44,000 feet (100 acres) of historic ridge along Pecan Island Ridge to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.	\$8M	004.RC.03
Ridge Restoration	Hackberry Ridge Restoration: Restoration of approximately 130,000 feet (300 acres) of historic ridge along Blue Buck and Hackberry Ridges to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.	\$2M	004.RC.04
Ridge Restoration	Front Ridge Restoration: Restoration of approximately 147,000 feet (340 acres) of historic ridge along Front Ridge east of Cameron to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.	\$26M	004.RC.05
Shoreline Protection	Freshwater Bayou Shoreline Protection (Belle Isle Canal to Lock): Shoreline protection through rock breakwaters of approximately 41,000 feet of Freshwater Bayou shoreline from Belle Isle Canal to Freshwater Bayou Lock to preserve shoreline integrity and reduce wetland degradation from wave erosion.	\$43M	03b.SP.01
Shoreline Protection	Gulf Shoreline Protection (Freshwater Bayou to Southwest Pass): Shoreline protection through rock breakwaters of approximately 90,000 feet of Gulf shoreline from Freshwater Bayou to Southwest Pass (near Marsh Island) to preserve shoreline integrity and reduce wetland degradation from wave erosion.	\$96M	03b.SP.05
Shoreline Protection	Calcasieu-Sabine Shoreline Protection-Component A: Shoreline protection through rock breakwaters of approximately 38,000 feet of Gulf shoreline between Sabine River and Calcasieu Ship Channel to preserve shoreline integrity and reduce wetland degradation from wave erosion.	\$48M	004.BS.04a
Shoreline Protection	Freshwater Bayou Canal Shoreline Protection: Shoreline protection through rock breakwaters of approximately 11,000 feet of Freshwater Bayou Canal bankline at Little Vermilion Bay to preserve shoreline integrity and reduce wetland degradation from wave erosion.	\$13M	004.SP.03

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Project Type	Project Name	Project Costs	Project No.
Shoreline Protection	Gulf Shoreline Protection (Calcasieu River to Rockefeller): Shoreline protection through rock and low wave-action breakwaters of approximately 290,000 feet of Gulf shoreline between Calcasieu River and Freshwater Bayou to preserve shoreline integrity and reduce wetland degradation from wave erosion.	\$401M	004.SP.05a
Shoreline Protection	Northeast White Lake Shoreline Protection: Shoreline Protection through rock breakwaters of approximately 3,000 feet of White Lake shoreline near Schooner Bayou Canal to preserve shoreline integrity and reduce wetland degradation from wave erosion.	\$4M	004.SP.07
Shoreline Protection	Southwest Pass Shoreline Protection (West Side): Shoreline protection through rock breakwaters of approximately 37,000 feet of shoreline along Southwest Pass immediately west of Marsh Island to preserve shoreline integrity and reduce wetland degradation from wave erosion.	\$40M	03b.SP.08
Shoreline Protection	Schooner Bayou Canal Shoreline Protection: Shoreline protection through rock breakwaters of approximately 21,000 feet of Schooner Bayou Canal bankline from Highway 82 to North Prong to preserve shoreline integrity and reduce wetland degradation from wave erosion.	\$23M	004.SP.02

Draft 2017 State Master Plan Region 4 Master Plan Projects





ATTENDANCE RECORD



DATE	SPONSORING ORGANIZATION	LOCATION
January 31, 2017 12:30 P.M.	COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT	Vermilion Parish Library 405 E St. Victor St. Abbeville, LA
PURPOSE		
MEETING OF THE REGIONAL PLANNING TEAM REGION IV		
PARTICIPANT REGISTER		
NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER
Lorrie Internet	JESCO (minute-taker)	337-802-7508
Jason Kroll	NOAA	225 7575411
Brandon Owens	NOAA ERT	985-351-0353
Blaire Sanchez	Living Blanket	225 304 3985
Sharon Osowski	EPA	214-665-7806
Adrien Chavarris	EPA	214-665-3103
ERICK SWENSON	LSU	225-578-2730
Terry Dugas	DCS	337-517-1292
Aline Morrow	USFWS	337-291-3129
Jay Merino	NOAA NMFS	337-291-2109
Angela Trahan	FWS	337 291 3137
MIKE CARLOSS	DU	337 4083288
Ron Boutang	NRCS	337 291-3067
Dave Oster	FWS	557 291 3121
JAMES Whitaker	LDWF	337-491-2593
Angela Love	SIME	337-408-3103
Cassidy Lejeune	DU	337-408-3288
Bill Leonard	USFWS	337452 9169
RYAN BOURRIAGUE	Cameron Parish Administrator	337-775-5718
Donna Rogers	NOAA	225-316-8958
RALPH LIBERST	Vermilion Parish	337-652-6557
Laurie Cormier	Calcasieu Parish	337-7413600



ATTENDANCE RECORD



DATE	SPONSORING ORGANIZATION	LOCATION
January 31, 2017 12:30 P.M.	COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT	Vermilion Parish Library 405 E St. Victor St. Abbeville, LA

PURPOSE

MEETING OF THE REGIONAL PLANNING TEAM REGION IV

PARTICIPANT REGISTER

NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER
Rene Escudier	Fenstermaker	337-654-9584
Randy Moertle	McIlhenny / Rainey Conservation Alliance	985-9563630
Scott Trosclair	LDWF Rockefeller Refuge, Program Manager	337-491-2000
JERRY HAUSKE	SEME	337-456-0094
Chad J. Cornille	Miami Corporation	337-264-1695
Cody Colvin	NRCS	225-278-2732
Wes LeBlanc	CPRA	225-342-4127
Kent Bollfrass	CPRA	225-342-4733
David Drouot	CPRC - Verm.	337-658-2255
RICHARD LEONHARD	PROSPECT CONSULTING SERVICES	504-377-8706
Nikki Coughier	CWPPRA Outreach	337-266-8626
Darryl L. Clark	FWS	337-291-3111
Mirka Zapletal	CWPPRA Outreach	337-266-8623
Pat Williams	LDWF Biologist - NOAA	225-389-0508
Linda Dunton	VPPJ	337-898-4300
Pat Landry	CPRA	337-482-0680
Barry Herbert	LDWF	225 765 0355
Nedra Davis	Chenier Plain Authority	225 333 8234
Karl H. Reddous	IRECON	713 875-2442
Todd Baker	LDWF	225 765 2844
Dawn Davis	NOAA - NMFS	225 389 0508
Wynne Chateau	NOAA - NMFS	225 389 0508

REGION 4 – CALCASIEU-SABINE

Project Number	Project Proposals
R4-CS-01	East Holly Beach Shoreline Protection
R4-CS-02	East Prong Marsh Creation and Terracing
R4-CS-03	Long Point Bayou Marsh Creation
R4-CS-04	Sabine Marsh Creation Cycles 6&7
R4-CS-05	West Sabine Refuge Marsh Creation
R4-CS-06	North Mud Lake Marsh Creation

R4-CS-01

East Holly Beach Shoreline Protection

PPL27 PROJECT NOMINEE FACT SHEET

January 31, 2017

Project Name

East Holly Beach Gulf Shoreline Protection

Project Location

Region 4, Calcasieu-Sabine Basin, Cameron Parish, South of State Highway 82, west of the Calcasieu Ship Channel.

Problem

The project will be designed to reduce erosion of the Gulf Shoreline and protect the State's Beach Nourishment project (CS-33 SF). Recent loss rates (1998-2008) were calculated from aerial photography at 26.5 ft/yr.

Goals

The project is designed to reduce wave energies on the gulf shoreline west of the Calcasieu Ship Channel and trap sediment between the breakwaters and shoreline. The total area benefitted is approximately 248 acres of beach, dune, supratidal, and subtidal habitat created by the (CS-33 SF) state surplus project. The proposed project maintains a beach rim component of the coastal ecosystem and has a positive net impact on critical infrastructure (Highway 82). The project would also protect and restore critical habitat for the piping plover, a threatened/endangered species.

Proposed Solution

The project proposes approximately 15,454 linear feet (2.9 miles) of breakwaters similar to the Raccoon Island (TE-29) and the Chenier Au Tigre Demonstration (TV-16) projects. Breakwaters will be designed to protect the most critical shoreline area along Highway 82 using all the lessons learned from the Holly Beach Breakwater Enhancement and Sand Management Project (CS-31). Approximately 26 round rubble breakwaters (300 ft length with 300 ft gaps), placed 250 feet offshore and built to 3.8 ft NGVD will be created. This project will protect approximately 248 acres of headland habitat created by the CS-33SF project using approximately 2 million cubic yards of sand from an offshore borrow site.

Preliminary Project Benefits

- 1) *What is the total acreage benefitted both directly and indirectly?*
The total area benefitted is estimated at 248 acres (15,454 x 700/43,560).
- 2) *How many acres of wetlands will be protected/created over the project life?*
The project would protect approximately 153 net acres (15,454 x 430/43,560).
- 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 benefit is estimated to be >75%.
- 4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.*

The proposed project would maintain a beach rim component of the coastal ecosystem. This area has also been designated as critical habitat for the threatened piping plover by the Fish and Wildlife Service.

- 5) *What is the net impact of the project on critical and non-critical infrastructure?*
The proposed project would provide protection to Louisiana Highway 82 and the Gulf shoreline.
- 6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
The proposed project is synergistic with the state surplus project (CS-33 SF) that recently created beach and dune habitat in this area using sand from offshore borrow sites.

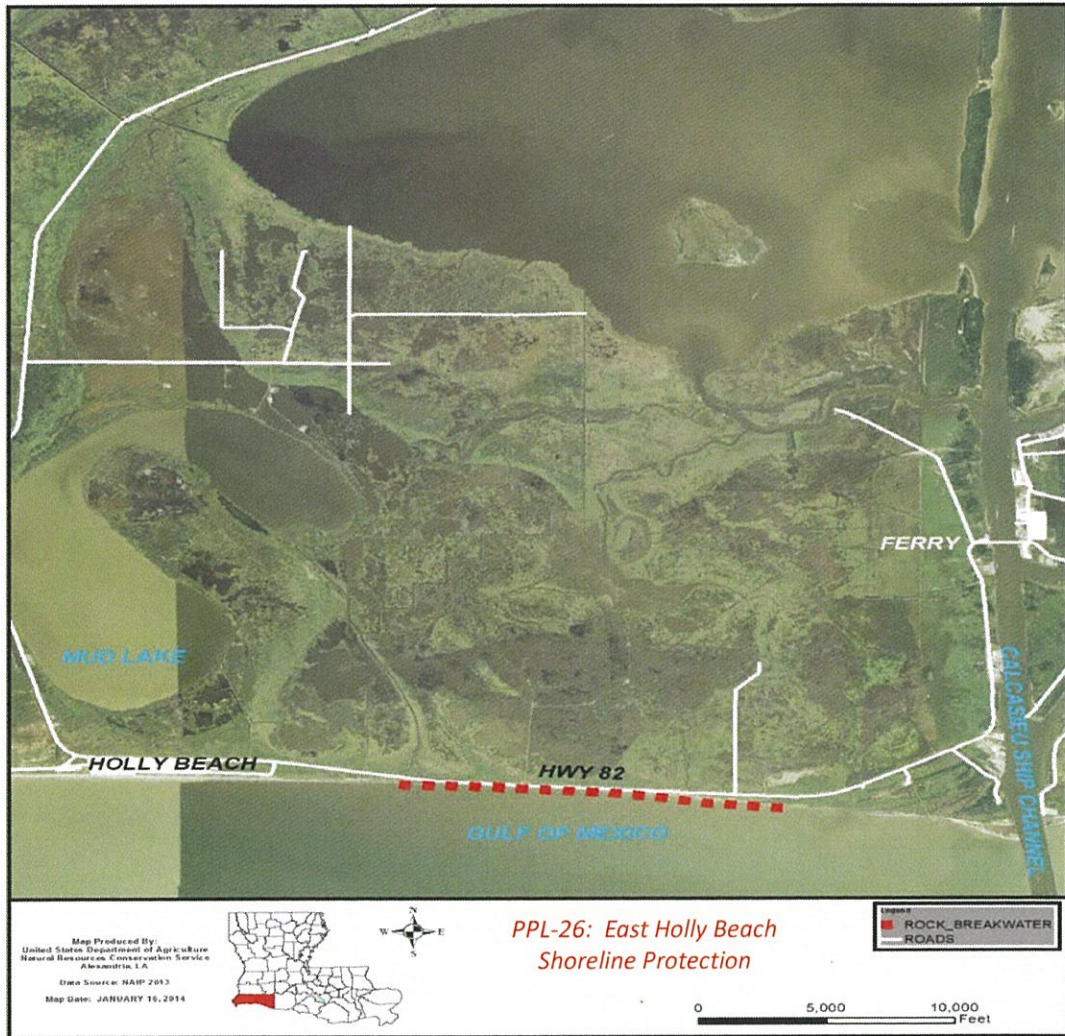
Identification of Potential Issues

Issues to consider for this project include listed species such as the piping plover (critical habitat) and red knot. O&M is another consideration.

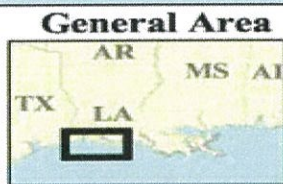
Preliminary Cost

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

Preparer of fact sheet
Ryan Bourriaque
Cameron Parish Police Jury
337-775-5718
rbourriaque@cameronpj.org



General locations of the designated critical habitat for the Wintering Piping Plover.



Distance: Miles
0 15 30



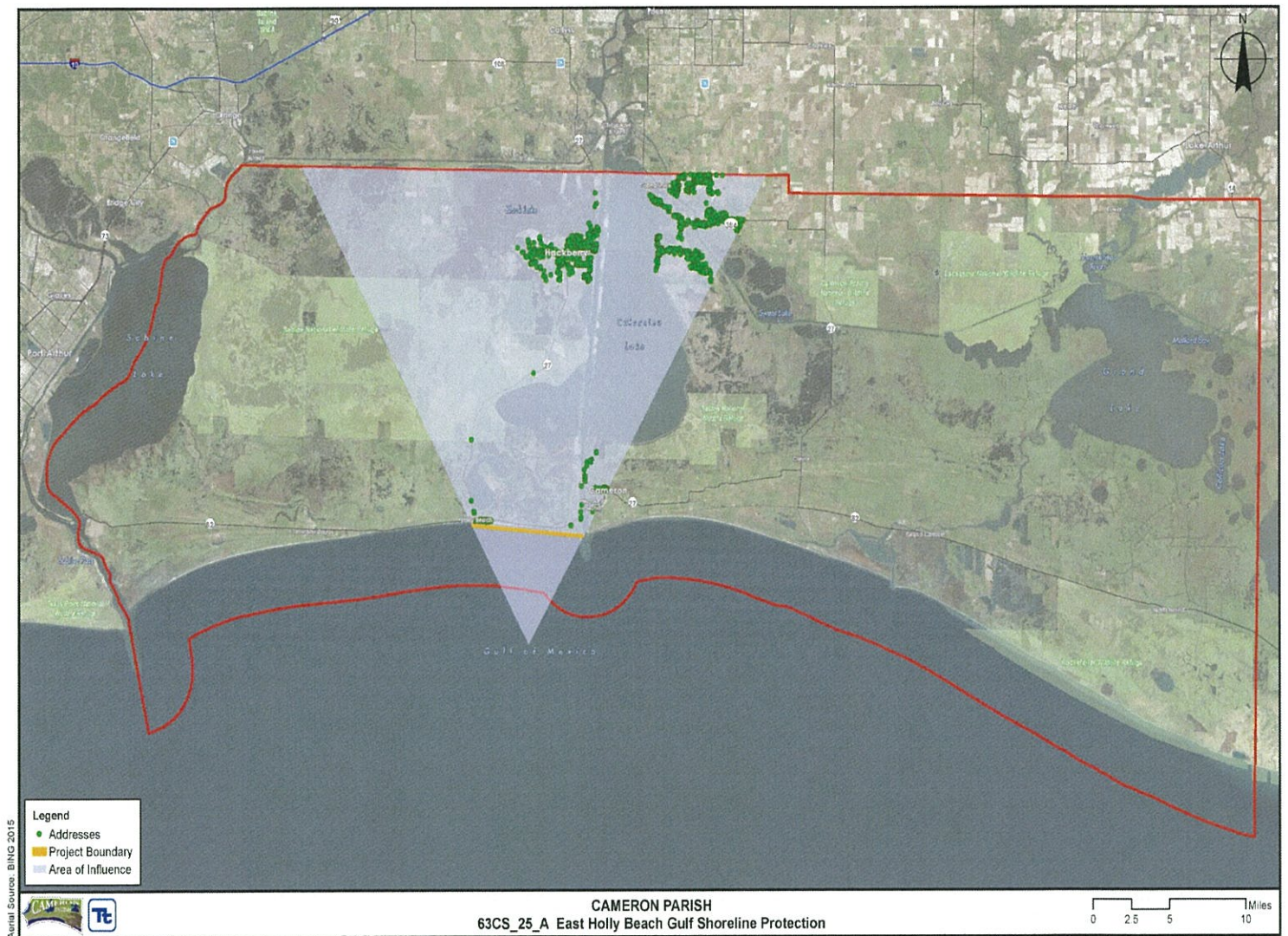
Legend

- City / Town
- Major Road / Highway
- Land
- Critical Habitat

Use Constraints: This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.

Louisiana Unit: 1

Some locations have been slightly enlarged for display purposes only.



Project Priority List 27 Nomination



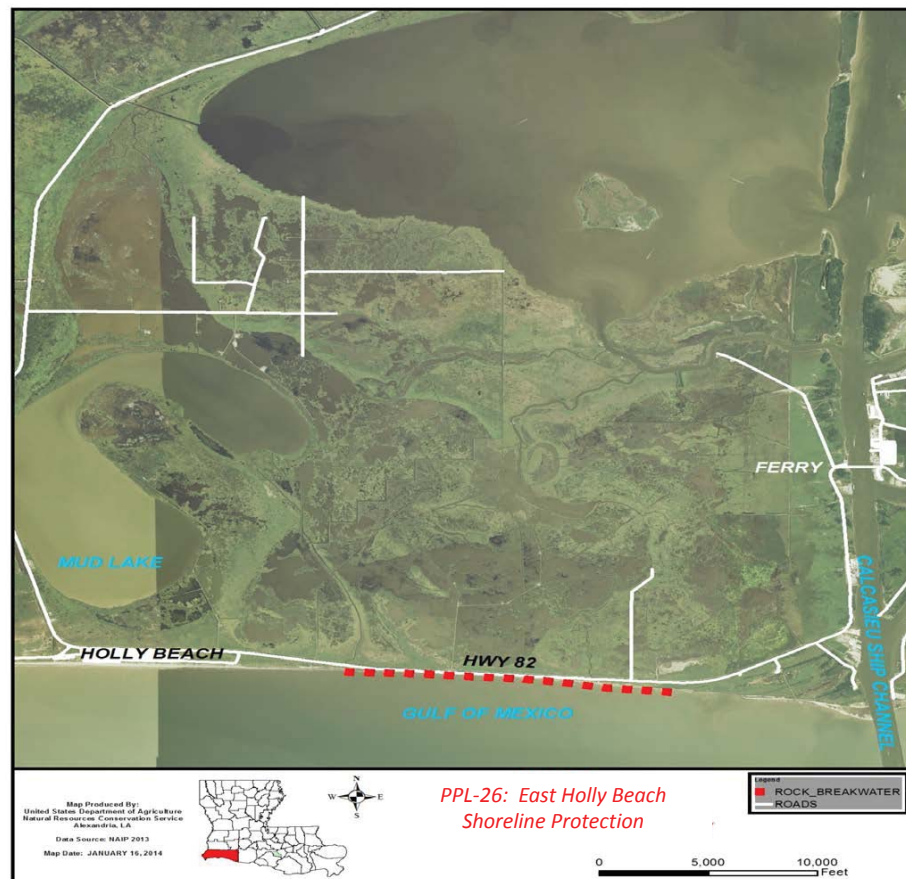
Cameron Parish Police Jury: East Holly Beach Shoreline Protection

East Holly Beach Gulf Shoreline Protection

- 15,000 linear feet (2.8 miles) of breakwaters similar to the Holly Beach Breakwater Project (CS- 01) to protect the most critical shoreline area along Highway 82.
- The area benefited is approx. 267 acres of beach and supratidal habitat created by (CS-33 SF) the state surplus project.
- The CS-33SF report concludes that those 267 created acres would be lost 20 years after construction.
- Area designated as critical habitat for threatened piping plover.
- Area is included in the SW Coastal Study Plan, 2012 State Master Plan, and is a priority in the Cameron Parish Master Plan

East Holly Beach Gulf Shoreline Protection

- 654 acres sustained/protected; 1903 Residential Structures; 160 Non-Residential Structures for a direct economic benefit of \$375,381,590
- Critical Intermodal Connectivity for LNG Activities
- Protection also provided for: Bridges, Churches, Evacuation Routes, State Highway, Pipelines, & \$104,000,000 invested in CWPPRA Projects north of the proposed project



General locations of the designated critical habitat for the Wintering Piping Plover.



