

REGION 4

Coastal Wetlands Planning Protection & Restoration Act

28th Priority Project List



Region 4 Regional Planning Team Meeting

January 30, 2018
Grand Chenier, LA

CWPPRA

1. Welcome and Introductions



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

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Announcements

- Copies of the PPL 28 Selection Process & Schedule available at the sign-in table.
- PPL 28 RPT meetings to accept project nominees:
 - **Region IV, Rockefeller Wildlife Refuge, Jan. 30, 2018, 1:00 pm**
 - Region III, Port of Morgan City - Office, Jan. 31, 2018, 9:30 am
 - Region II, USFWS SE LA Refuges Complex (Big Branch), Feb. 1, 2018, 10:00 am
 - Region I, USFWS SE LA Refuges Complex, Feb. 1, 2018, 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 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 (February 27th).
 - *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 28 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 **February 20, 2018**.
- Limit comments/questions during meeting to PPL 28 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 **February 27, 2018**.
- The Technical Committee may or may not select a coastwide project in April 2018.



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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 **February 27th** Coastwide Electronic Vote.
- The Technical Committee selects up to 3 demos in April 2018.
- Workgroups may recommend that no demos move forward to candidate stage
- Previous demo candidates must be **re-nominated** for PPL 28.



Coastwide Electronic Vote (February 27th) 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 **February 20, 2018**.



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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 February 27, 2018.



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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 28 criteria.



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PPL 28 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 28 Candidate Project Evaluation & Selection

- **Coastwide Electronic Vote, Feb. 27, 2018**
 - **21 basin-project nominees, 1 coastwide nominee, and 6 demos selected**
- **Technical Committee Mtg, Apr. 12, 2018, Baton Rouge**
 - **Selection of 10 candidates and up to 3 demos**
- **Technical Committee Mtg, Dec. 6, 2018, Baton Rouge**
 - **Typically recommend up to 4 projects for Phase 1 funding**
- **Task Force Mtg, Jan. 2019, 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: February 20, 2018**

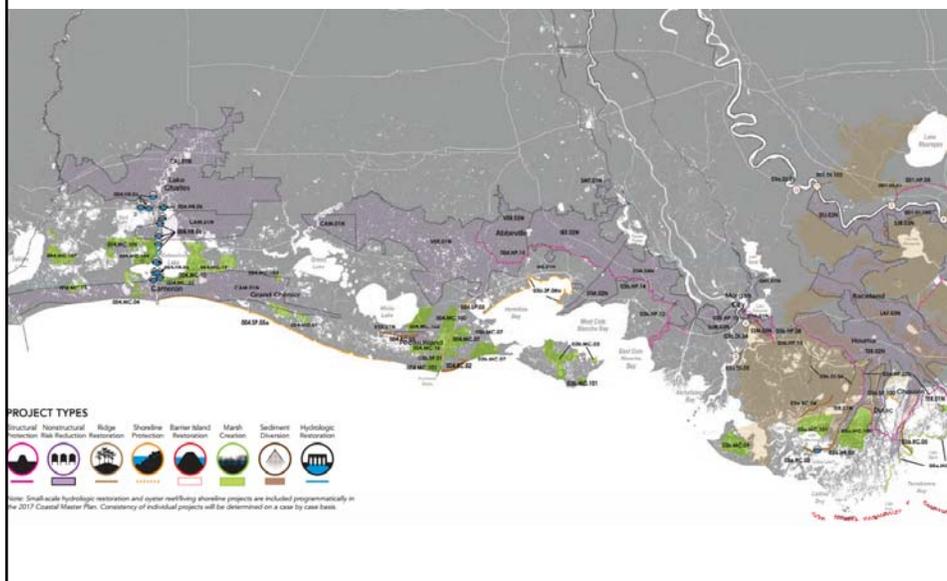
Brad Inman
CWPPRA Program Manager
U.S. Army Corps of Engineers
7400 Leake Avenue
New Orleans, Louisiana 70118

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

(this information is on the back of the agenda)