General Area



Distance: Miles



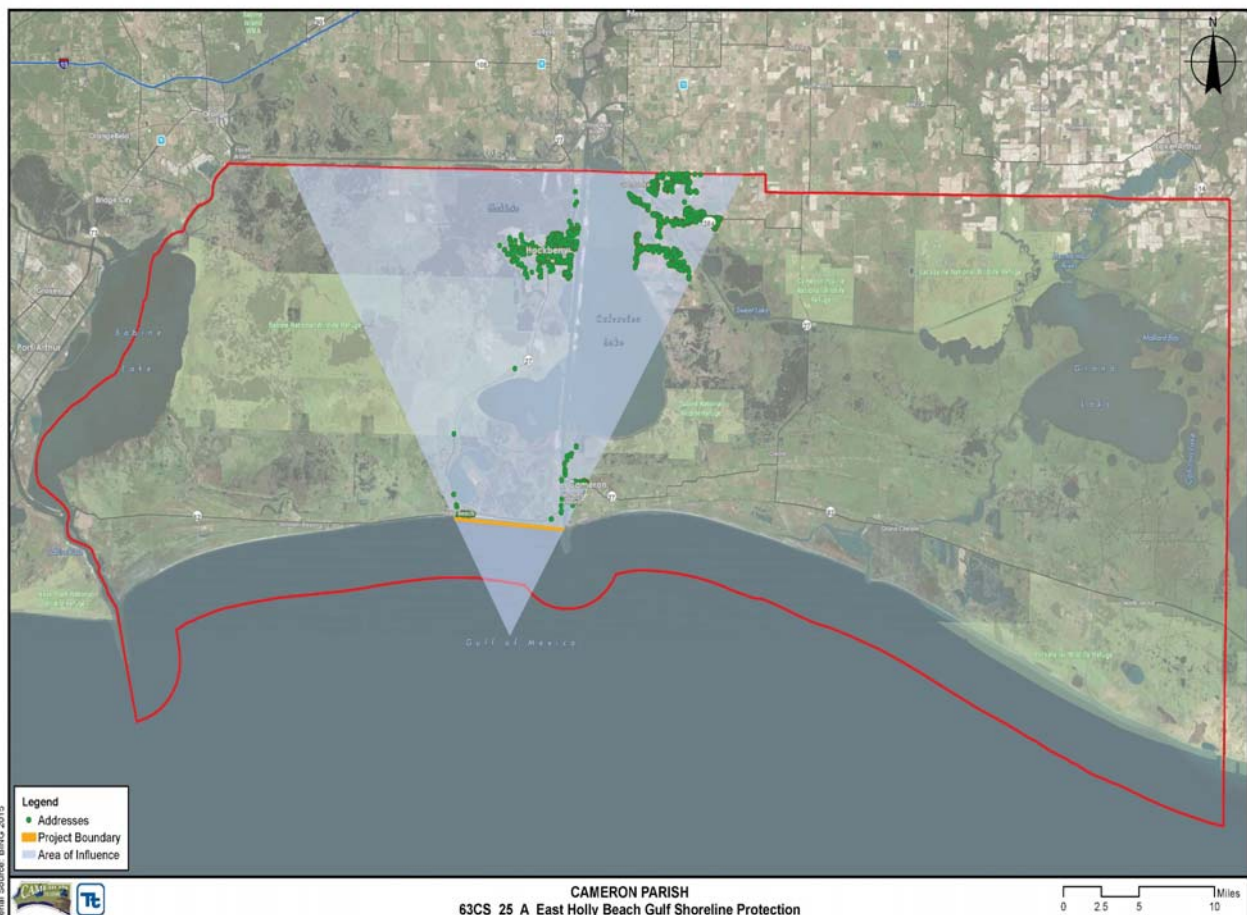
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THANK YOU

ANY QUESTIONS?

R4-CS-02

East Prong Marsh Creation and Terracing

PPL27 PROJECT NOMINEE FACT SHEET
January 31, 2017

Project Name: East Prong Marsh Creation & Terracing Project

Project Location: Region 4, Calcasieu-Sabine Basin, Cameron Parish, 6 miles northeast from Cameron, LA, on the Cameron Prairie NWR north of East Prong.

Problem: Historically this area was dominated by saw grass marsh. Loss of the historical saw grass marsh in this area is attributable to saltwater intrusion from the Calcasieu Ship Channel (CSC) in the 1950s. Hurricane Audrey (1957) exacerbated the impacts to the dying saw grass system, clearing away the dead and deteriorated saw grass stands. A combination of these human-induced hydrologic changes and accompanied severe storm events has resulted in virtually all of the habitat changes and land losses in the Calcasieu-Sabine Basin (Hydrologic Investigation of the Chenier Plain Report 2002). The CCWP was implemented by the NRCS in 1989 to reduce saltwater intrusion and stimulate restoration through revegetation. Land loss is estimated to be 1.33 percent/year based on USGS data from 1985 to 2009.

Goals: Project goals include restoring and nourishing marsh to elevations that are sustainable, constructing terraces, and reestablishing channel depths to benefit fish and wildlife resources in the Cameron Prairie NWR. The proposed project will reduce wind induced erosion and will buffer higher saline waters from penetrating further inland protecting fresher marshes. Restoring brackish marshes in the Cameron Creole Watershed is a conservation strategy identified by the FWS' *Vision for a Healthy Gulf of Mexico Watershed*, and would benefit Fish and Wildlife Service trust resources such as migratory waterfowl, shorebirds, and wading birds including Cameron Prairie NWR priority species such as the mottled duck and greater white fronted goose. Additionally, restoring these marshes may be beneficial to at-risk species such as black rail, diamondback terrapin, and Louisiana-eyed silkmoth.

Proposed Solution: It is estimated that 2.6 million cubic yards (cyds) of dedicated dredge material is needed to restore 435 acres of brackish marsh. Approximately 25,000 linear feet of terraces will be constructed in open water areas to the east to reduce fetch, buffer fresher marshes from higher salinity waters, increase abundance of submerged aquatic vegetation. Approximately 379,000 cyds of material is available through dredging of the natural bayous: assuming a 5-foot bottom depth, a 12-foot bottom width, and a 1:5 side slope. Spray dredging can nourish 100 feet out from the marsh bank line resulting in approximately 127 acres of nourished marsh. In addition, dredging the bayous would increase the storage capacity of those bayous and reestablish the natural tidal hydrologic pattern of the watershed.

Project Benefits: The project would restore 445 acres (435+15) and nourish 127 acres of brackish marsh in the CCW and reestablish a more natural tidal hydrology. Approximately 410 (88%) net acres of brackish marsh would be created and protected over the 20-year project life.

Project Costs: construction cost including 25% contingency is approximately \$23 million.

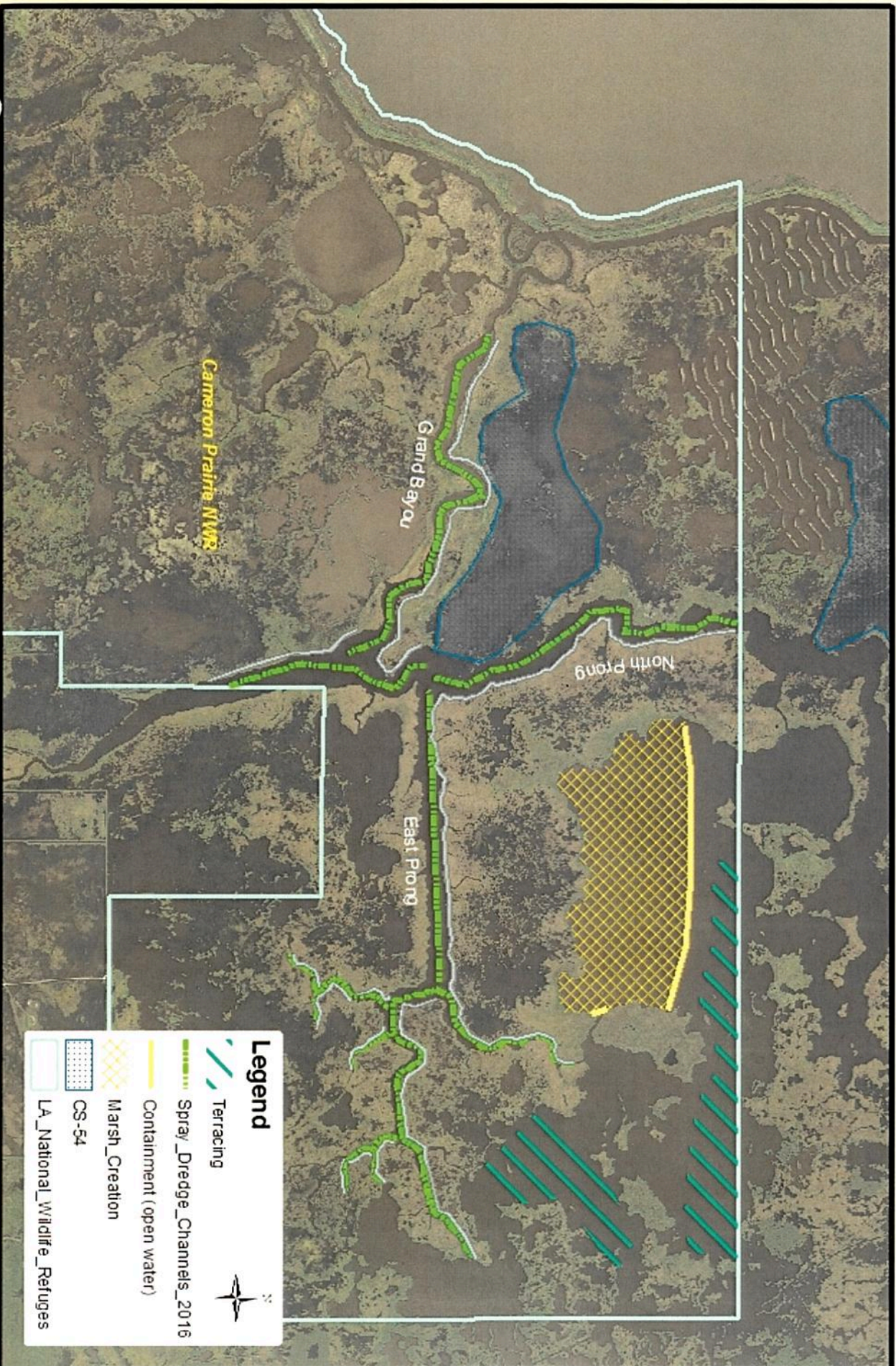
Preparer of Fact Sheet: Angela Trahan, Fish and Wildlife Service, (337) 291-3137,
Angela_Trahan@fws.gov



Fish and Wildlife Service

Louisiana Ecological Services Office

East Prong Marsh Creation Project

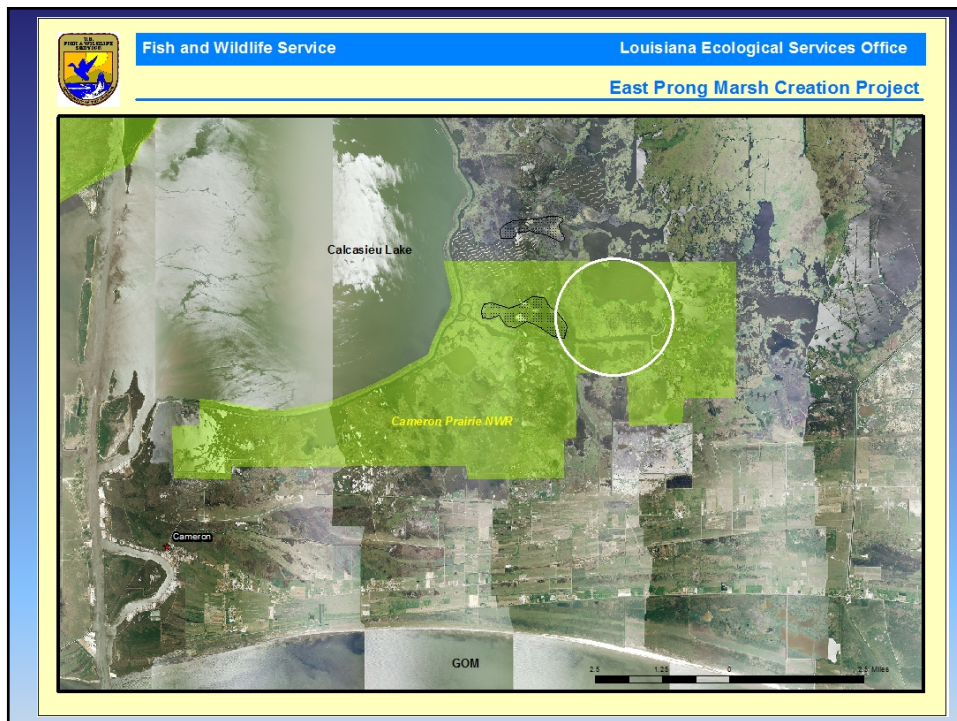


East Prong Marsh Creation & Terracing



PPL 27

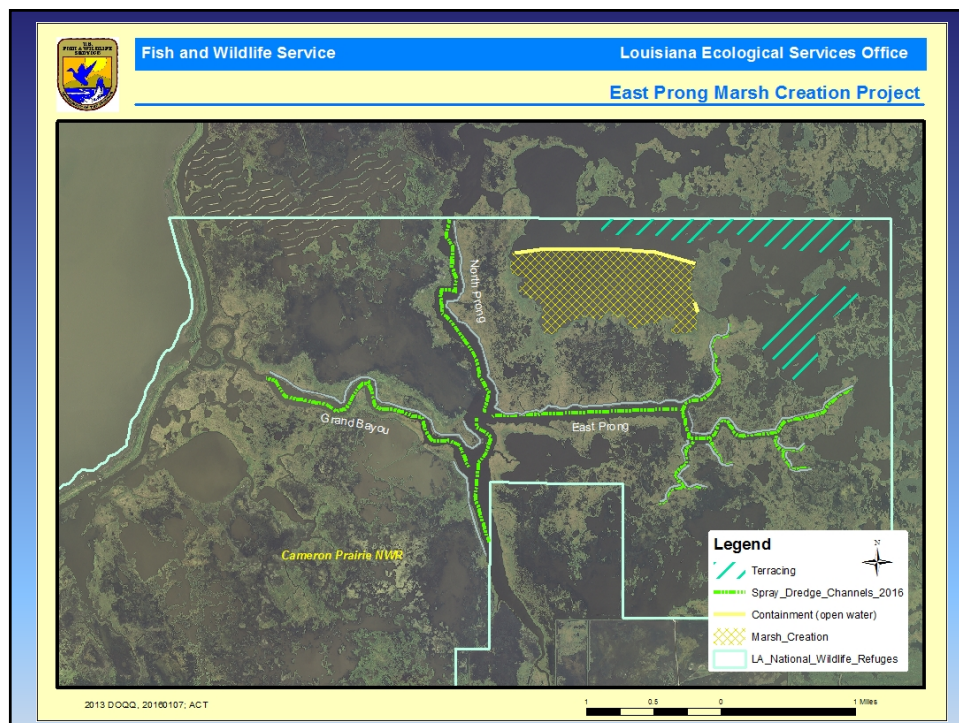
Region 4, Calcasieu - Sabine Basin



East Prong Marsh Creation & Terracing

Problem: salt water intrusion, wave induced erosion, storm-induced impacts, and prolonged inundation

Goal: restore marshes within large open water areas and along the bayous restoring the natural hydrology



East Prong Marsh Creation & Terracing

ME-16 Freshwater Intro. South of 82



- Estimated Cost (25% contingency): \$23 M

Sabine Marsh Creation Cycle 1



Species of Conservation Concern



- seaside sparrow
- rails – king, clapper, black
- little blue heron
- reddish egret
- mottled duck
- Louisiana-eyed silkmoth
- Short-billed dowitcher



© Brent Ortego/seaside sp



© Frank Schreiner/CLO



R4-CS-03

Long Point Bayou Marsh Creation

PPL27 PROJECT FACT SHEET
January 31, 2017

Project Name

Long Point Bayou Marsh Creation

Master Plan Strategy

Calcasieu Lake West Bank Marsh Creation (2017 Master Plan:004.MC.104): Creation of approximately 8,100 acres of marsh in Cameron Parish west of Calcasieu Lake to create new wetland habitat and restore degraded marsh.

Project Location

Region 4, Calcasieu/Sabine Basin, Cameron Parish, approximately 4 miles south of Hackberry

Problem

The project area is in an area that has been influenced by saltwater intrusion, increased water fluctuations and erosion. Human alterations have disrupted the hydrologic processes which contributed to wetland building and maintenance, while subsidence and sea level rise continues. Almost all fresh marsh was converted to intermediate and brackish by the late 1970s as a result of saltwater intrusion and increased tidal influence.

Proposed Solution

This project will create/nourish 376 acres of marsh near Long Point Bayou and just north of the Sabine National Wildlife Refuge. This project will utilize beneficial use of material from the Calcasieu Ship Channel or sediment from upland disposal sites of the Calcasieu River and placed into shallow open water sites within the project area. Funds will be budgeted for planting 50% of the project area in the event this is determined to be necessary. The project will complement other projects in the area including the Sabine Refuge Marsh Creation Cycles (CS-28). The project would provide protection from storm surge for the town of Hackberry, which is approximately 4 miles north of the proposed project.

Project Goals

- Create and/or nourish approximately 376 acres of emergent brackish marsh through beneficial use of the sediment dredged from the Calcasieu Ship Channel or sediment from upland disposal sites of the Calcasieu River.

Project Costs

Beneficial use of dredged sediment material from the Calcasieu Ship Channel:

- The preliminary project cost estimate with 25% contingency is approximately \$17 million. The fully funded cost range is \$20M - \$25M.

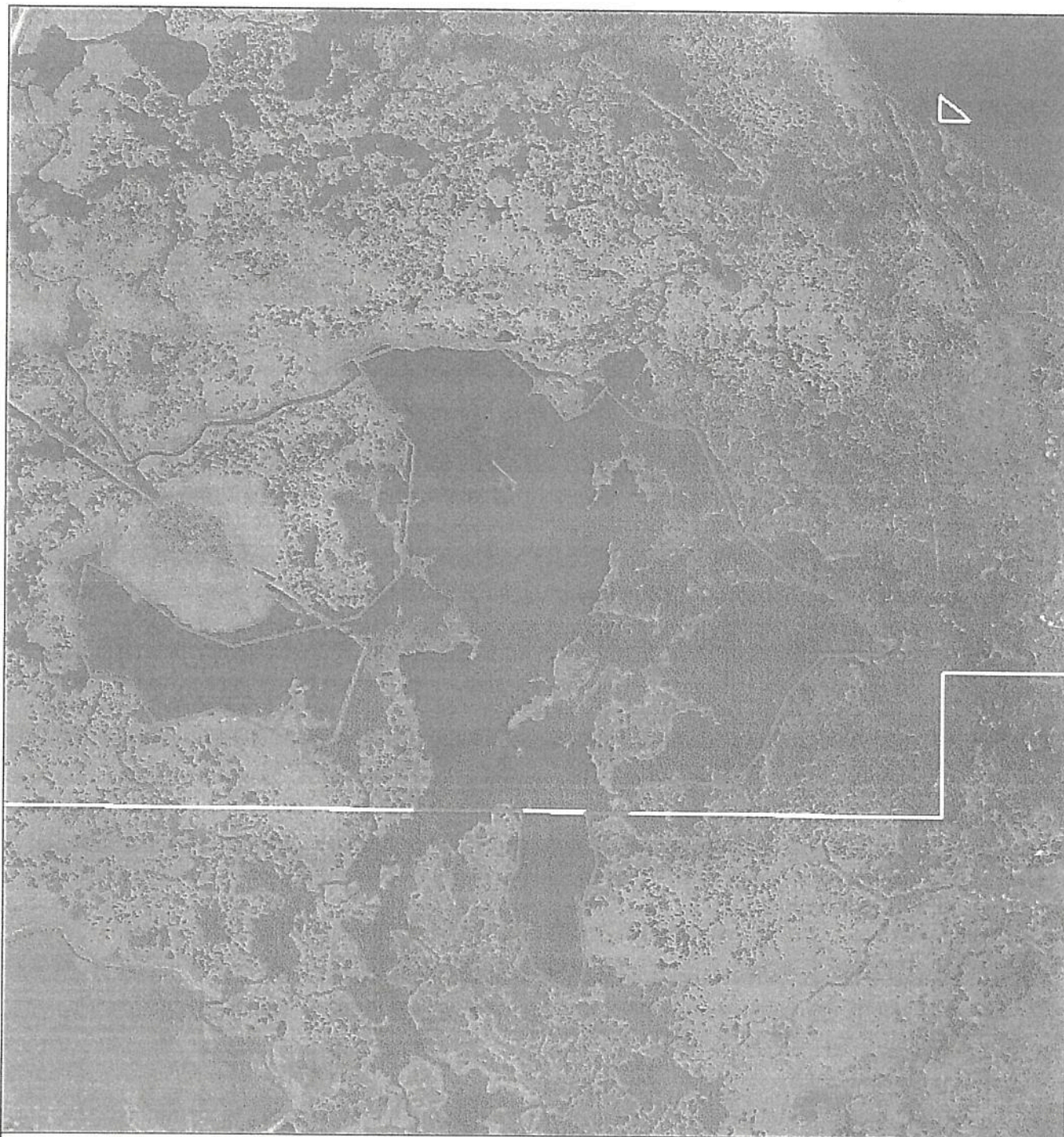
Mining the upland Disposal site north of project site:

- The preliminary project cost estimate with 25% contingency is approximately \$16 million. The fully funded cost range is \$20M - \$25M.

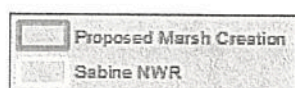
Preparer(s) of Fact Sheet:

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Adrian Chavarria, EPA; (214) 665-3103; chavarria.adrian@epa.gov



Long Point Bayou Marsh Creation



Basemap: 2015 NAIP DOQQ - LaFourche Parish
Produced by: EPA Region 6, Dallas, TX



Long Point Bayou Marsh Creation

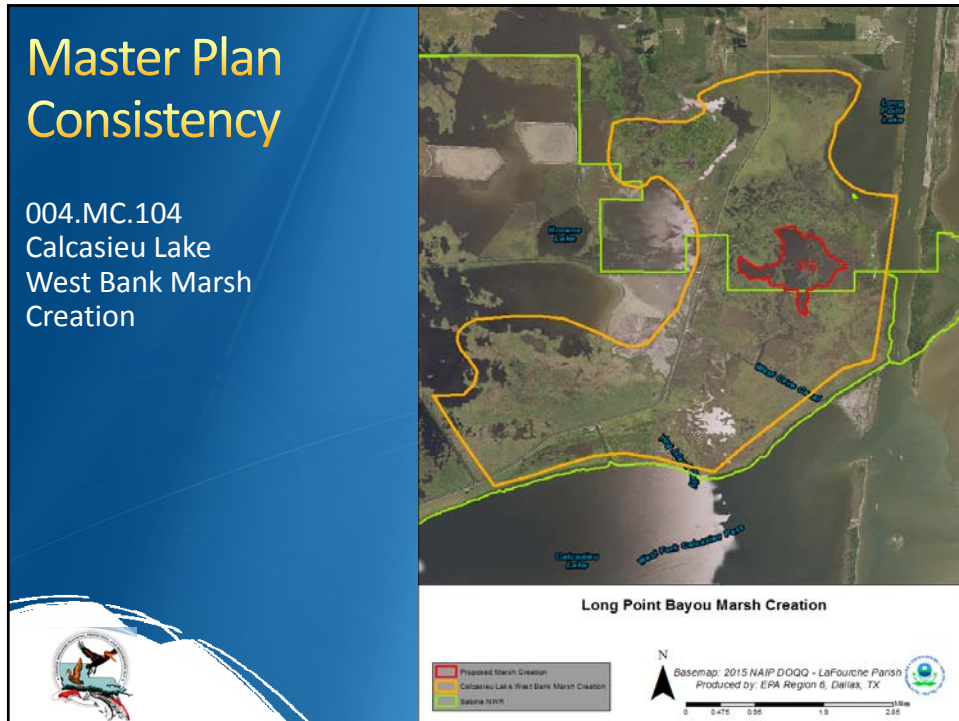


Coastal Wetlands Planning, Protection and Restoration Act

2017 Master Plan Solution

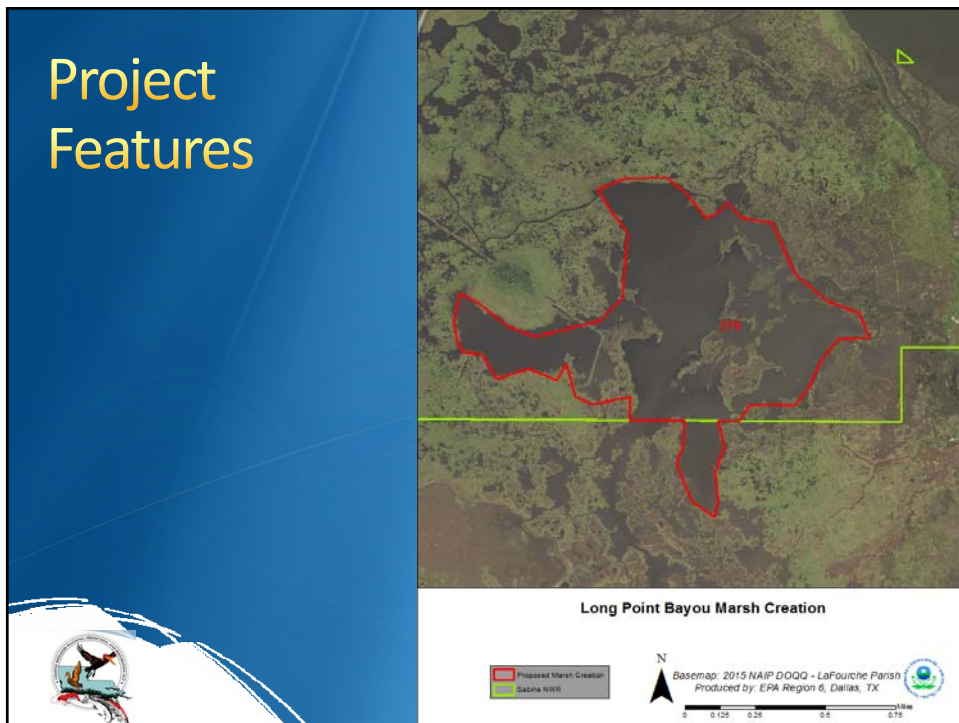
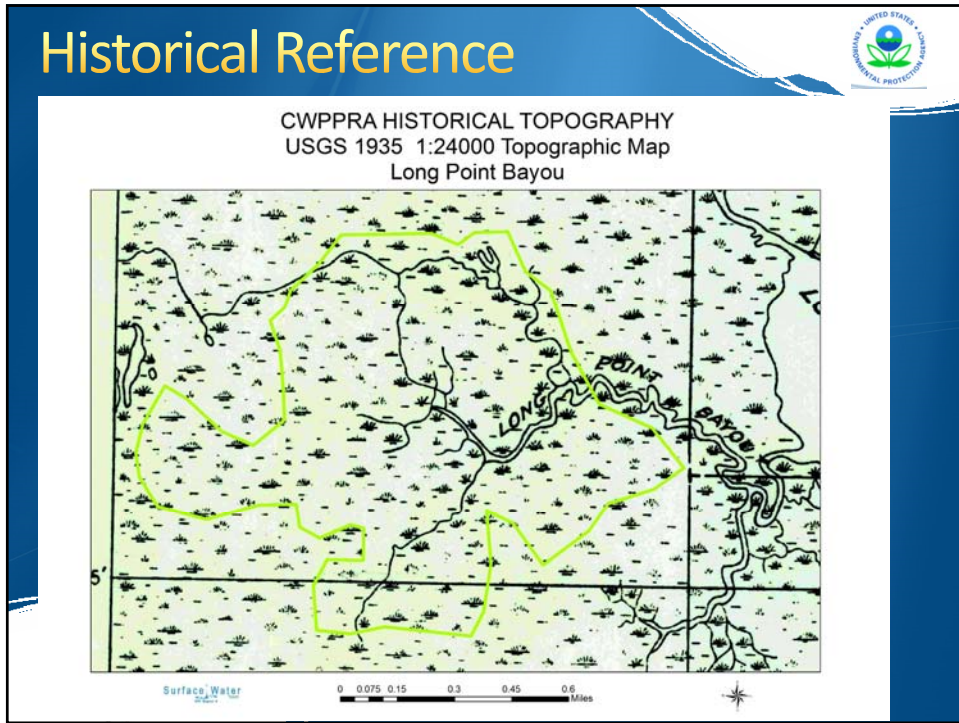
004.MC.104 Calcasieu Lake West Bank Marsh Creation: Creation of approximately 8,100 acres of marsh in Cameron Parish west of Calcasieu Lake to create new wetland habitat and restore degraded marsh.





Problems

- Disruptions to hydrologic processes that contributed to wetland building/maintenance
- Subsidence & relative sea level rise
- Saltwater intrusion and increased tides converted freshwater marsh to intermediate/brackish marsh
- Increased erosion
- 2017 MP indicates that Hackberry has a potentially higher risk for flooding over the next 50 years



Project Goals

- Create/nourish 376 acres emergent marsh to reduce additional marsh loss and erosion
- Sediment from Calcasieu River upland disposal sites or beneficial use of material from Calcasieu Ship Channel
- Work synergistically with other projects in the area (CS-28)
- Cost estimate w/ 25% contingency is \$16M. Fully funded is \$20-25M.



R4-CS-04

Sabine Marsh Creation Cycles 6&7

CS 4

PPL27 PROJECT NOMINEE FACT SHEET

January 31, 2017

Project Name: Sabine Marsh Creation Cycles 6&7

Project Location:

Region 4, Cameron Parish, The project is located on the Sabine National Wildlife Refuge, west of Highway 27, in large open waters areas north and northwest of Brown's Lake.

Problem:

The project area is experiencing marsh degradation due to saltwater intrusion and freshwater loss. This has resulted in the conversion of vegetated intermediate marsh to large shallow open water areas. Salinity is believed to migrate into the region from the Calcasieu River. Southeast winds push saline waters into the project area through canals and bayous. Wind driven waves cause further loss of the remaining marsh fringe.

Goals:

To use dredged material from the maintenance dredging of the Calcasieu River Ship Channel to create marsh in the large open water project area in a strategic manner to block wind-induced saltwater introduction, to lessen freshwater loss, and to reduce open water fetch and erosion of marsh.

Service goals include the creation of habitat or improvement of habitat for rare species, species of concern, and threatened and endangered species. The creation of brackish intertidal marsh habitat would be beneficial to several species that are currently on the lists of rare species and species of concern. These include, but are not limited to Least Bittern, Black Rail, Mottled Duck, Brown Pelican, King Rail, Louisiana Eyed Silkmoth and Saltwater toad.

Proposed Solutions:

This project consists of the creation of 1,000 acres of marsh using material dredged (approximately 5 million cubic yards) from the Calcasieu River Ship Channel in 2 cycles. The marsh creation would utilize the 3.57 mile permanent pipeline that extends from the Calcasieu River Ship Channel to the Sabine NWR. The dredged material will be contained by earthen dikes. Lower level earthen overflow weirs will be constructed to assist in the dewatering of each marsh creation disposal area and to create fringe marsh. The dredged slurry will be placed between elevations +4.0' and +4.5' MLG (consistent with the completed Cycles 1-5).

Preliminary Project Benefits:

1) *What is the total acreage benefited both directly and indirectly?* Approximately 1,000 acres would be directly benefited.

2) *How many acres of wetlands will be protected/created over the project life?* The total net acres created over the project life would be approximately 917 acres of marsh.

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%).* Loss rate reduction should be 50-74%.

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?* None.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?* This project would work synergistically with the existing CWPPRA CS-28 Sabine Refuge Marsh Creation Cycles 1-5.

Identification of Potential Issues:

None

Preliminary Construction Costs:

The estimated construction cost including 25% contingency is \$18 M.

Preparer(s) of Fact Sheet:

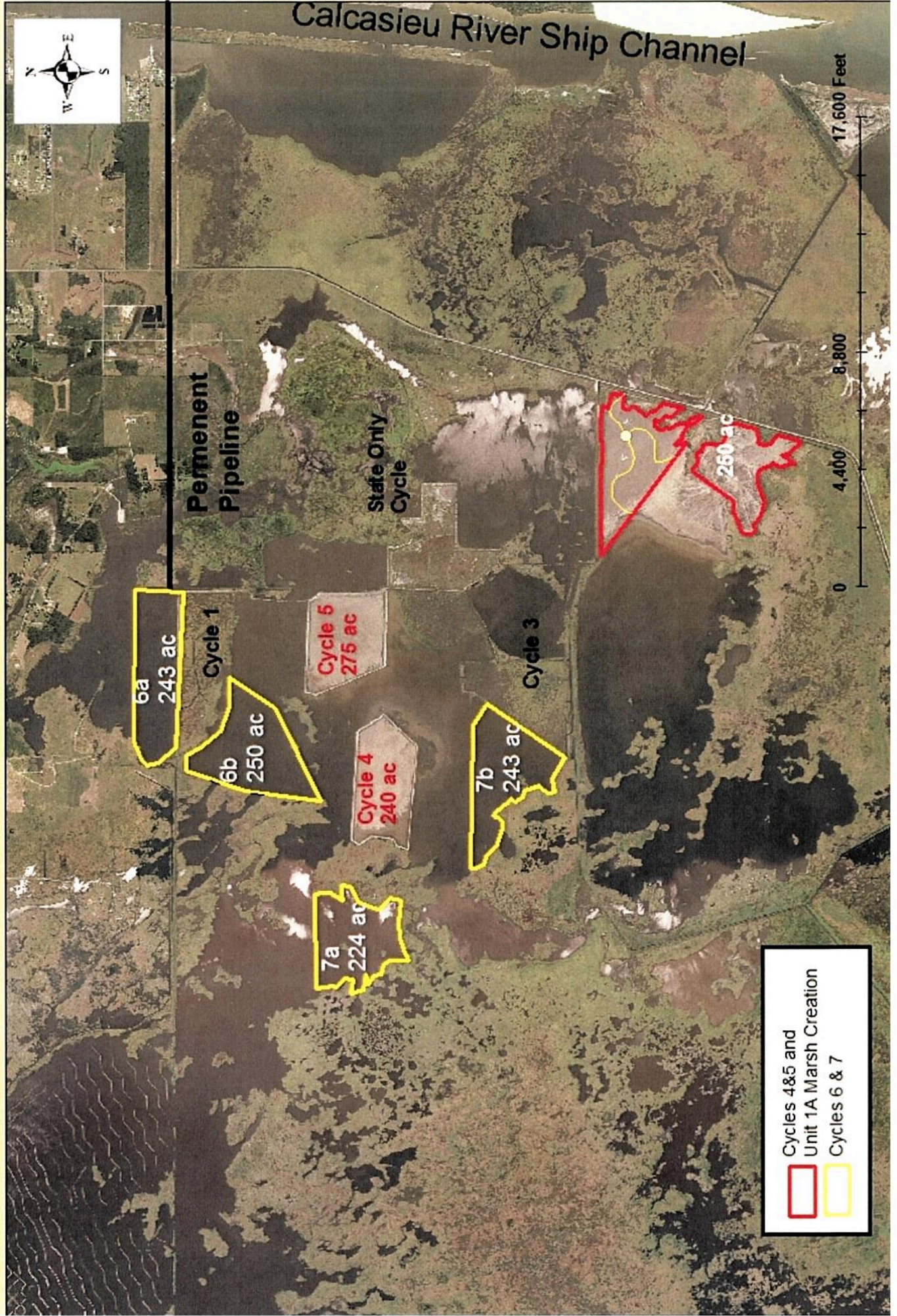
Robert Dubois (337) 257-4345 robert_dubois@fws.gov



U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

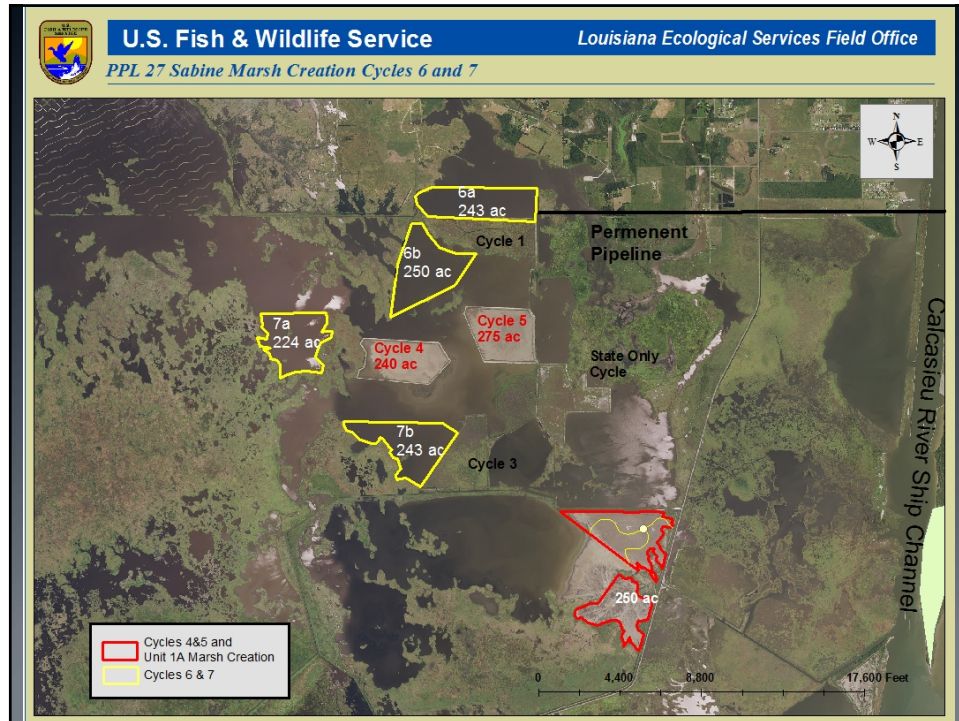
PPL 27 Sabine Marsh Creation Cycles 6 and 7



PPL 27

SABINE MARSH CREATION (Cycles 6 & 7) BENEFICIAL USE OF CALCASIEU SHIP CHANNEL SEDIMENT





SABINE MARSH CREATION (Cycles 6 & 7)

Goals:

- Create 1,000 acres of marsh.