2017 State Master Plan Southwest Coast Projects



Southwest Coast Projects				
Project Type	Project No.	Project Description	Funding Period	Project Costs
Hydrologic Restoration	04AHR-06	Calcasieu Ship Channel Safety Control Measures: Construction of all and well structures in West Pass, East Pass, Lake West, Long Point Lake, New Lake Cut, Dugas Cut 1, Dugas Cut 2, Tenaxo Cut, Turner's Bay, Salt Ditch, Orange Canal, and Orange Bayou to prevent saltwater intrusion into the Calcasieu Ship Channel.	Years 1-10	\$262,300,000
	03B-MC-07	East Bayou Marsh Creation: Creation of approximately 4,300 acres of marsh in the eastern portion of Bayou Marsh to create new wetland habitat and restore degraded marsh.	Years 1-10	\$101,500,000
Marsh Creation	04AMC-100	Freshwater Bayou South Marsh Creation: Creation of approximately 4,900 acres of marsh in Vermilion Parish west of Freshwater Bayou to create new wetland habitat and restore degraded marsh.	Years 1-10	\$226,100,000
	04AMC-101	Freshwater Bayou South Marsh Creation: Creation of approximately 4,800 acres of marsh in Vermilion Parish west of Freshwater Bayou to create new wetland habitat and restore degraded marsh.	Years 1-10	\$87,300,000
Sediment Diversion	03a-DI-05	Achafalaya River Diversion: Sediment diversion off the Achafalaya River to benefit the Pontchartrain Basin and southeast Terrebonne marshes with 30,000 cfs capacity installed at 30% of the Achafalaya River flow upstream of the confluence with Bayou Lafourche.	Years 1-10	\$282,900,000
	03b-DI-04	Removal of Sediment from the Gulf Intracoastal Waterway (GIWW) and construction of a bypass structure at the Bayou River Lock from the Achafalaya River to Terrebonne marshes with 20,000 cfs capacity.	Years 1-10	\$197,000,000
Shoreline Protection	03B-SP-01	Freshwater Bayou Shoreline Protection (Belle Isle Canal to Lumbé): Shoreline protection through rock breakwaters designed to an elevation of 3.5 feet NAVD83 along approximately 36,000 feet of the east bank of Freshwater Bayou Canal from Belle Isle Canal to Freshwater Bayou Lock to preserve shoreline integrity and reduce wetland degradation from wave erosion.	Years 1-10	\$71,800,000
	03B-SP-06a	Vermilion Bay and West Cote Blanche Bay Shoreline Protection (Critical Areas): Shoreline protection through rock breakwaters of critical areas on the east shoreline of Vermilion Bay to preserve shoreline integrity and reduce wetland degradation from wave erosion.	Years 1-10	\$155,400,000
	04AS-03	Freshwater Bayou Canal Shoreline Protection: Shoreline protection through rock breakwaters designed to an elevation of 3.5 feet NAVD83 along approximately 7,500 feet of the south bank of Freshwater Bayou Canal at Little Vermilion Bay to preserve shoreline integrity and reduce wetland degradation from wave erosion.	Years 1-10	\$14,900,000
	04AS-05a	Gulf Shoreline Protection (Calcasieu River to Houma): Shoreline protection through rock breakwaters of critical areas designed to an elevation of 3.5 feet NAVD83 along the Gulf shoreline between Calcasieu River and Freshwater Bayou to preserve shoreline integrity and reduce wetland degradation from wave erosion.	Years 1-10	\$495,400,000
	04AS-05b	Gulf Shoreline Protection (Calcasieu River to Houma): Shoreline protection through rock breakwaters of critical areas designed to an elevation of 3.5 feet NAVD83 along the Gulf shoreline between Calcasieu River and Freshwater Bayou to preserve shoreline integrity and reduce wetland degradation from wave erosion.	Years 1-10	\$495,400,000
Nonstructural Risk Reduction	CAL-DIN	Calcasieu Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1.3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	\$48,800,000
	CAM-DIN	Cameron Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1.3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	\$127,000,000

Project Type	Project No.	Project Description	Funding Period	Project Costs
Nonstructural Risk Reduction (continued)	BE-DIN	Berle - Lower Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1.3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	\$1,000,000
	BE-DIN	Berle - Archuleta Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1.3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	\$289,400,000
	SMT-DIN	St. Martin Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1.3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	\$13,200,000
	STM-DIN	St. Mary - Franklin/Charbonnon Structural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1.3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	\$80,400,000
	STM-DIN	St. Mary - Lower Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1.3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	\$7,200,000
	VER-DIN	Vermilion Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1.3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	\$109,900,000
	VER-DIN	Vermilion - Abbeville/Cameron Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1.3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	\$193,600,000
	03B-HP-13	Bayou d'Enfer: Construction of a structure across Bayou d'Enfer near Amite.	Years 1-30	\$80,000,000
	03B-HP-08	Amite Levee Improvements: Construction of a levee to an elevation of 16 feet NAVD83 along the GIWW between Lake Fournelle and the Bayou River Lock near Amite. Project features approximately 4,400 feet of earth levee, approximately 12,600 feet of T-wall, 40,800-foot roller gates, 111,250-foot barge gates, 111,150-foot surge gates, 111,8-foot surge gates, 25,400-foot wing gates, 25,400-foot roller gates, and (1) pump station with a total capacity of 16,100 cfs.	Years 1-30	\$1,051,700,000
	03B-HP-14	Bayou d'Enfer: Construction of a structure across Bayou d'Enfer near Amite.	Years 1-30	\$1,482,100,000
Marsh Creation	03B-MC-03	Marsh Island Marsh Creation: Creation of approximately 13,500 acres of marsh on Marsh Island to create new wetland habitat and restore degraded marsh.	Years 11-30	\$303,300,000

Southwest Coast Projects - continued				
Project Type	Project No.	Project Description	Funding Period	Project Costs
Marsh Creation (continued)	03B-MC-101	Southeast Marsh Island Marsh Creation: Creation of approximately 1,200 acres of marsh on the western tip of Marsh Island to create new wetland habitat and restore degraded marsh.	Years 11-30	\$36,000,000
	04AMC-01	South Grand Chenier Marsh Creation: Creation of approximately 4,800 acres of marsh south of Highway 1485 near Grand Chenier to create new wetland habitat and restore degraded marsh.	Years 11-30	\$349,800,000
	04AMC-04	Mud Lake Marsh Creation: Creation of approximately 3,500 acres of marsh at Mud Lake south of West Cove, Calcasieu Lake to create new wetland habitat and restore degraded marsh.	Years 11-30	\$197,300,000
	04AMC-07	West Bayou Marsh Creation: Creation of approximately 17,000 acres of marsh at Bayou Marsh near the southeast bank of the Freshwater Bayou Canal to create new wetland habitat and restore degraded marsh.	Years 11-30	\$271,200,000
	04AMC-10	Southeast Calcasieu Lake Marsh Creation: Creation of approximately 9,000 acres of marsh south of Calcasieu Lake to create new wetland habitat and restore degraded marsh.	Years 11-30	\$373,900,000
	04AMC-13	Cameron Meadows Marsh Creation: Creation of approximately 3,700 acres of marsh at Cameron Meadows north of Johnsons Bayou to create new wetland habitat and restore degraded marsh.	Years 11-30	\$103,000,000
	04AMC-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.	Years 11-30	\$472,400,000
	04AMC-23	Calcasieu Ship Channel Marsh Creation: Creation of approximately 3,100 acres of marsh south of Calcasieu Lake near Cameron to create new wetland habitat and restore degraded marsh.	Years 11-30	\$116,900,000
	04AMC-102	White Lake Marsh Creation: Creation of approximately 10,400 acres of marsh in Vermilion Parish east of White Lake to create new wetland habitat and restore degraded marsh.	Years 11-30	\$434,200,000
	04AMC-107	West Sabine Ridge Marsh Creation: Creation of approximately 10,000 acres of marsh east of Sabine Lake to create new wetland habitat and restore degraded marsh.	Years 11-30	\$403,300,000
Nonstructural Risk Reduction	STM-DIN	St. Mary - Morgan City Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1.3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 31-50	\$4,200,000
	STM-DIN	St. Mary - Glendon Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1.3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 31-50	\$15,800,000
	STM-DIN	St. Mary - Fatsenon Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1.3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 31-50	\$3,000,000
Structural Protection	03B-HP-10	Morgan City Back Levee: Construction of a levee to an elevation between 10 and 15 feet NAVD83 to protect the northern side of Morgan City. Project features approximately 10,000 feet of earth levee, approximately 4,400 feet of T-wall, (1) 40-foot wing gate, (1) 20-foot barge gate, and (1) pump station with a total capacity of 1,604 cfs.	Years 31-50	\$163,500,000