Net Acres:

- Total net acres = 917 acres

Potential Issues:

- Permanent Pipelines would be used.
- Have to be flexible when working with BU do to uncertainty of funds and available sediment in ship channel.
- Mostly on Sabine NWR

Preliminary Construction Costs

- The estimated construction cost plus 25% contingency \$18M.

Species of Concern and Rare Species

- Least Bittern
- Black Rail
- Mottled Duck
- Saltmarsh topminnow
- Brown Pelican
- Louisiana Eyed Silkmoth
- King Rail
- Bald Eagle

R4-CS-05

West Sabine Refuge Marsh Creation

CS5

PPL27 PROJECT NOMINEE FACT SHEET
January 2017

Project Name

West Sabine Refuge Marsh Creation

Louisiana's 2017 Coastal Master Plan

Marsh Creation – West Sabine Refuge MC

Project Location

Region 4, Cameron Parish, Sabine National Wildlife Refuge

Problem

Near Sabine Lake there are a series of large lakes and ponds within the marsh. Following Hurricane Rita (2005), those ponds and lakes enlarged and other areas of intact marsh were converted to honeycombed marsh consisting of small interspersed ponds and marsh. In the larger ponds and lakes, wind action may cause erosion of marsh shorelines.

Goals

The project goal is to fill some of the existing larger open water lakes and ponds. This will avoid the feedback process where the increasing fetch causes more erosion of edge marshes which in turn increases fetch. Fill material will be obtained from nearby portions of Sabine Lake.

Proposed Solution

Create 463 acres of marsh and nourish 195 acres of existing marsh.

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*
Approximately 658 acres of marsh would be benefitted directly (463 from marsh creation and 195 acres from nourishment).
- 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 453 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 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?*
NO.
- 5) *What is the net impact of the project on critical and non-critical infrastructure?*
None.
- 6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
None.

Other Considerations

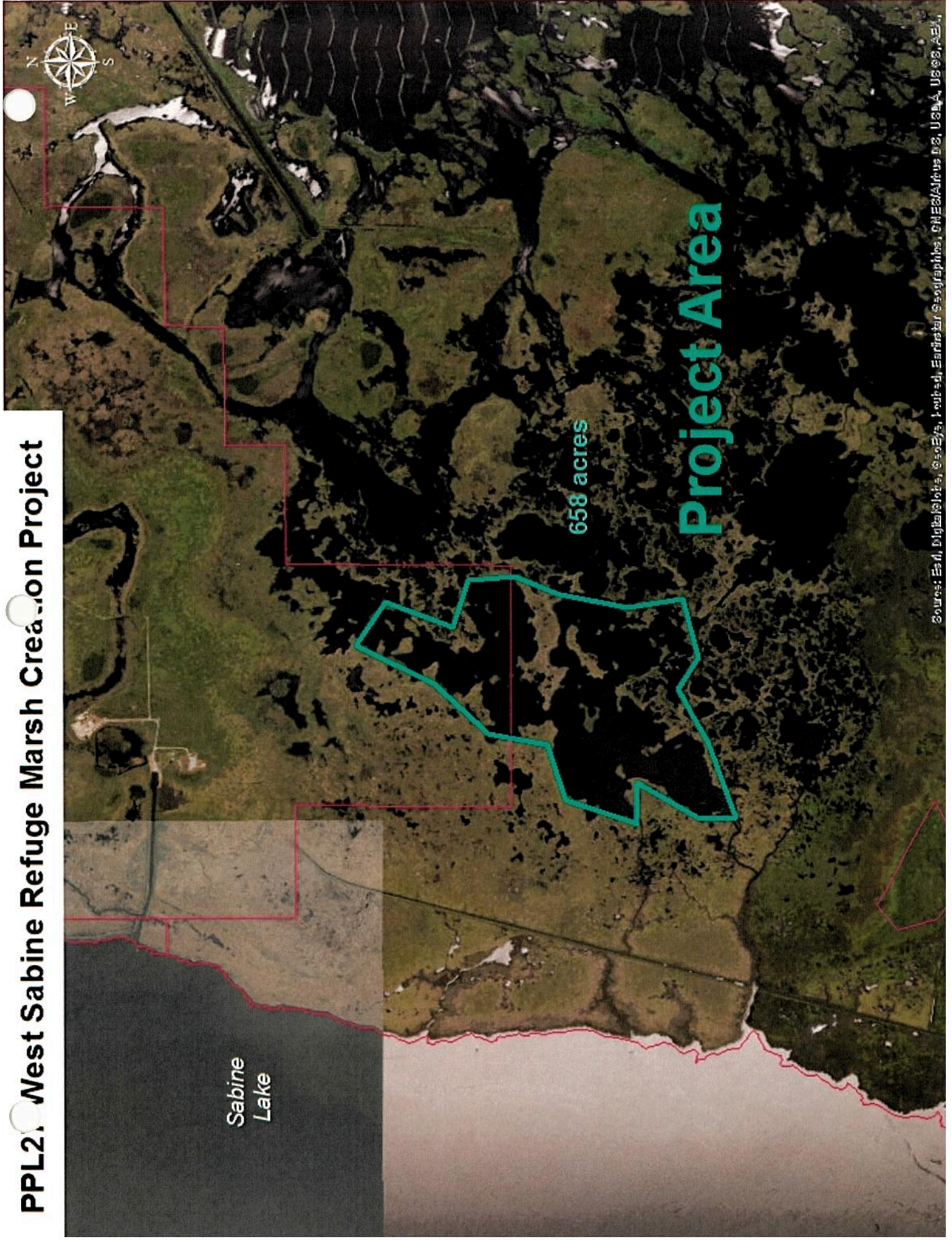
Preliminary Construction Costs:

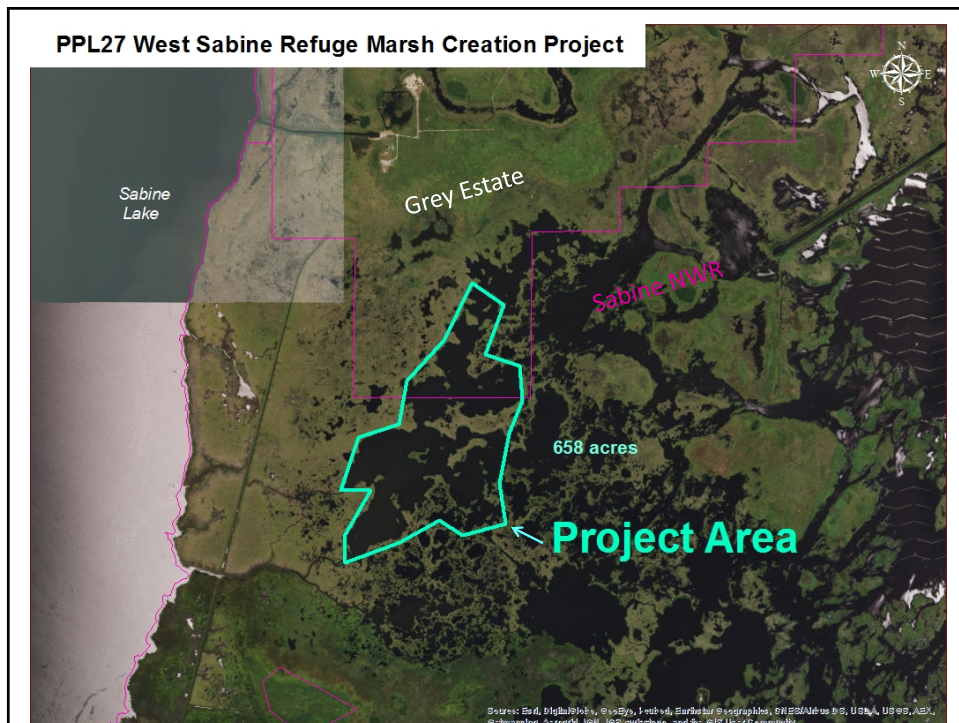
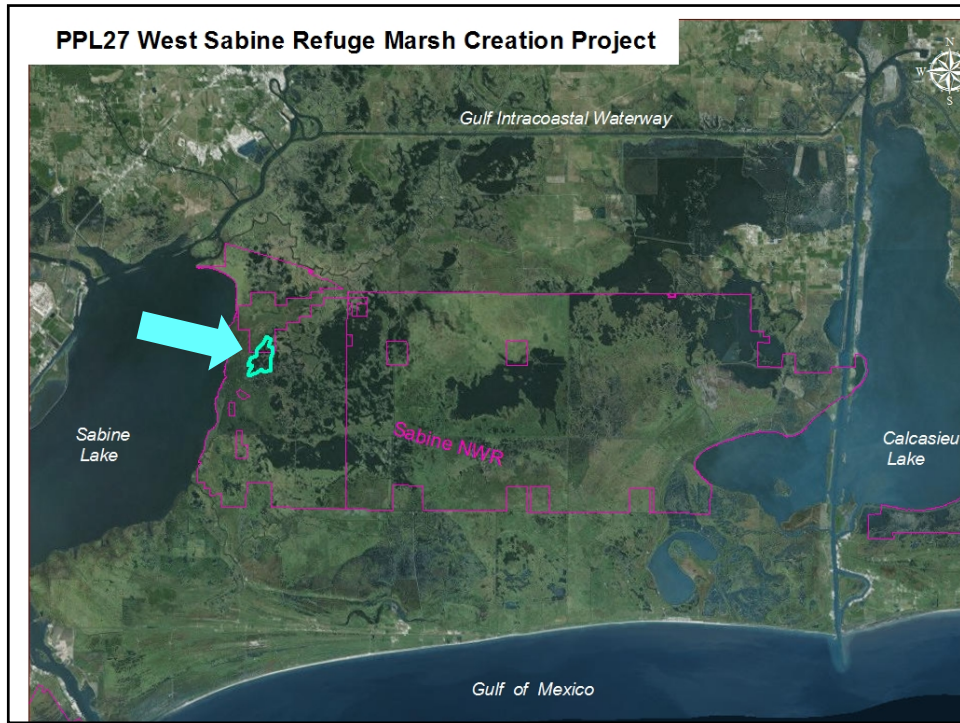
The estimated construction cost including 25% contingency is \$22.7M.

Preparer(s) of Fact Sheet:

Ronny Paille: U.S. Fish and Wildlife Service; 337-291-3117; Ronald_Paille@fws.gov

PPL2. West Sabine Refuge Marsh Creation Project





West Sabine Refuge Marsh Creation

- Landowners: Sabine NWR & Grey Estate
- 463 acres - Marsh Creation
- 197 acres - Marsh Nourishment
- \$23M = construction + 25% contingency

R4-CS-06

North Mud Lake Marsh Creation

PPL27 PROJECT NOMINEE FACT SHEET
January 31, 2017

Project Name

North Mud Lake Marsh Creation

Louisiana's 2012 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 and Hurricane Ike in 2008 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 turbidities within the large, open water areas.

Goals

The project goal is to create and/or nourish approximately 330 acres (310 acres created and 20 acres nourished) of emergent brackish marsh using sediment from a nearshore Gulf borrow area.

Proposed Solution

The proposed project would create and/or nourish approximately 330 acres (310 acres created and 20 acres nourished) in a marsh area north of Mud Lake. Sediment would be hydraulically pumped from a nearshore Gulf borrow area into the shallow marsh creation area. 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.

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*
The project area comprised of marsh creation and nourishment is 330 acres (300 acres created and 20 acres nourished in the placement area).
- 2) *How many acres of wetlands will be protected/created over the project life?*
The net acres benefit is 284 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?*
No.
- 5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project would provide positive impacts to critical (i.e., LA Highway 27) 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?*
N/A

Considerations

Pipelines, roads, and other infrastructure, and protection of the Gulf shoreline, are considerations in the project design.

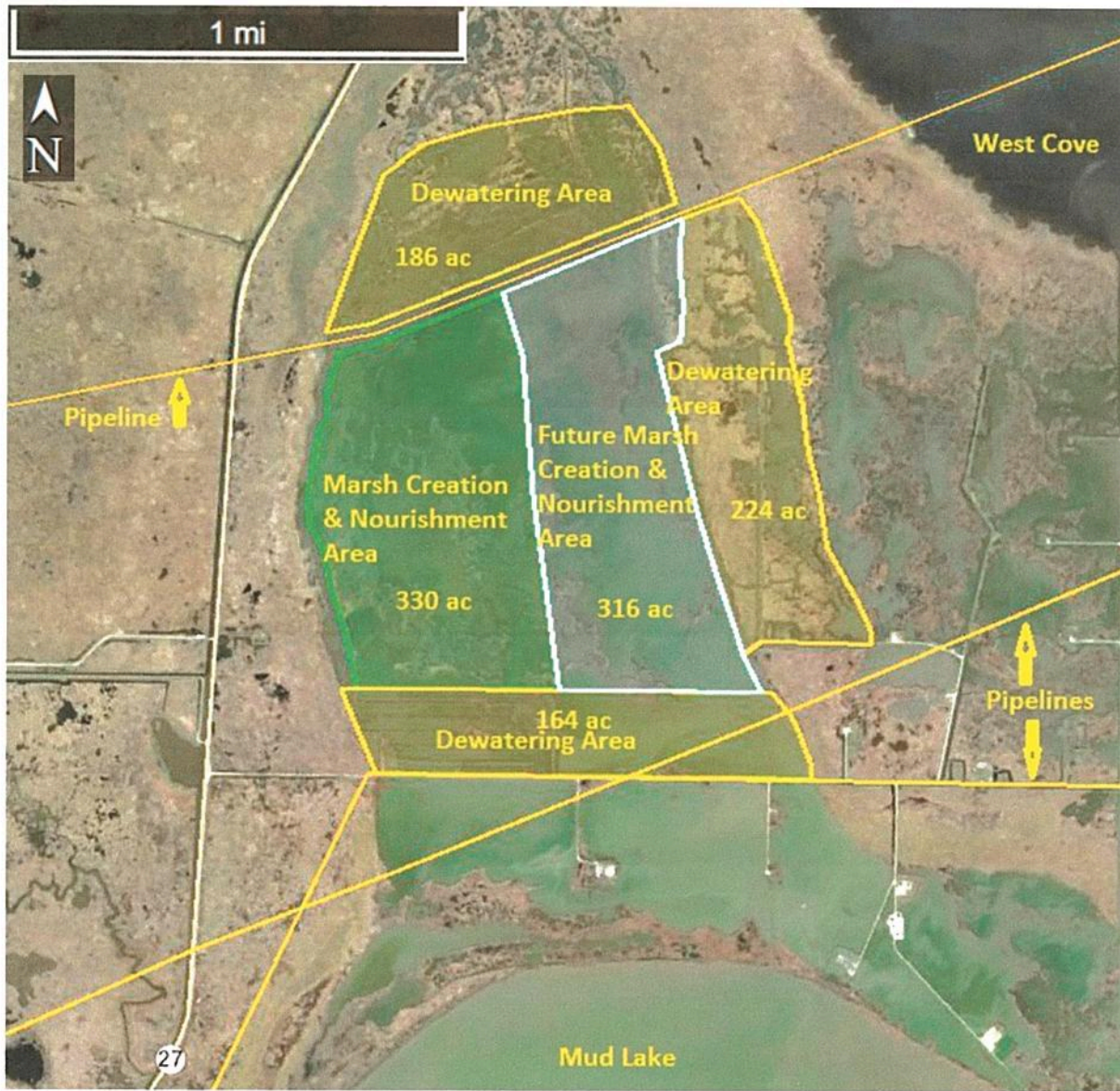
Preliminary Construction Costs


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

Preparer(s) of Fact Sheet:

Donna Rogers, Ph.D.; NOAA Fisheries Service, 225-636-2095, Donna.Rogers@noaa.gov
Jason Kroll; NOAA Fisheries Service, 225-757-5411, Jason.Kroll@noaa.gov

PPL27 North Mud Lake Marsh Creation



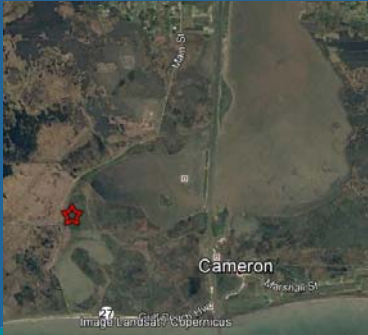


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Center

North Mud Lake Marsh Creation Project

Region 4 – Calcasieu-Sabine Basin Cameron Parish


January 31, 2017




Area Habitat Changes


- Conversion of brackish marsh to open water
- Saltwater intrusion
- Hurricanes Rita 2005 & Ike 2008
- USGS data 1984 - 2016 extended boundary loss rate -0.76% per year

1998

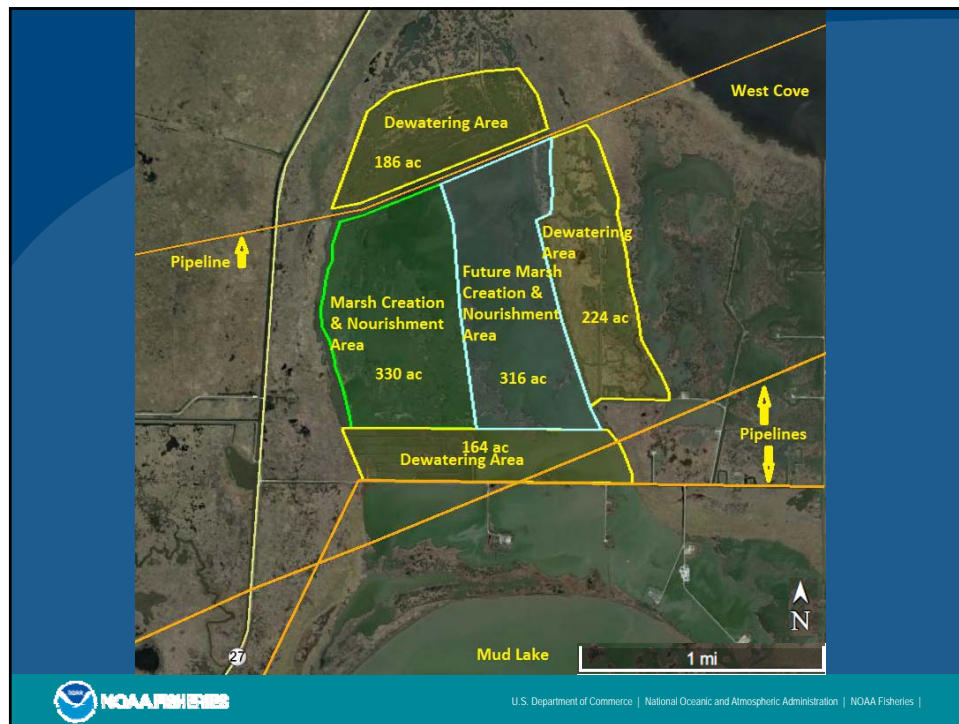


2016





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



Design Considerations

- Design to avoid or minimize impacts to:
 - Oyster seed grounds and public oyster grounds in West Cove
 - Gulf shoreline from borrow area
 - Adjacent landowner terrace fields to the south
 - Pipelines, roads, and other infrastructure in project area
- Current design is on Sabine NWR—open to exploring options to expand project onto adjacent landowner property

Preliminary Design

- Create 310 acres brackish marsh
- Nourish 20 acres brackish marsh
- Nearshore Gulf borrow area
- Fully Funded Cost \$30 - 35 million



REGION 4 – MERMENTAU

Project Number	Project Proposals
R4-ME-01	Highway 82 South Marsh Creation and Terracing
R4-ME-02	Gulf Shore Protection at Beach Prong
R4-ME-03	Deep Lake Spillway Modification/Mermentau Sub-Basin Hydrologic Restoration
R4-ME-04	Southeast Pecan Island Marsh Creation and Freshwater Enhancement
R4-ME-05	East Pecan Island Marsh Creation
R4-ME-06	North Big Marsh Restoration
R4-ME-07	South Pecan Island Marsh Creation

R4-ME-01

Highway 82 South Marsh Creation and Terracing

PPL27 PROJECT NOMINEE FACT SHEET
January 23, 2017

Project Name

Highway 82 South Marsh Creation and Terracing

Project Location

Region 4, Mermentau Basin, Cameron Parish

Problem

The marshes south of Louisiana Highway 82 between the Mermentau Ship Channel and Freshwater Bayou have been hydrologically impacted by the construction of oil and gas access roads, spoil banks from canals for petroleum exploration, and the construction of levees for hydrologic management. Such activities have led to major loss of wetlands south of the highway and conversion of the project area to shallow open water. The 1984 to 2014 USGS loss rate from an overlapping PPL25 project is -1.5%/yr.