Project Type	Project No.	Project Description	Funding Period	Project Costs
Structural Protection (continued)	03B-HP-12	Franklin and Vicinity: Improvements of existing levees to an elevation between 12.5 and 18 feet NAVD83 from the Blue Lake Outlet to the Charbonnon Canal as well as the Bayou Safe police. Project features approximately 254,600 feet of earth levee, approximately 8,200 feet of T-wall, (2) 18-foot surge gates, and (1) 40-foot roller gate.	Years 31-50	\$380,600,000
	04AHR-15	Abbeville and Vicinity: Construction of a levee to an elevation of 23.5 feet NAVD83 in the area south of Delambre, Earth, and Abbeville roughly following Highway 330. Project features approximately 152,300 feet of earth levee, approximately 2,800 feet of T-wall, (2) 56-foot surge gates, (3) 30-foot stop logs, (1) 20-foot stop log, and (1) 10-foot surge gate.	Years 31-50	\$755,300,000
Marsh Creation	03B-MC-09	Four Au Fer Island Marsh Creation: Creation of approximately 13,000 acres of marsh on Four Au Fer Island to create new wetland habitat and restore degraded marsh.	Years 31-50	\$728,100,000
	04AMC-19	East Calcasieu Lake Marsh Creation: Creation of approximately 14,800 acres of marsh in the eastern Cameron. Creation of approximately 14,800 acres of marsh in the eastern Cameron. Creation of approximately 14,800 acres of marsh in the eastern Cameron. Creation of approximately 14,800 acres of marsh in the eastern Cameron.	Years 31-50	\$1,049,600,000
	04AMC-103	Little Chenier Marsh Creation: Creation of approximately 100 acres of marsh in Cameron Parish south of Little Chenier to create new wetland habitat and restore degraded marsh.	Years 31-50	\$59,200,000
	04AMC-104	Calcasieu Lake West Bank Marsh Creation: Creation of approximately 8,800 acres of marsh in Cameron Parish west of Calcasieu Lake to create new wetland habitat and restore degraded marsh.	Years 31-50	\$336,500,000
	04AMC-106	West Bayou Marsh Creation: Creation of approximately 8,800 acres of marsh in Cameron Parish south of Black Lake to create new wetland habitat and restore degraded marsh.	Years 31-50	\$590,300,000
Ridge Restoration	04AMC-101	West Sabine Ridge Marsh Creation: Creation of approximately 1,300 acres of marsh east of Sabine Lake to create new wetland habitat and restore degraded marsh.	Years 31-50	\$280,500,000
	04ARC-02	Cheniere au Tigre Ridge Restoration: Restoration of approximately 77,800 feet of BB and Cheniere au Tigre Ridge to an elevation of 3 feet NAVD83 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.	Years 31-50	\$8,500,000
	04ARC-03	Pecan Island Ridge Restoration: Restoration of approximately 4,300 feet of Pecan Island Ridge to an elevation of 1.5 feet NAVD83 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.	Years 31-50	\$4,800,000



ATTENDANCE RECORD



DATE	SPONSORING ORGANIZATION	LOCATION
January 30, 2018 1:00 P.M.	COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT	Rockefeller Wildlife Refuge 5476 Grand Chenier Hwy Grand Chenier, LA
PURPOSE		
MEETING OF THE REGIONAL PLANNING TEAM REGION IV		
PARTICIPANT REGISTER		
NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER
Ronny Pailb	USFWS	337-291-3117
Kevin Roy	USFWS	337-291-3120
BARRY HERBERT	LDWF	285 765 0233
Tyler O'Hara	ORA Technologies	225-372-5570
Dawn Davis	NOAA Fisheries	225 389 0506
Brandon Howard	NOAA Fisheries ->	225-389-0508
Sharon Osowski	USEPA	214-665-7506
Jennifer Smith	NOAA / ERT	225-571-9030
Angela Trahan	USFWS	337-291-3137
Daniel Meden	USACE	504-862-1014
Chad J. Cornille	Miami Corporation	337-264-1695
Rene Escuriox	Fenstermaker	337-654-9584
Amy L. Clark	USFWS	337-291-3111
Harold Proulx	Rutherford Beach AFS	337-396-3145
Jim Thom	See 29 Levees POC	337 983 5006
Nick Gaspard	Fenstermaker	337-519-0994
Jason Kroll	NOAA	225 757 5411
JOHN PETITBON	USACE	504-862-2732
Lynnie Jonker	Jesco (minute-taker)	337-802-7508
Billy Broussard	GM, Vepm. Corp	
Robert Busbe	Vermilion Corp	
JOHN FORET	FENSTERMAKER	337.237.2200



ATTENDANCE RECORD



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PURPOSE		
MEETING OF THE REGIONAL PLANNING TEAM REGION IV		
PARTICIPANT REGISTER		
NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER
Erick Swenson	Research associat, LSU	578-2730
Patrick Williams	Biologist, NOAA	225-389-0508
Mirker Zapetel	CLWPPRA	337-266-8627
Sinead Borchert	CLWPPRA	" -8626
Scotter Tracclair	LDWF Rockefeller	337-491-2000
Ron Boustang	NRCS	337 291-3067
Troy Dubois	Vermilion Corp	337 224 9718
Clint Renard	Patriot Construction	337 654-0447
Ross Laundry		337 322-0711
RALPH LIBERSAT	VERMILION Parish	337-652-4557
DEBRA	FR	337-637-6458
RYAN BOURQUOIS	CAMERON PARISH	337-775-5718
Randy Moertle	RCA	985-856-3630
Cody Colin	Engineer /Industrial Fabrics	225-328-0545
Whitney Broussard	JESCO Environmental	337-501-6560
Charles Sasser	LSU	225-578-6375
Donna Rogers	NOAA	225-316-8058
Greg Mattson	CPR A	225-342-4496
David Crawford	USEPA	(214) 665-7255
Kent Bollfrass	EPA	225 342 4733
Wes LeBlanc	CPR A	
Greg Mattson	CPR A	

REGION 4 – CALCASIEU-SABINE BASIN

Project Number	Project Proposals
R4-CS-01	East Prong Marsh Creation and Terracing
R4-CS-02	Mud Lake Peninsula Marsh Creation
R4-CS-03	Mud Lake South Marsh Creation
R4-CS-04	Long Point Bayou Marsh Creation
R4-CS-05	East Holly Beach Gulf Shoreline Protection <i>Inconsistent with the 2017 State Master Plan</i>
R4-CS-06	South Black Bayou Marsh Creation
R4-CS-07	Sabine Refuge Unit 6 Marsh Creation
R4-CS-08	North Mud Lake Marsh Creation
R4-CS-09	Cameron Meadows East Marsh Creation and Terracing

R4-CS-01

East Prong Marsh Creation and Terracing

~~CS-01~~
CS-01

PPL28 PROJECT NOMINEE FACT SHEET

January 30, 2018

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, Louisiana-eyed silkmoth, and the salt-marsh topminnow.

Proposed Solution: An estimated 2.6 million cubic yards (cyds) of dedicated dredge material is needed to restore 435 acres of brackish marsh. Terraces (25,000 linear feet) 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 are estimated to be between \$20-25 million. The CS-54 project was recently awarded for \$8.2 million.

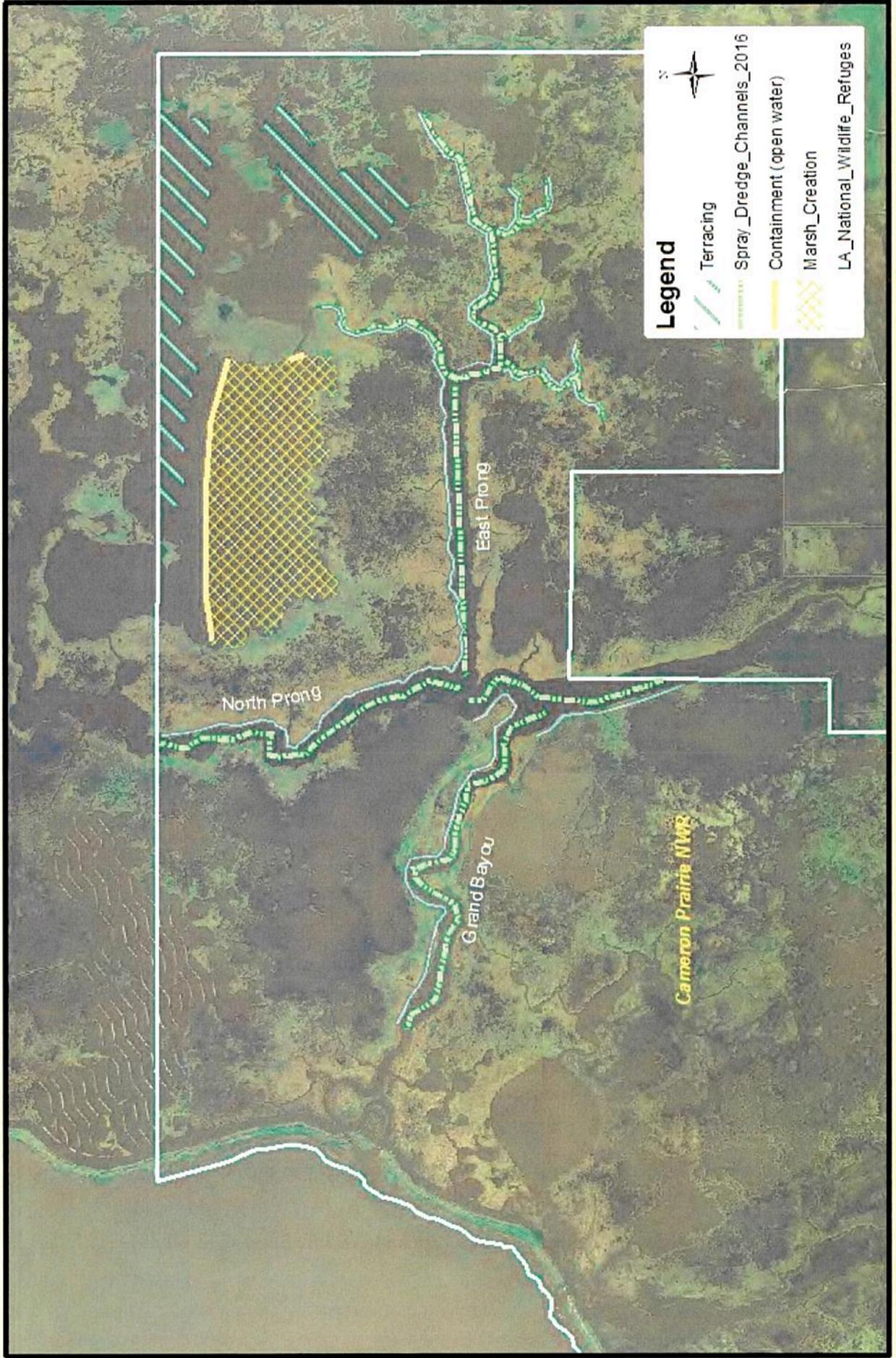
Preparer of Fact Sheet: Angela Trahan, Fish and Wildlife Service, (337) 291-3137, Angela_Trahan@fws.gov