Goals

The project goal is to create approximately 320 acres of marsh and 50,000 linear feet of marsh terraces.

Proposed Solution

Sediment for marsh creation would be mined offshore of the project area at a distance and design to avoid inducing shoreline erosion. Containment dikes would be constructed around the project area, including the marshes in the north to ensure dredged sediment does not plug existing drainage along the highway and within the project area. Marsh buggy backhoes would be used to construct the containment dikes and the marsh terraces. A hydraulic cutterhead dredge would be used to mine and pump sediments to the project area. Currently 100% of the newly created marsh acreage will be planted with appropriate plant species. The terraces will also include vegetative plantings.

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*
This total project area is approximately 965 ac.
- 2) *How many acres of wetlands will be protected/created over the project life?*
Approximately 320 acres of marsh will be initially constructed in the marsh creation area, and approximately 32 acres of marsh terraces (50,000 linear feet with a 15 ft. crest width) would initially be constructed. The project is expected to net 382 acres over the 20 year 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% over the project's 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?*

By constructing marshes to the south of highway 82, the project will help to protect and maintain the critical chenier, Grand Chenier, to the north which is a vital part of the structural coastal ecosystem in Cameron Parish, LA.

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

The project would have moderate net positive impact to critical infrastructures which consists of LA82, a hurricane evacuation route, and residence of Grand Chenier due to reducing the flooding risk to the state highway by reestablishing a land mass in place of open water.

- 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 with two other CWPPRA projects. The ME-20 South Grand Cheniere Marsh Creation project, sponsored by USFWS, is located southeast of the project area, has construction funding, and is scheduled to go to construction during the summer of 2017. The project will create marsh southeast of this project area which may help reduce erosion caused by fetch. The ME-32 South Grand Cheniere - Baker Tract Marsh Creation project, sponsored by NRCS, is located southeast of the project area and is presently funded for Phase 1 engineering and design.

Considerations

The project has pipelines/utilities and land rights considerations.

Preliminary Construction Costs

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

Preparer(s) of Fact Sheet:

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



PPL27 Highway 82 South Marsh Creation and Terracing

0 0.5 1 Miles

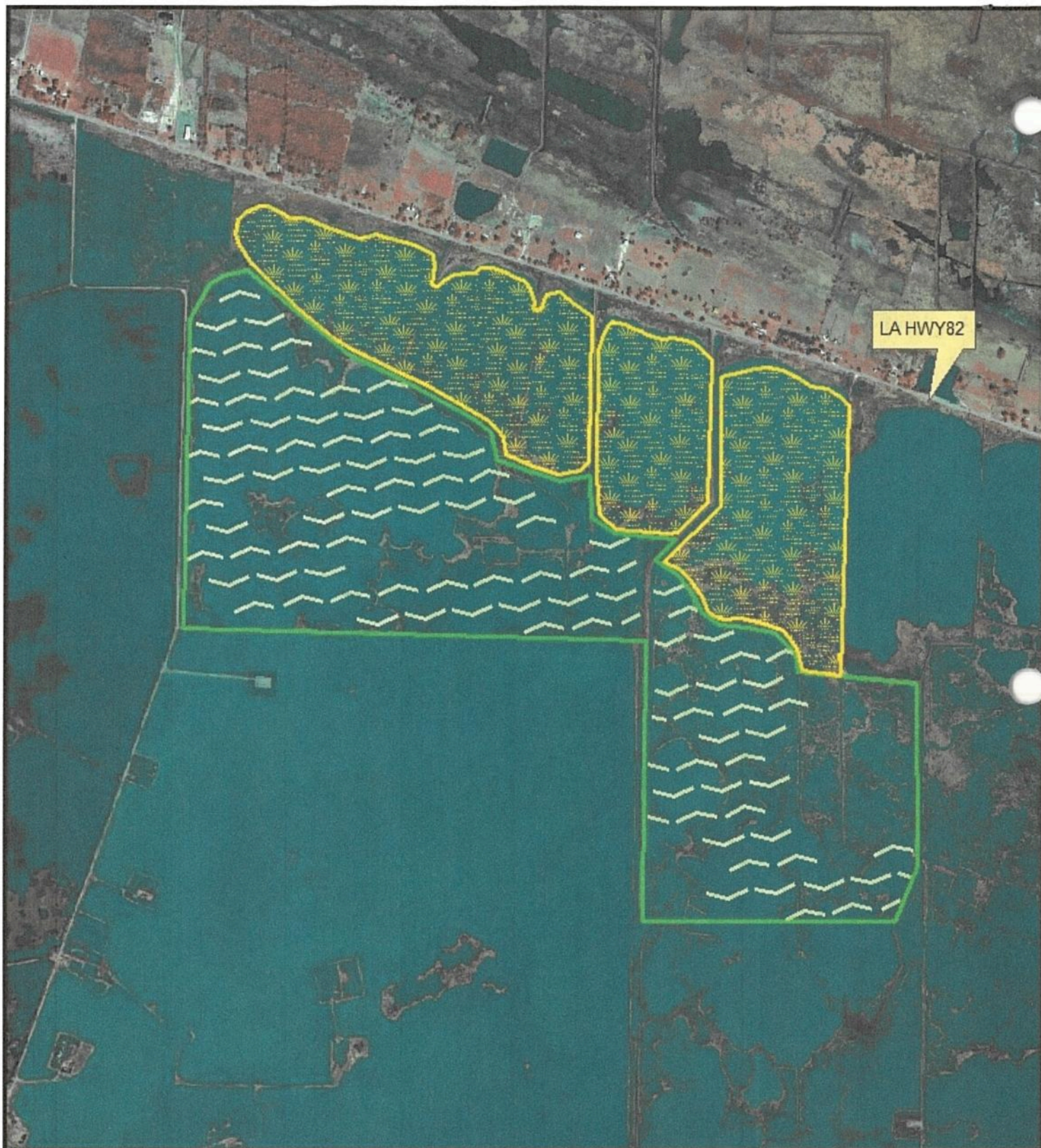
320 Acres of Marsh Creation
50,000 Linear Feet of Terraces

Federal Sponsor: NOAA Fisheries
2008 aerial imagery
Map Date 01-23-2017



Legend

- SHWY82_Terraces
- SHWY82_Borrow
- CWPPRA_Polygons
- SHWY82_Marsh_Creation
- 2012 State Master Plan



PPL27 Highway 82 South Marsh Creation and Terracing

0 1,000 2,000 Feet


320 Acres of Marsh Creation
50,000 Linear Feet of Terraces



Federal Sponsor: NOAA Fisheries
2008 aerial imagery
Map Date 01-23-2017

Legend

- SHWY82_Terraces
- SHWY82_Marsh_Creation
- SHWY82Terrace Field




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HWY 82 South Marsh Creation and Terracing


REGION 4 Mermentau Basin
Presenter: Jason Kroll, Civil Engineer, NOAA


PPL27 CWPPRA Regional Planning Team Meeting
Abbeville, Louisiana
January 31, 2017



Project Vicinity

HWY 82 South Marsh Creation and Terracing





U.S. Department of Commerce | National Oceanic and Atmospheric Administration | NOAA Fisheries | Page 2

Project Area Problems

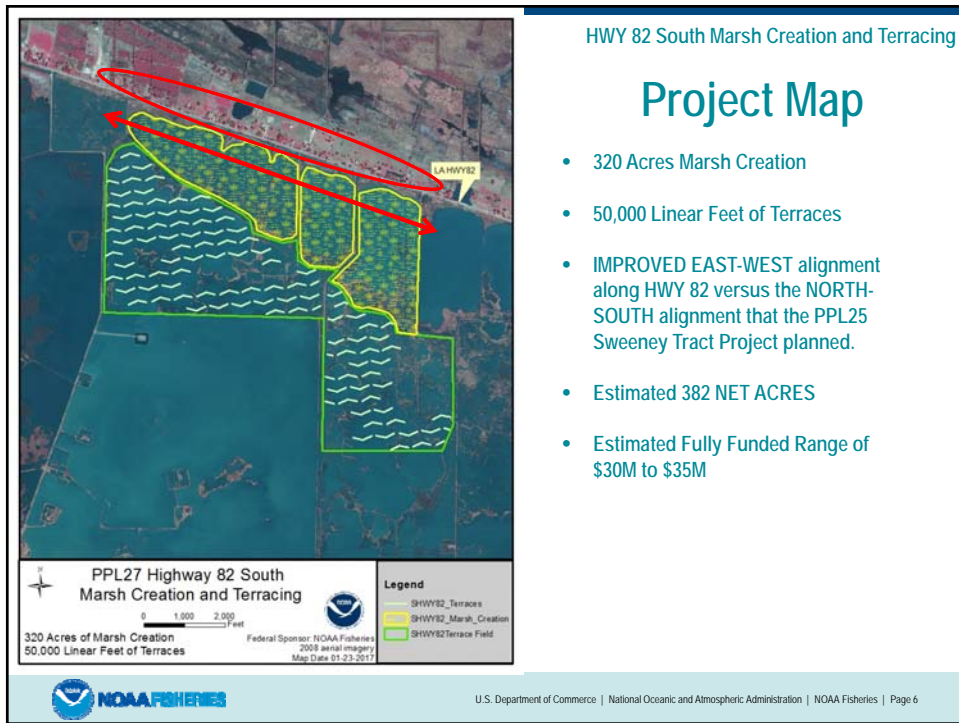
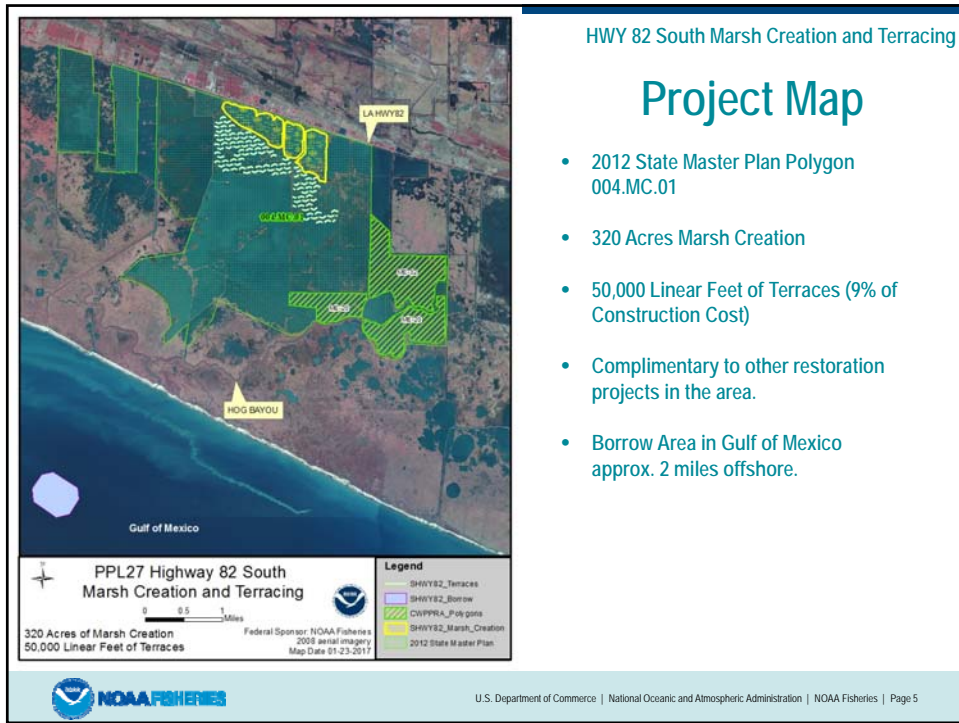
- Wetland degradation
 - The marshes south of Louisiana Highway 82 between the Mermentau Ship Channel and Freshwater Bayou have been hydrologically impacted.
 - Highways as well as oil and gas access roads
 - Spoil banks from canals for petroleum exploration
 - Construction of levees for hydrologic management
 - Hurricane impacts
 - Such activities have led to major loss of wetlands south of the highway and conversion of the project area to shallow open water. The 1984 to 2014 USGS loss rate from an overlapping PPL25 project is -1.5%/yr.



Proposed Project Solution

- 320 Acres of Marsh Creation
 - Dredge material from Gulf of Mexico
 - Contained Fill areas with dike gapping after construction
 - Opportunity for design to incorporate creeks and ponds
 - Orient in an EAST-WEST alignment to parallel Highway 82.
 - Vegetative Plantings
- 50,000 Linear Feet of Terraces
 - Currently estimated with 15 ft. crest width and 5:1 side slopes.
 - Vegetative plantings





HWY 82 South Marsh Creation and Terracing

What we need.

Project Area Photos

 NOAA.FISHERIES

U.S. Department of Commerce | National Oceanic and Atmospheric Administration | NOAA Fisheries | Page 7

HWY 82 South Marsh Creation and Terracing

Summary

- 320 Acres Marsh Creation
- 50,000 Linear Feet of Terraces
- Fully Funded \$30M - \$35M
- Estimated 382 NET ACRES

Price Lake Terracing Project (Courtesy LDWF)

Price Lake Terracing Project (Courtesy LDWF)

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U.S. Department of Commerce | National Oceanic and Atmospheric Administration | NOAA Fisheries | Page 8

R4-ME-02

Gulf Shore Protection at Beach Prong

PPL27 PROJECT NOMINEE FACT SHEET
January 2017

Project Name

Gulf Shore Protection at Beach Prong

Louisiana's 2012 Coastal Master Plan

Shoreline Protection – 004.SP.05a

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 Beach Prong (a branch of Hog Bayou) varies from 37 to 42 feet per year. By 2050, the Gulf shore will have retreated northward of Hog Bayou near Beach Prong, and may seriously alter hydrology of the middle and upper reaches of the Hog Bayou watershed.

Goals

The project goal is to halt erosion of the Gulf shoreline erosion along a critical reach 15,000-foot-long reach where continued erosion will threaten the integrity of the upper Hog Bayou watershed (19,000 acres).

Proposed Solution

To halt Gulf shoreline erosion, 15,000 linear feet of foreshore protection consisting of lightweight aggregate core foreshore structures would be installed (as per ME-18) to preclude the anticipated system-wide hydrologic impact caused by the shoreline eroding into Hog Bayou

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*
Approximately 278 acres would be benefited directly. Indirect benefits would occur to marshes in the middle and upper Hog Bayou watershed.
- 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 278 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?*
The project would restore the eroding Gulf shore rim and by facilitating accumulation of shell hash, 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.

- 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 2 projects located in the Hog Bayou watershed including the South Grand Chenier Marsh Creation Project (ME-20) and the South Grand Chenier – Baker Tract Marsh Creation Project (ME-32).

Other Considerations

Preliminary Construction Costs:

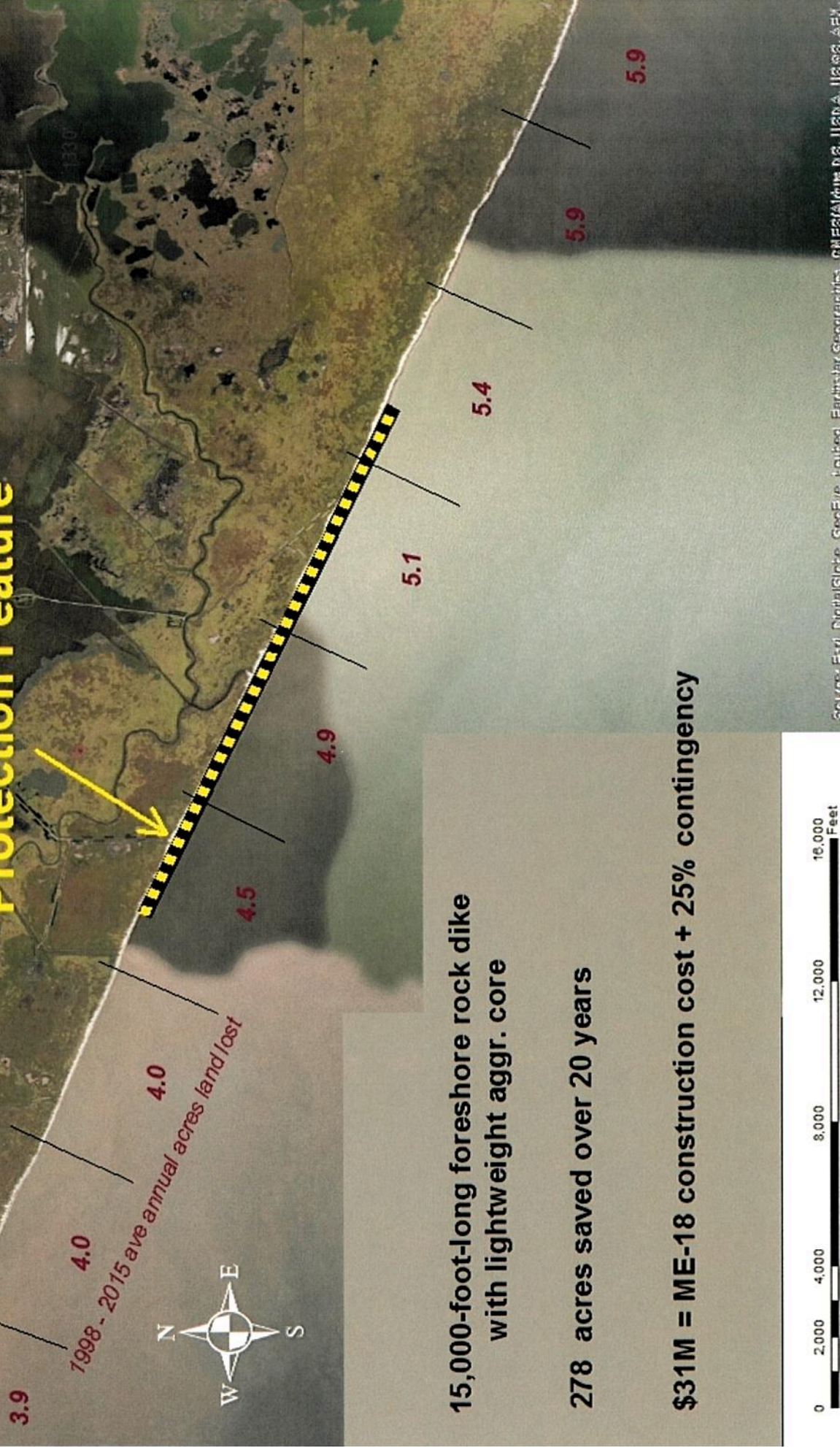
The estimated construction cost including 25% contingency is \$31M.

Preparer(s) of Fact Sheet:

Ronny Paille: U.S. Fish and Wildlife Service; 337-291-3117; Ronald_Paille@fws.gov

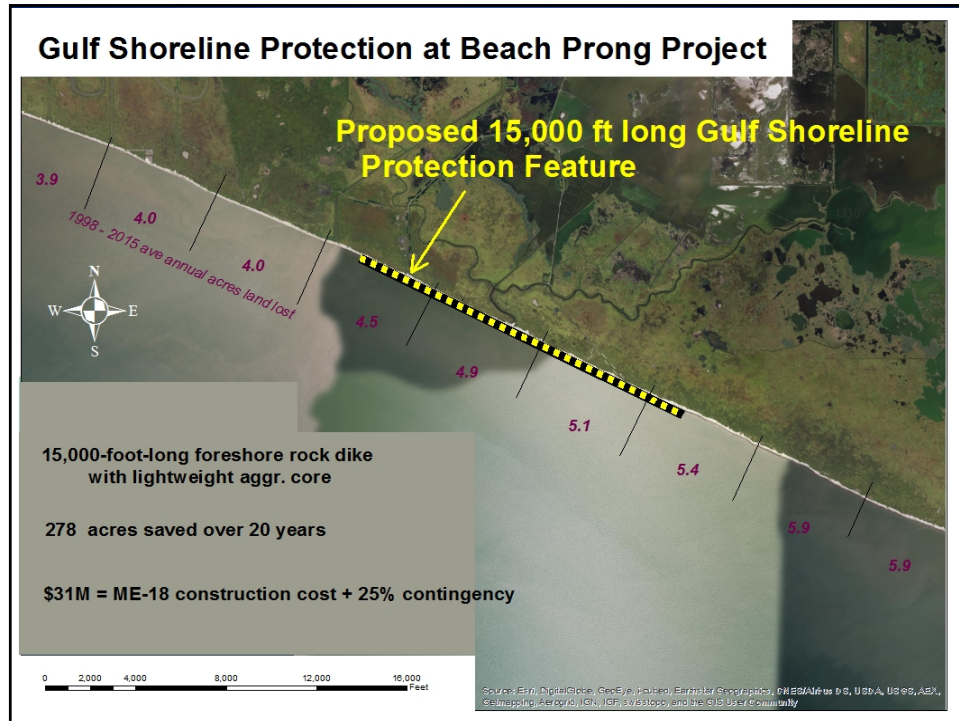
Gulf Shoreline Protection at Beach Prong Project

Proposed 15,000 ft long Gulf Shoreline Protection Feature



Sources: Esri, DigitalGlobe, GeoEye, Ikonos, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, Aero, GeoMapping, AeroGRID, IGN, IGA, swisstopo, and the GIS User Community





Project Benefits

- Saves 278 acres of marsh
- Protects Hog Bayou from hydrology disruption
- Promotes natural closure of Beach Prong
- Protects Grand Chenier from shoreline breach into Sweeney Tract open water

R4-ME-03

**Deep Lake Spillway Modification/Mermentau Sub-Basin
Hydrologic Restoration**

PPL27 PROJECT NOMINEE FACT SHEET**Project Name**

Deep Lake Spillway Modification/Mermentau sub-basin hydrologic restoration project

Master Plan Strategy

Deep Lake Hydrologic Restoration 004.HR.13

Project Location

Region 4, Mermentau Basin, Cameron Parish, Rockefeller Wildlife Refuge

Problem

Construction of La. Highway 82 restricts drainage of local communities and marshes north of the highway to outlets located on Rockefeller Wildlife Refuge. That restriction can result in prolonged periods of inundation during high rainfalls and flooding events. A new East End Lock system will aid along with the 8 outlets at the Gulf of Mexico to increase volume flow. This will prevent long periods of ponding and impacting thousands of acres of wetlands.

Goals

The proposed project will reduce prolonged periods of inundation to relieve flooding stress and restore the function, value, and sustainability to thousands of acres of marsh. The proposed project will also allow Rockefeller Wildlife Refuge to accommodate additional water flow during flooding events to relieve flooding of local communities.

Proposed Project Features

The proposed project would construct an additional new lock system that would be approximately 60 feet wide. The current lock system is over 40 years old, is in desperate need of replacement, and cannot adequately relieve flooding in much of the Mermentau Basin. In addition to the locks, modifications at Hwy 82 with cleaning of drainage laterals and connecting flow through outlets to main canals will enhance the project.

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?* Drainage through this area is important to the entire Mermentau Basin (700,000 plus acres).
- 2) *How many acres of wetlands will be protected/created over the project life?* Approx. 55,000 acres would benefit from reduced ponding and land loss.
- 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 benefit is estimated to be <25%.
- 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.* Proposed project improves drainage across La. Highway 82. The goal is to restore the historical flow between Grand Chenier Ridge and Pecan Island Ridge prior to Hwy. 82 construction.

5) *What is the net impact of the project on critical and non-critical infrastructure?* The project would restore some of the historical hydrology that once existed prior to construction of Hwy 82.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?* The proposal will compliment ME-16(freshwater Intro) and is consistent with the Deep Lake spillway project in the State Master Plan.

Identification of Potential Issues

There are no issues identified at this time.

Preliminary Construction Costs

The estimated construction cost including 25% contingency is approximately \$27,625,000.00.

Preparer of Fact Sheet

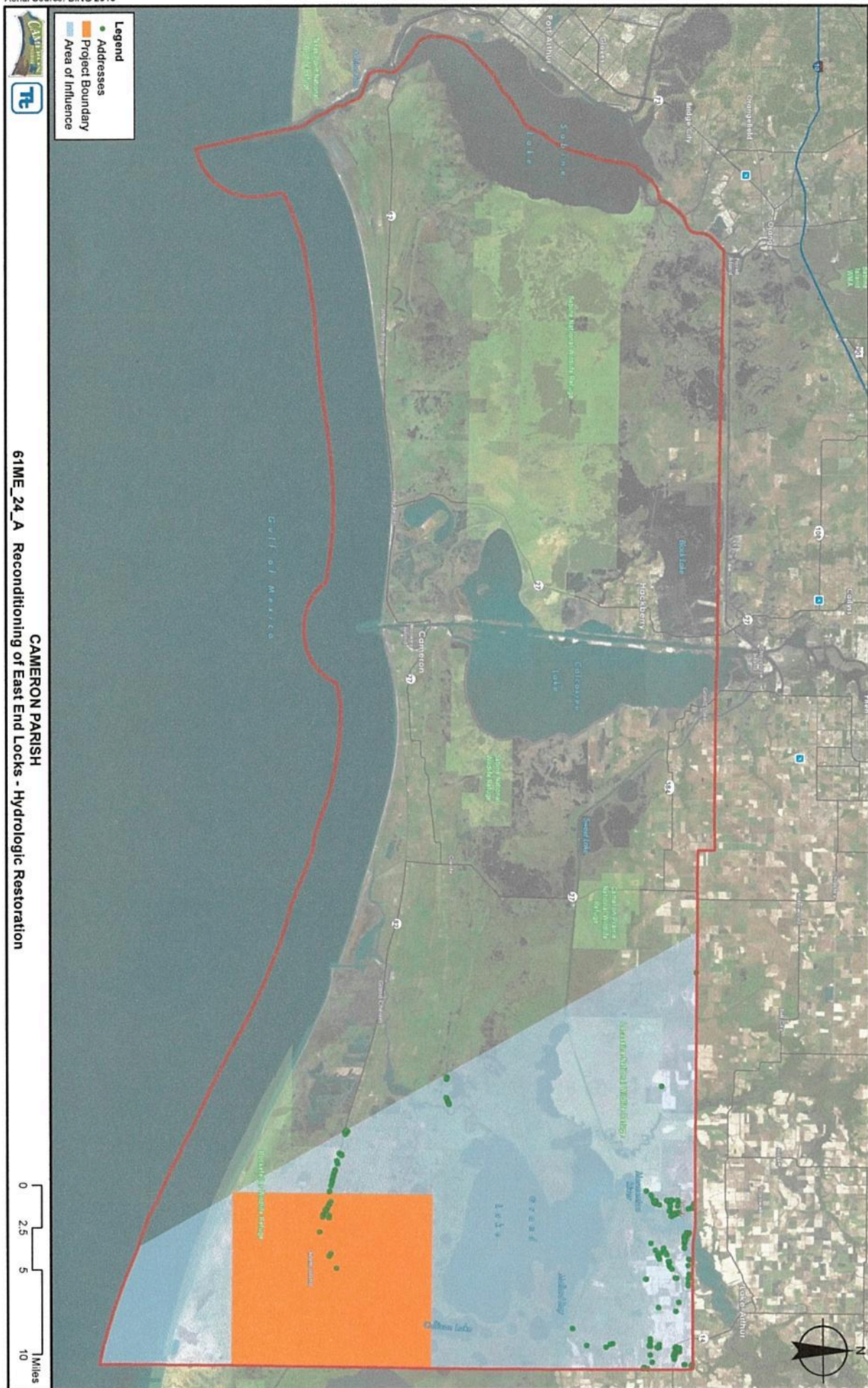
Phillip Trosclair, Rockefeller Wildlife Refuge, (337) 491-2000, ptrosclair@wlf.la.gov



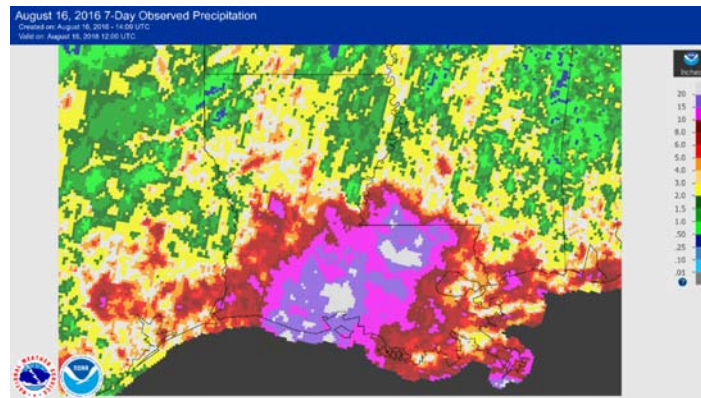
Rockefeller Wildlife Refuge, East End Locks System proposed new site and structure.

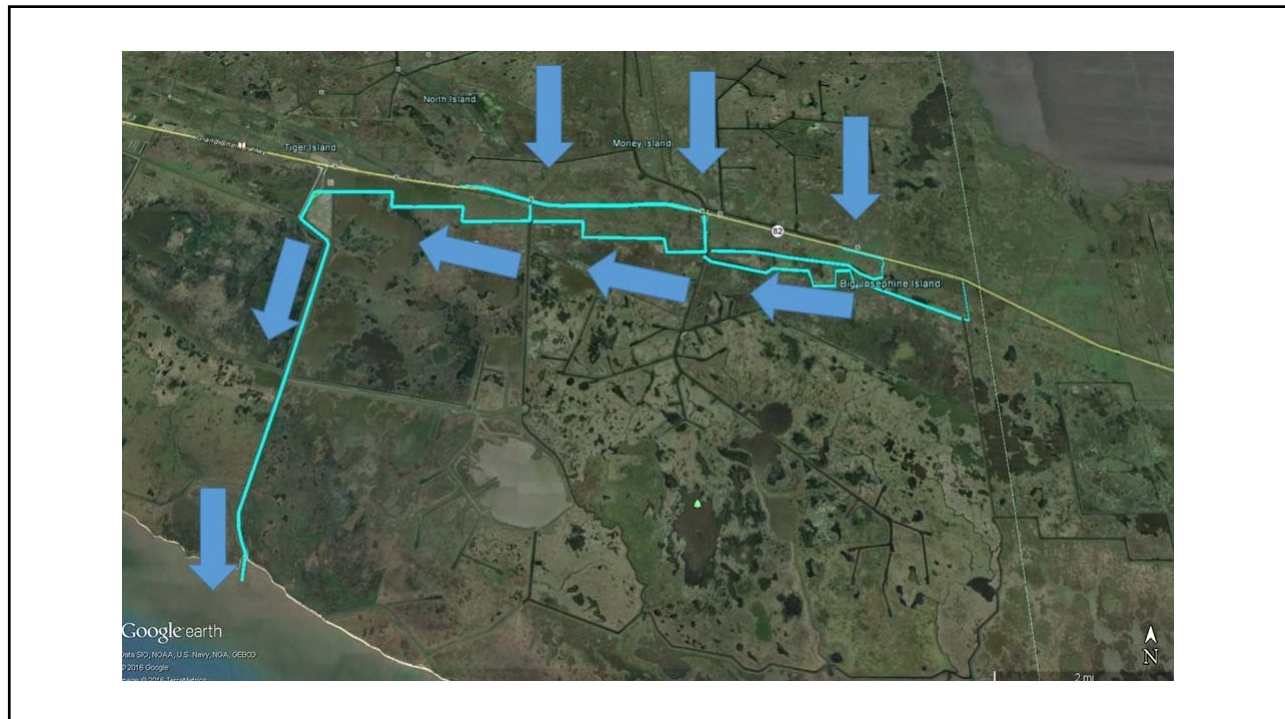
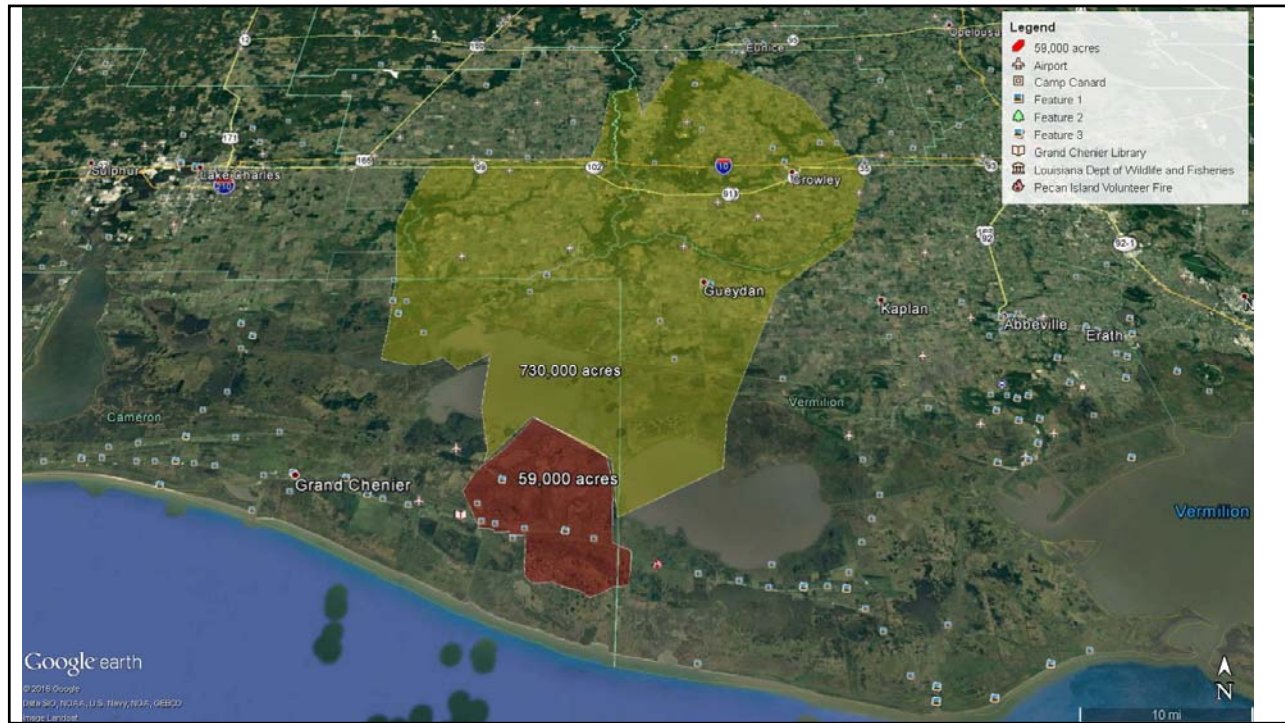


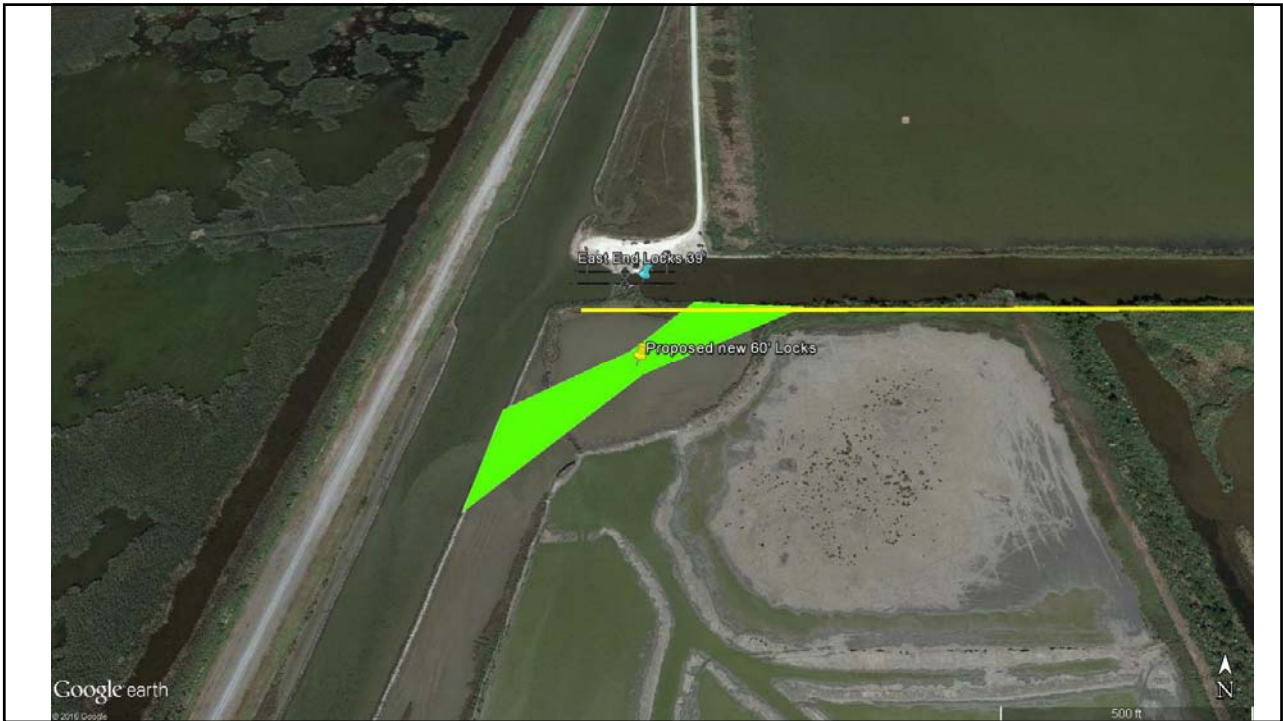
Hwy 82 modification with flow through and ditch maintenance



- Deep Lake Spillway Modification/Mermentau sub-basin hydrologic restoration project