Fish and Wildlife Service

Louisiana Ecological Services Office

East Prong Marsh Creation Project



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Currently Under Construction

Project Name: CCW- Grand Bayou Marsh Creation

Location: Cameron Prairie NWR & Private Lands along eastern shore of Calcasieu Lake

Status: NTP issued 9/13/2017,
Dike Const. northern cell complete
Hydraulic dredging to begin the week of Jan. 29th
Scheduled completion 12/2018

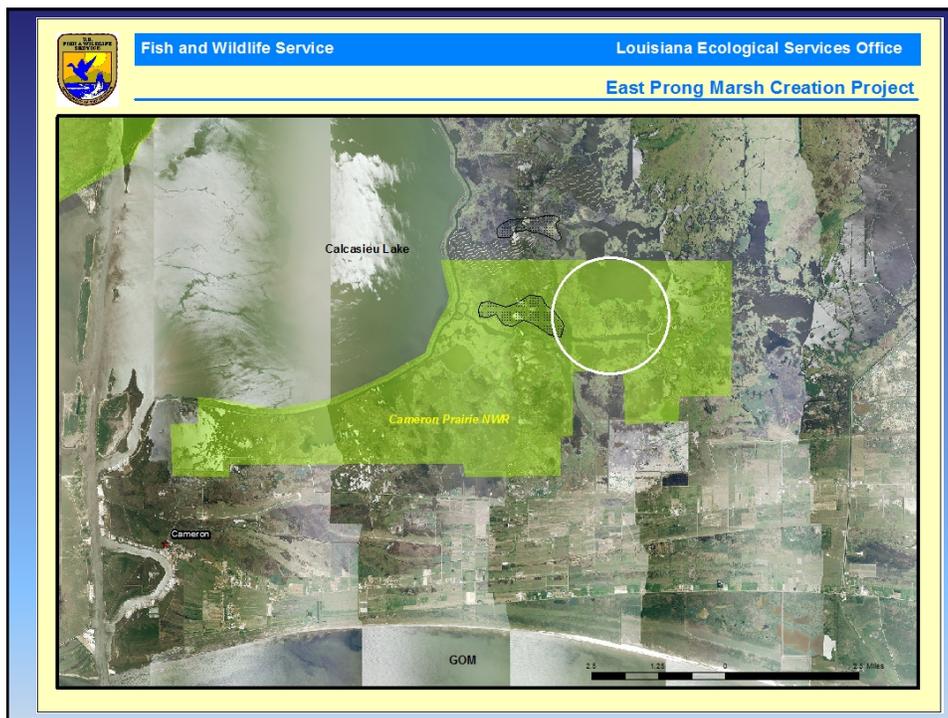
Expected Construction Cost: \$8.2 M (NOA)