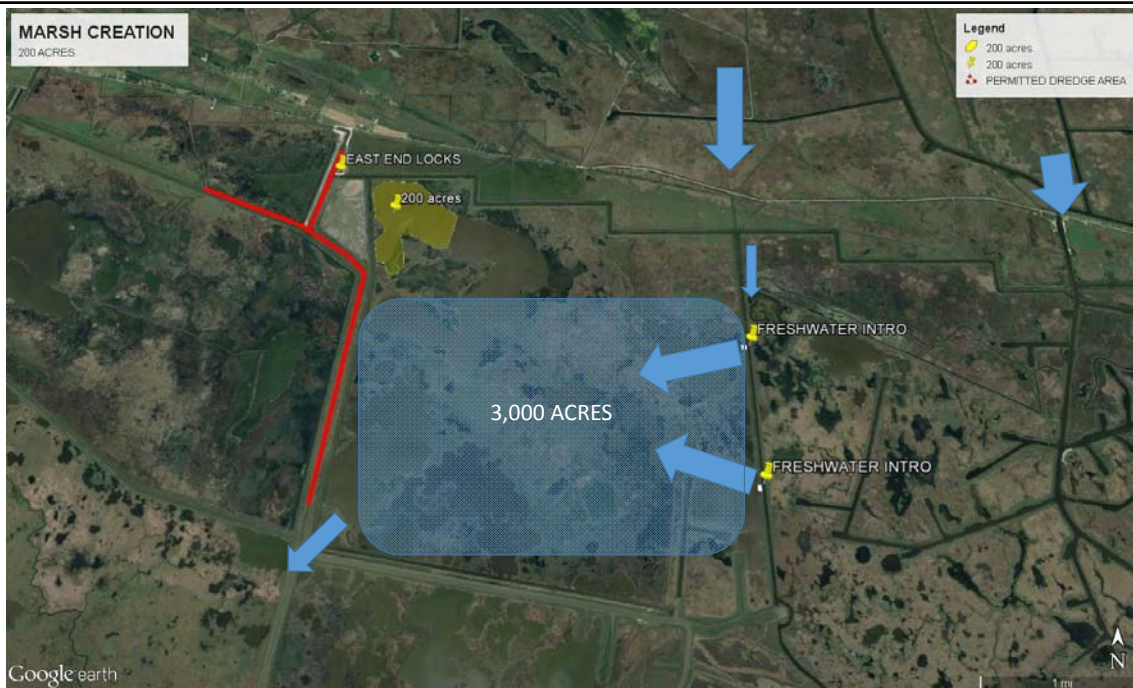
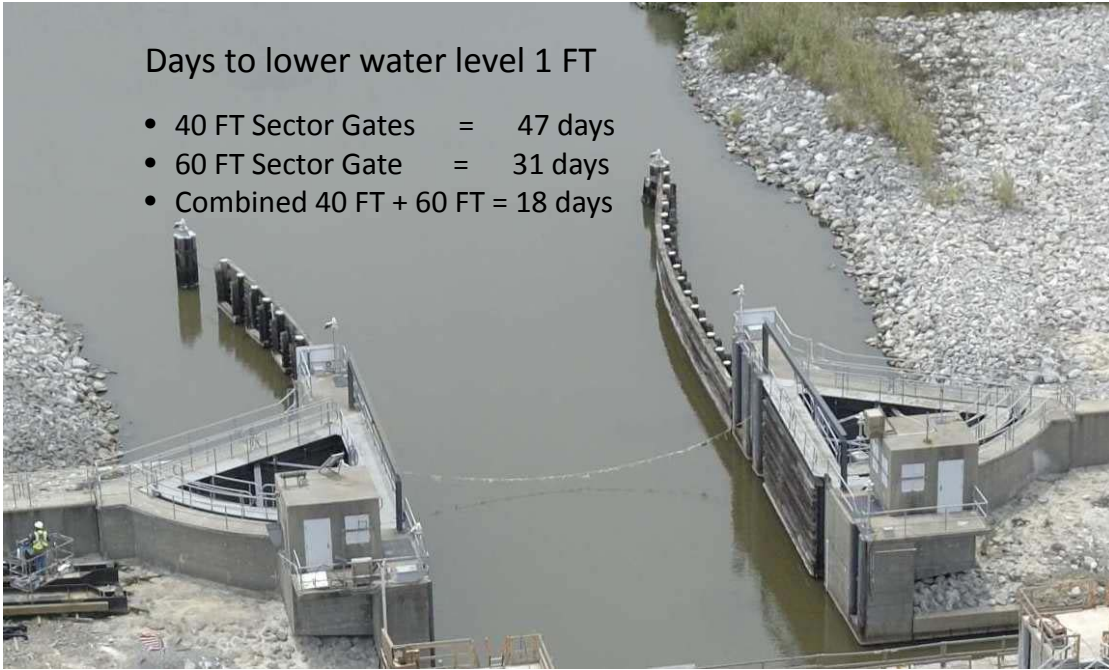






Days to lower water level 1 FT

- 40 FT Sector Gates = 47 days
- 60 FT Sector Gate = 31 days
- Combined 40 FT + 60 FT = 18 days



Mermentau Sub-Basin Deep Lake Spillway Modification/East End Flood Gate Project

• 1.Hwy 82 DRAINAGE LATERALS =	\$1.5m
• 2.MARSH CREATION & FRESHWATER INTRO =	\$2.0m
• 3.NEW 60'SECTOR FLOOD GATE =	\$17m
• 4.TWO GATE REPLACEMENT ON EAST END LOCKS =	\$2.0m
 TOTAL =	 \$22.5m
25% CONTINGENCY =	\$5,125,000.00
OVERALL COST =	\$27,625,000.00

R4-ME-04

**Southeast Pecan Island Marsh Creation and Freshwater
Enhancement**

PPL27 PROJECT FACT SHEET
January 31, 2017

Project Name

Southeast Pecan Island Marsh Creation and Freshwater Enhancement

Master Plan Strategy

East Pecan Island Marsh Creation – 004.MC.16

Introduce freshwater to wetlands south of Highway 82 – 004.HR.20

Project Location

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

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. Consequently these marshes are highly deteriorated and considered a priority for restoration in the state's Master Plan.

Goals

The project goals are to restore/improve hydrologic conditions and promote the expansion of emergent marsh vegetation throughout the project area. The proposed freshwater introduction feature would restore/improve hydrologic conditions by allowing water from the Lakes Subbasin to drain south across Highway 82 into the Chenier Subbasin. The marsh creation and terrace features would create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Proposed Solution

The project would strategically construct approximately 53 acres of marsh and 42,000 linear feet of terraces in the most degraded location of the project area. Culverts will be placed at various locations to allow tidal water to enter the complex from one end and exit on the other so as to promote trapping of imported materials. A freshwater introduction structure will be built at Front Ridge to connect the Lakes Subbasin to the project area marshes to allow for import of freshwater, nutrients, and sediment. The majority of the necessary freshwater introduction infrastructure exists and would require only minimal improvement/cleanout and the construction of an outlet structure at Front Ridge.

Preliminary Project Benefits

The total project area of impact is 3,281 acres. Approximately 53.1 acres of marsh would be created from hydrologic dredging, 31 acres from terraces and 47 acres from freshwater introduction. Additionally, it is expected that the one-way culvert system will create an additional 23 acres for a total of 154 acres.

Preliminary Construction Costs

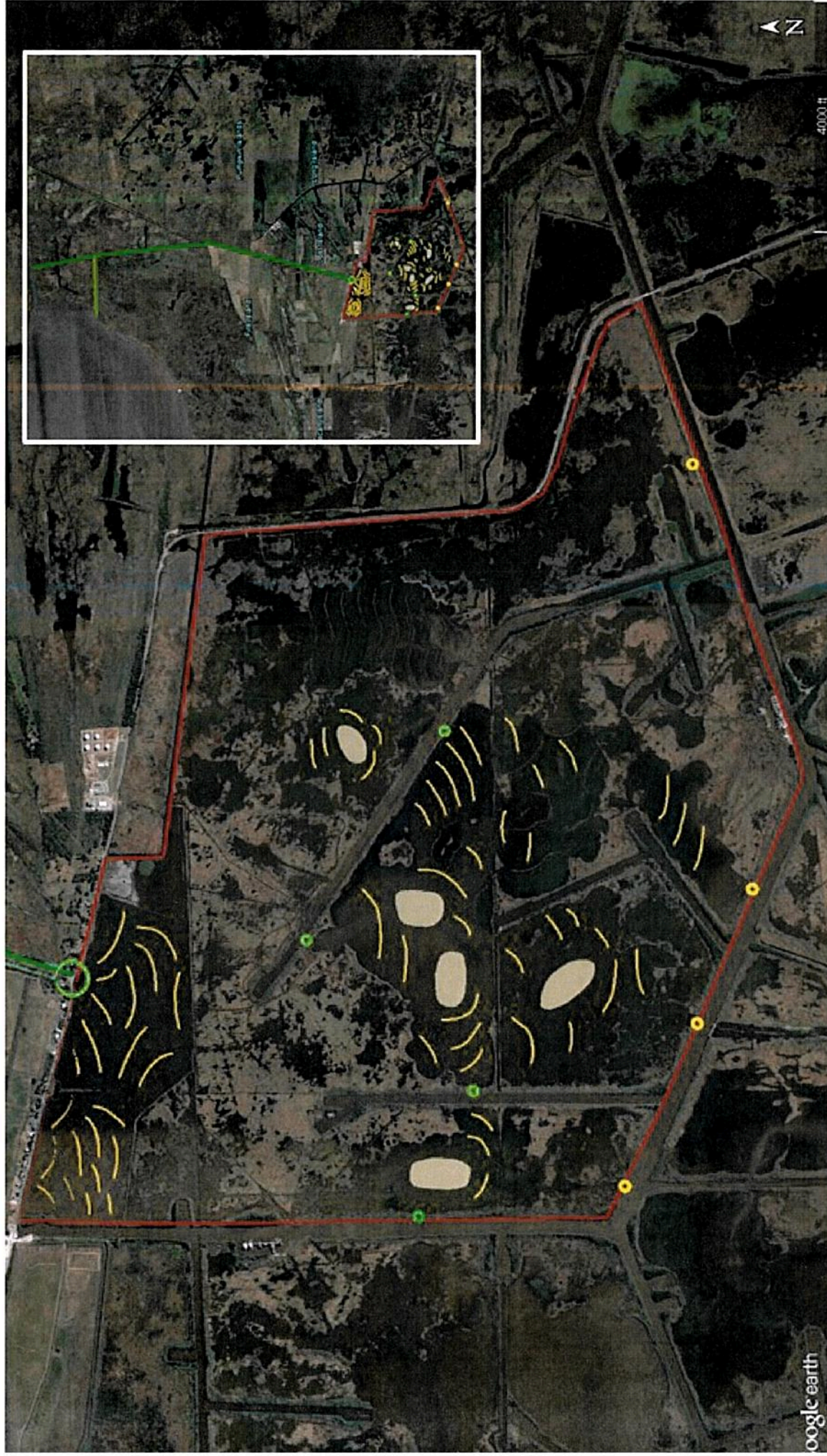
The estimated construction cost including 25% contingency is approximately \$11M.

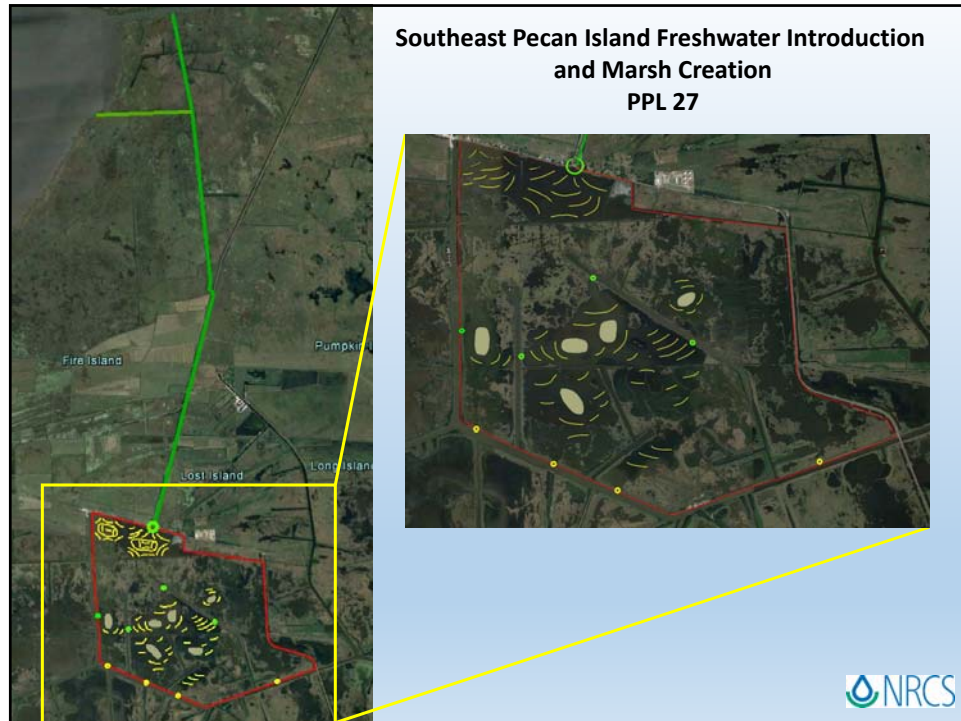
Preparer of Fact Sheet

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Cody Colvin, NRCS, cody.colvin@la.usda.gov

SE Pecan Island Marsh Creation and Freshwater Enhancement





SE Pecan Island Freshwater Introduction and Marsh Creation

Project Objectives:

- Reestablish hydrologic connection to upper basin and introduce freshwater, sediments, and nutrients into the lower marshes.
- Create marsh and terraces
- Enhance tidal flow through the project area to optimize material capture
- Optimize cost/benefit in terms of total area of impact

Benefits:

- Marsh Creation – 53 acres
- Terraces – 42,033 ft
- 8 sets of 2-36" flap-gated culverts (tidal pumps)
- Freshwater introduction structure at Front Ridge

Estimated Cost:

Construction + 25% = \$10.9M



R4-ME-05

East Pecan Island Marsh Creation

ME-05

PPL27 PROJECT FACT SHEET
January 31, 2017

Project Name

East Pecan Island Marsh Creation

Master Plan Strategy

East Pecan Island Marsh Creation 004.MC.16. Creation of approximately 7,340 acres of marsh between Pecan Island and the west bank of the Freshwater Bayou Canal to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Location:

Region 4, Mermentau Basin, Vermilion Parish, and west of the Freshwater Bayou Navigation Channel

Problem:

The marshes to the west of the Freshwater Bayou Navigation Channel have experienced severe land loss and habitat conversion. What was once a productive fresh water marsh has been converted to open water due to the negative effects of exchange from the Freshwater Bayou Navigation Canal on soils followed by major hurricane impacts. Based on USGS hyper temporal data analysis (1984 to 2014), land loss for the area is -0.85% per year. The subsidence rate is estimated at 3.8 mm per year according to the 2012 Louisiana State Master Plan Appendix C.

Goals:

The primary goal of this project is to create marsh through dedicated dredging and vegetative plantings on the western side of the Freshwater Bayou Navigation Channel. This project will also help to reduce the potential for exchange between the target marshes and the Freshwater Bayou Navigation Channel by working synergistically with the ME-31 Freshwater Bayou Marsh Creation Project.

Proposed Solution:

This project will create and/or nourish 521 acres of marsh using approximately 3.5 million cubic yards of dredged fill material from an offshore borrow site within state waters. Once material is in place and adequately dewatered, containment dikes will be adequately gapped to allow tidal exchange of nutrients and aquatic organisms with the marsh. Additionally the project site would be planted at a 50% density at project year one in order to reestablish the plant productivity within the marsh. Material would be placed to achieve a settled target elevation of +1.1 feet NAVD88 based on CRMS station 0580. Temporary dikes, where necessary, would be constructed to contain the fill. If the dikes do not naturally degrade to marsh elevation within three years, they would be gapped.

Project Benefits:

The project would result in approximately 459 net acres over the 20-year project life.

Project Costs:

The project cost estimate with 25% contingency is \$43 million. The total fully-funded cost is \$54,825,078.

Preparer(s) of Fact Sheet:

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Scott Wandell, USACE; (504) 862-1878; scott.f.wandell@usace.army.mil



East Pecan Island Marsh Creation



Proposed Marsh Creation Cell



Basemap: 2015 NAIP DOQQ - Vermilion Parish
Produced by: EPA Region 6, Dallas, TX

0 0.1750.35 0.7 1.05 1.4
Miles



East Pecan Island Marsh Creation



Coastal Wetlands Planning, Protection and Restoration Act

Mater Plan Solution

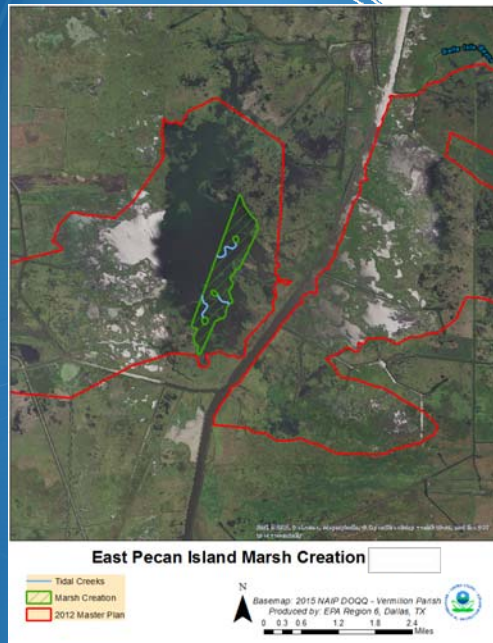
004.MC.16 East Pecan Island Marsh Creation: Creation of approximately 7,340 acres of marsh between Pecan Island and the west bank of the Freshwater Bayou Canal to create new wetland habitat, restore degraded marsh, and reduce wave erosion.



Master Plan Consistency

004.MC.16 East Pecan Island Marsh Creation

Co-sponsored between EPA and USACE



Problems

- Marsh loss and altered area hydrology due to:
 - Subsidence
 - Saltwater intrusion
 - Enlargement of Freshwater Bayou
 - Increased tidal exchange with interior marshes
- Resulted in marsh losses that left the area very shallow open water

Historical Reference



Dallas, TX
January 15, 2016

EPA
Environmental Protection Agency

Surface Water
SWP 1000000

0 0.5 1 2 3 4 Miles

CWPRA Historical Topography
USGS 1954 1:31,680 Topographic Maps

Project Features



Legend

- Total Creeks
- Marsh Creation

Basemap: 2015 NAIP DOQQ - Vermilion Parish
Produced by: EPA Region 6, Dallas, TX

0 0.1 0.2 0.4 0.6 0.8 Miles



East Pecan Island Marsh Creation

Project Goals

Increase emergent marsh in shallow open water by:

- Creating 521 ac MC using approximately 3.5M cubic yards borrowed from offshore borrow
- Retain historical ponds and add creeks for functionality (14 ac)
- Cost + 25% contingency = \$43 million
- Fully funded cost is \$54M



Questions?

EPA Region 6

Coastal Wetlands Planning, Protection
and Restoration Act



R4-ME-06

North Big Marsh Restoration

PPL27 PROJECT NOMINEE FACT SHEET
January 31, 2017

Project Name

North Big Marsh Restoration

Project Location

Region 4, Mermentau Basin, Vermilion Parish

Problem

The 450-acre North Big Marsh project area lost 55% of its marsh (250 acres) from 1998 to 2013 (~3.6%/year), with greatest losses in October 2005 (Hurricane Rita) and September 2009 (Hurricane Ike). The Big Marsh unit lost 11% marsh (-3,810 acres) from 1932 to 1990 with the greatest loss during the 1956-1979 period from the dredging of Freshwater Bayou Canal, which caused wake erosion, altered hydrology, and increased losses due to storm activity. The Coast 2050 report's predicted 10% loss accelerated greatly due to Hurricanes Rita (2005) and Ike (2008). A large 4,700-acre shallow open water area developed in the center of Big Marsh mostly due to those hurricanes. The 36,000-acre Big Marsh unit consisted of fresh (57%), intermediate (25%), and brackish (3%) marshes, and open water (10%) in 1998 (Coast 2050 Report). The Big Marsh Unit 1985 to 2008 land loss rate was -0.19%/year (revised - USGS).

Goals

The project goal is to restore and nourish 450 acres of fresh and intermediate marsh in the northern portion of Big Marsh and introduce freshwater from White Lake.

Proposed Solution

Restore 360 acres and nourish 90 acres to benefit 450 acres of fresh to intermediate marsh in Big Marsh west of Freshwater Bayou Canal with dredged material from Little Vermilion Bay. Introduce freshwater eastward (~100 cfs) via 3, 48-inch-diameter culverts at Hwy 82 from White Lake. Marsh creation area water depths range from 1.5 to 2.0 feet. Retention dikes will be gapped or degraded and tidal creeks constructed post-construction 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?*
This total project area benefitted is 5,691 acres (450 acres marsh creation; 5,691-acre freshwater introduction area).
- 2) *How many acres of wetlands will be protected/created over the project life?*
Approximately 350 to 400 net acres of fresh and intermediate marsh habitat will be protected/created over the project life (388 total; 355 acres marsh creation, 33 acres freshwater introduction). The project would restore intermediate marsh habitat for the Black Rail (candidate species), the glossy ibis (at-risk species), and mottled duck other waterfowl, king rail, wood stork, little blue heron, lesser snow goose, greater white-fronted goose, and Canada goose FWS Joint Venture species of concern.

- 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 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?*
The project may provide slight protection to the Pecan Island Chenier 6 miles to the southwest.
- 5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project would have moderate net positive impact to critical infrastructure consisting of LA Hwy 82, a hurricane evacuation route, located 5 miles to the west due to slightly reducing the rate and frequency of flooding from southeast winds.
- 6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
This project would not provide much of a synergistic effect. The closest CWPPRA restoration projects are located 2 miles eastward along the banks of Freshwater Bayou Canal.

Considerations

There may be pipeline considerations within the marsh creation and/or Little Vermilion Bay borrow area.

Preliminary Construction Costs

The fully funded cost range is \$40M-\$45M.

Preparer(s) of Fact Sheet:

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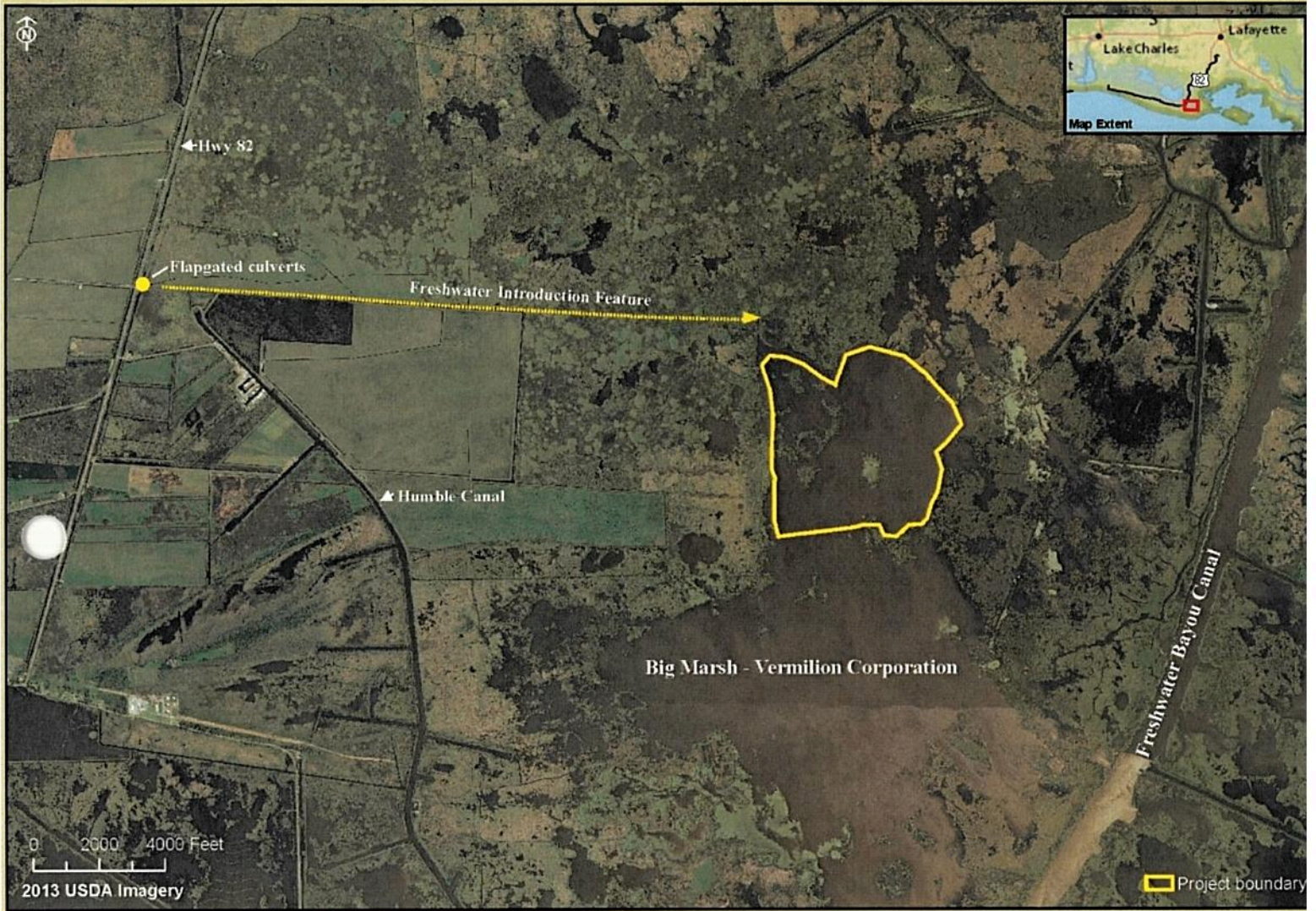
Billy Broussard, Vermilion Corporation, 337-893-0268, vermilioncorporation@connections-lct.com

North Big Marsh Restoration Project PPL 27 Nominee



Vermilion Corporation & U.S. Fish & Wildlife Service - Louisiana Ecological Services

North Big Marsh Restoration



North Big Marsh Restoration Project PPL 27 Nominee

Problem

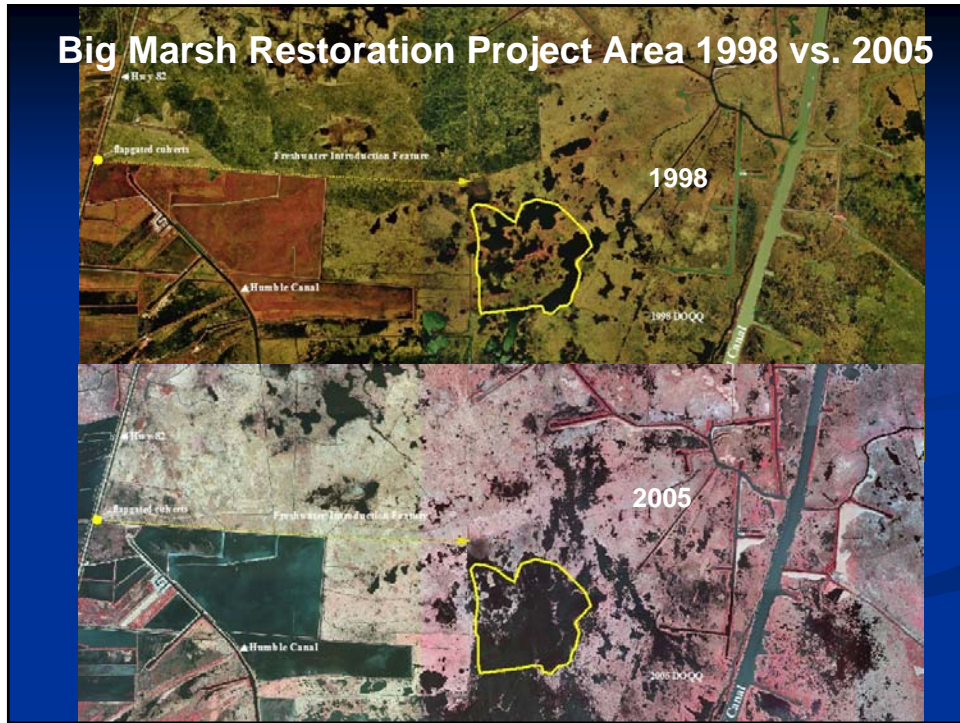
- Big Marsh unit lost 11% marsh (-3,810 acres) (1932 to 1990).
- Coast 2050 Study predicted another 10% loss by 2050 (3,000 acres).
- A large 4,700-acre shallow open water area caused mostly due to Hurricanes Rita (2005) & Ike (2008). Loss has accelerated due to hurricanes.
- Current 1985 to 2008 land loss rate is -0.19%/year
- 450-acre No. Big Marsh area lost 55% of its marsh (250 acres) from 1998 to 2013.

Goals

- 1) Restore & nourish 450 acres of fresh & intermediate marsh in North Big Marsh
- 2) Introduce freshwater from White Lake.

Sponsors – Vermilion Corp., FWS





- **Features** – 1) Restore & nourish over 450 acres of fresh to intermediate marsh in Big Marsh west of Freshwater Bayou Canal with dredged material from Little Vermilion Bay or the Gulf of Mexico.
- 2) Introduce freshwater (~100 cfs) via 3, 48-inch-diameter culverts at Hwy 82 from White Lake.
- **Preliminary Project Benefits** – 1) Total net marsh acreage benefited over the 20-year project life would be 388 acres at the loss rate of 0.19 %/year.
- 2) The project would restore the northern portion of Big Marsh & provide protection to adjacent marshes.
- **Cost** - Estimated construction cost is \$40 to \$45 M.
Estimated cost effectiveness = \$116,000/acre.

R4-ME-07

South Pecan Island Marsh Creation

Draft PPL27 PROJECT NOMINEE FACT SHEET
January 31, 2017

South Pecan Island Marsh Creation Project

State Master Plan Consistency

This project is located within and consistent with the 2012 and 2017 State Master Plans "East Pecan Island Marsh Creation" project (No. 004.MC.16) - marsh creation southeast of Pecan Island and west of Freshwater Bayou Canal.

Project Location

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

Problem

Area wetland loss has been caused by impoundments, saltwater intrusion and storm events (Coast 2050). Twenty-five percent (25%) of the 46,370 acres of marshes south of Pecan Island, from Freshwater Bayou Canal to Rollover Bayou, have converted to open water from 1932 to 1990 (11,520 acres) (Coast 2050). Another 20% (6,980 acres) of the 34,850-acre marsh present in 1990 is predicted to be lost by 2050. The 1985 to 2008 mapping unit loss rate was 0.43%/year. The 49,257-acre area includes 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) (Coast 2050).

Goals

Restore and nourish approximately 639 acres of intermediate to brackish marshes South of Pecan Island.

Proposed Project Features

Restore about 544 acres and nourish 95 acres of intermediate to brackish marsh for a total of over 639 acres south of Pecan Island with dredged material from the Gulf of Mexico. Area water depths range from 1.0 to 1.5 feet. Retention dikes will be gapped or degraded and tidal creeks constructed post-construction to restore area hydrology, allow fisheries access, and improve wetland productivity.

Preliminary Project Benefits

1) The total net marsh acreage benefited directly over the 20-year project life would be approximately 523 acres at an erosion rate of 0.43 %/year. 2) The project would restore and protect marshes south of Pecan Island and provide some protection to the community of Pecan Island to the north. 3) The project would restore intermediate marsh habitat for the black rail and the Louisiana eyed silk moth candidate species, glossy ibis at-risk species, and mottled duck other waterfowl, king rail, wood stork, little blue heron, seaside sparrow, lesser snow goose, greater white-fronted goose, and Canada goose Joint Venture species of concern.

Identification of Potential Issues

No significant issues have been identified.

Preliminary Construction Costs

The estimated construction cost is \$40 M to \$45 M.

Preparers of Fact Sheet

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Darryl Clark, U.S. Fish and Wildlife Service, 337-291-3111 Darryl_Clark@fws.gov



U.S. Fish & Wildlife Service and Vermilion Corp.

Louisiana Ecological Services

South Pecan Island Marsh Creation

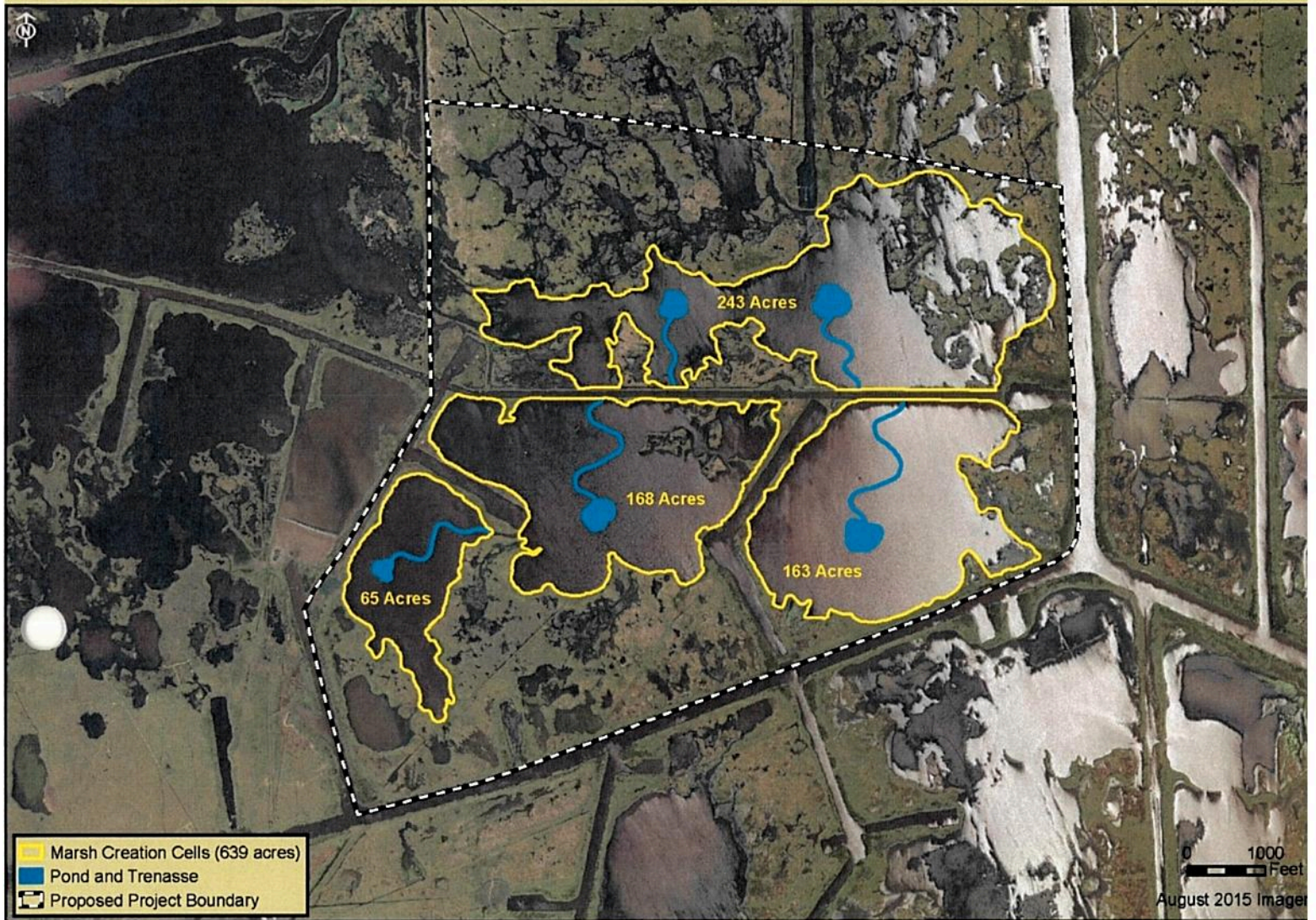




U.S. Fish & Wildlife Service and Vermilion Corp.

Louisiana Ecological Services

South Pecan Island Marsh Creation



South Pecan Island Marsh Creation Project PPL 27 Nominee

Problem

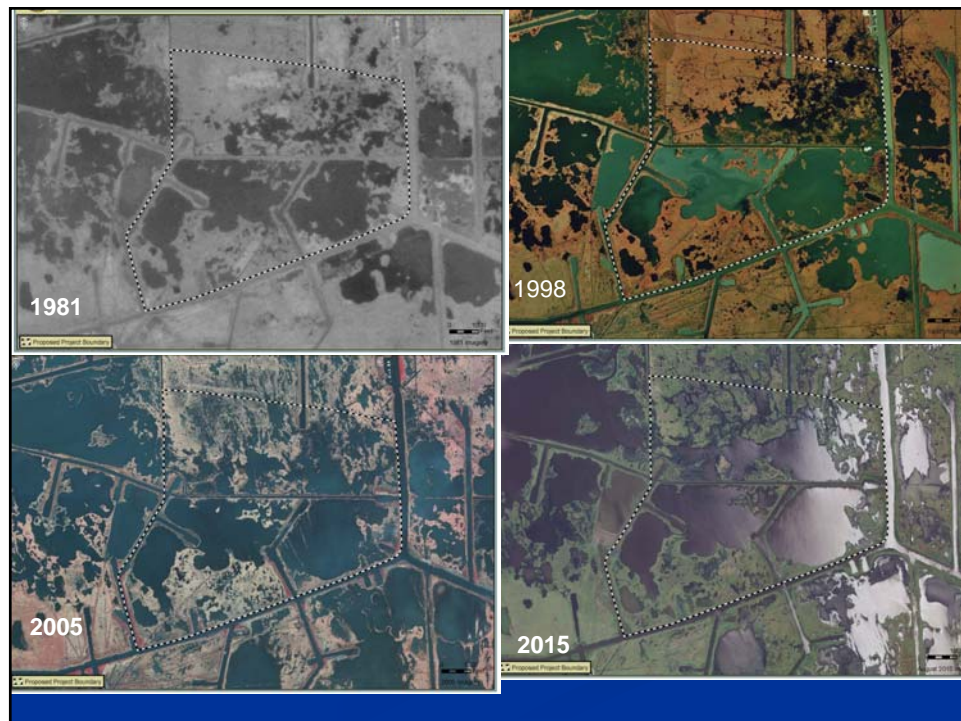
- 25% of the 46,000 acres south of Pecan Island were lost (1932 to 1990).
- Another 20% of loss is predicted by 2050
- Current 1985 to 2008 land loss rate is -0.43%/year

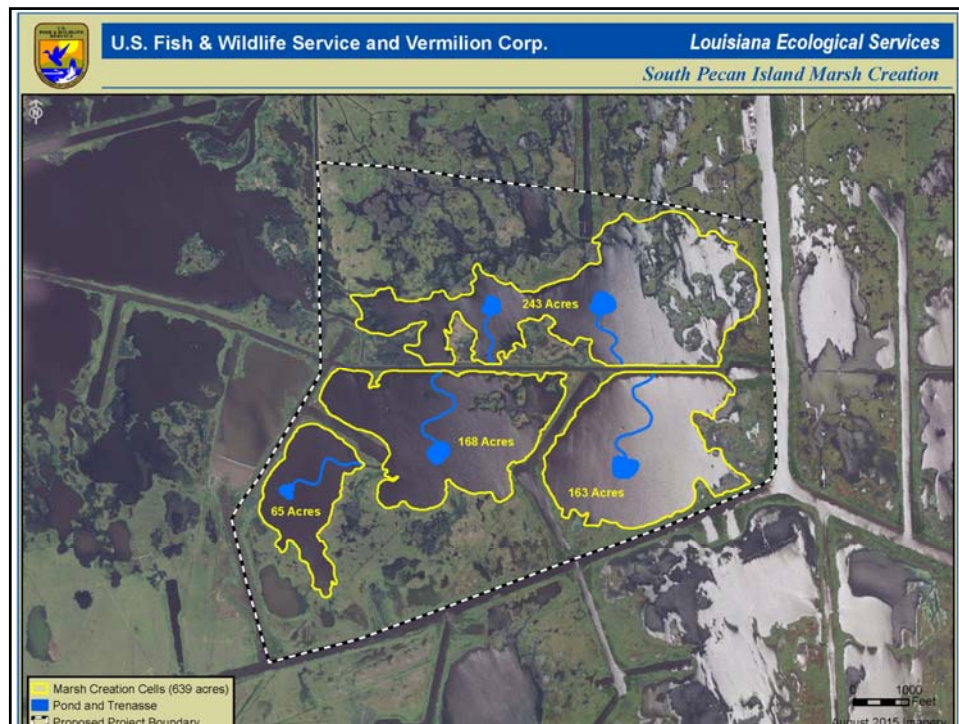
Goal

- 1) Restore & nourish 620 acres of brackish & intermediate marsh So. of Pecan Island

Sponsors – Vermilion Corp., FWS







- **Features** – Restore & nourish over 600 acres of brackish to intermediate marsh south of Pecan Island with dredged material from the Gulf of Mexico.
- **Preliminary Project Benefits** – Total net marsh benefited over 20-year project life = 523 acres at a loss rate of 0.43 %/year.
- 2) The project would restore an area south of Pecan Island to help protect the island & adjacent marshes.
- **Cost** - Estimated construction cost is \$40 to \$45 M.
Estimated cost effectiveness = \$86,000/acre.