**East Prong
Marsh Creation & Terracing**



PPL 28
Region 4, Calcasieu - Sabine Basin

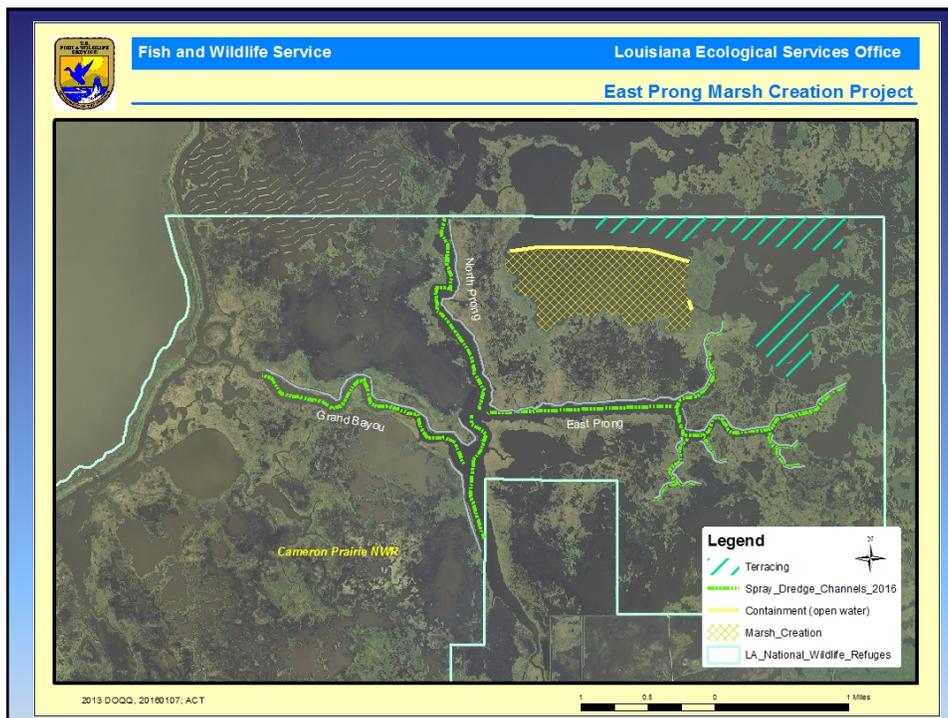


East Prong Marsh Creation & Terracing

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



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



Species of Conservation Concern



© A. Trahan/FWS

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



Halmeteria louisiana Terquam & Brze



© Brent Ortega/seaside sp



© Frank Schreier/CLD



R4-CS-02

Mud Lake Peninsula Marsh Creation

CS-02

PPL28 PROJECT NOMINEE FACT SHEET
January 30, 2018

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 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 turbidity within the large, open water areas.

Goals

The project goal is to create and/or nourish approximately 412 acres (307 acres created and 105 acres nourished) of emergent brackish marsh using sediment from a Mud Lake borrow area.

Proposed Solution

The proposed project would create and/or nourish approximately 412 acres (307 acres created and 105 acres nourished) in a marsh area on the northern edge of Mud Lake. Sediment would be hydraulically dredged from a 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 315 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 maintains a 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

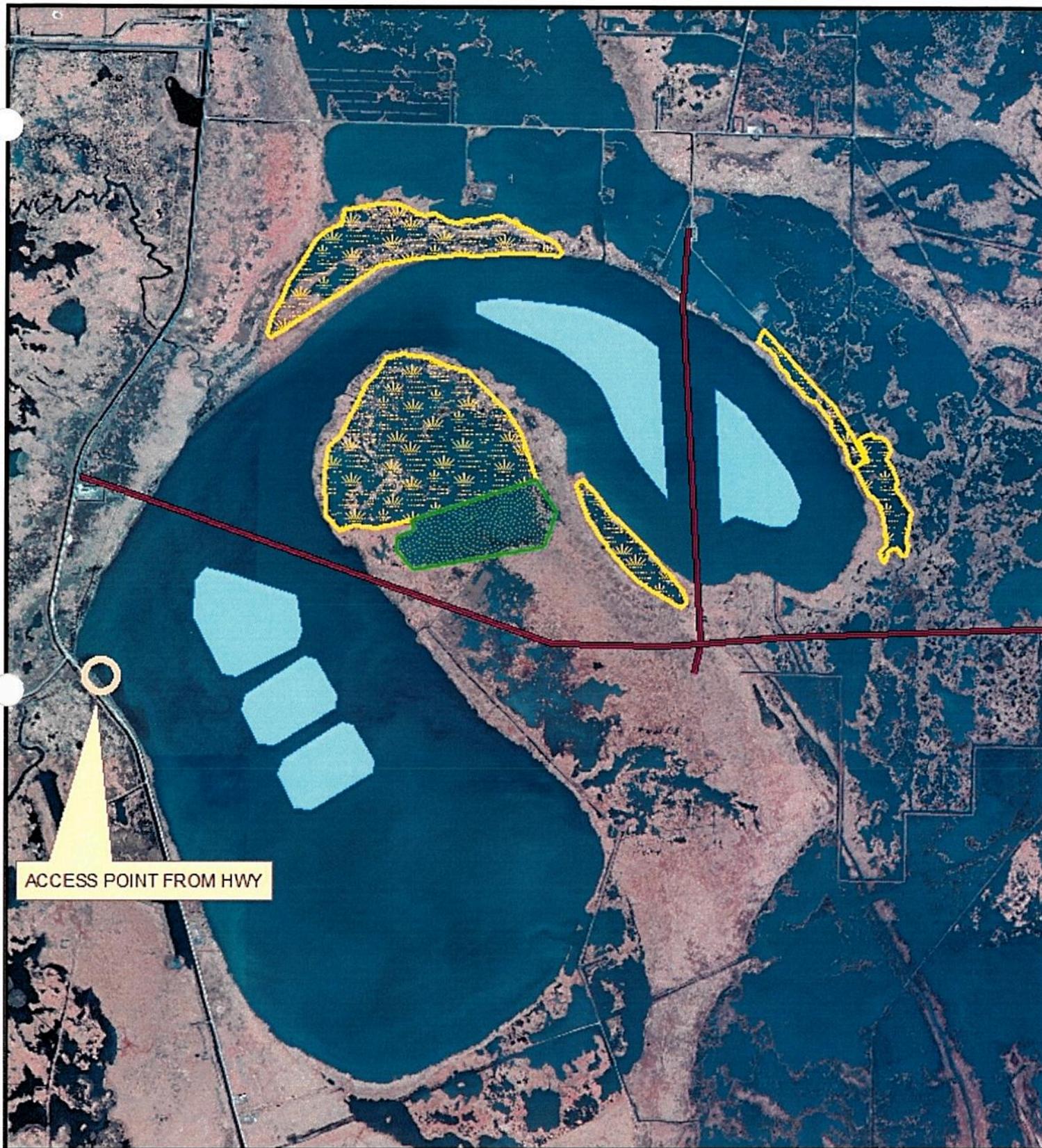
The estimated construction cost plus 25% contingency is \$15M - \$20M.

Preparer(s) of Fact Sheet:

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Jason Kroll; NOAA Fisheries Service, 225-757-5411, Jason.Kroll@noaa.gov



ACCESS POINT FROM HWY



PPL28 Mud Lake Peninsula Marsh Creation Project

0 0.3 0.6
Miles



Legend

- Mud_Lake_Marsh_Creation
- Mud_Lake_Borrow_Areas
- Secondary_Sediment_Retention
- Mud_Lake_Approx_Pipelines

Approximately 412 Acres total:
307 Acres of Marsh Creation
105 Acres of Marsh Nourishment

Federal Sponsor: NOAA Fisheries
2008 aerial imagery
Map Date 01-24-2018

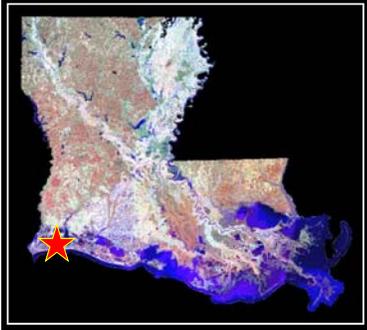


NOAA
FISHERIES

Mud Lake Peninsula Marsh Creation Project

REGION 4 Calcasieu-Sabine Basin

Presenter: Jason Kroll, Civil Engineer, NOAA



PPL28 CWPPRA Regional Planning Team Meeting
Grand Chenier, Louisiana
January 30, 2018

Mud Lake Peninsula Marsh Creation Project

Project Vicinity



 **NOAA FISHERIES**

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

Project Area Problems

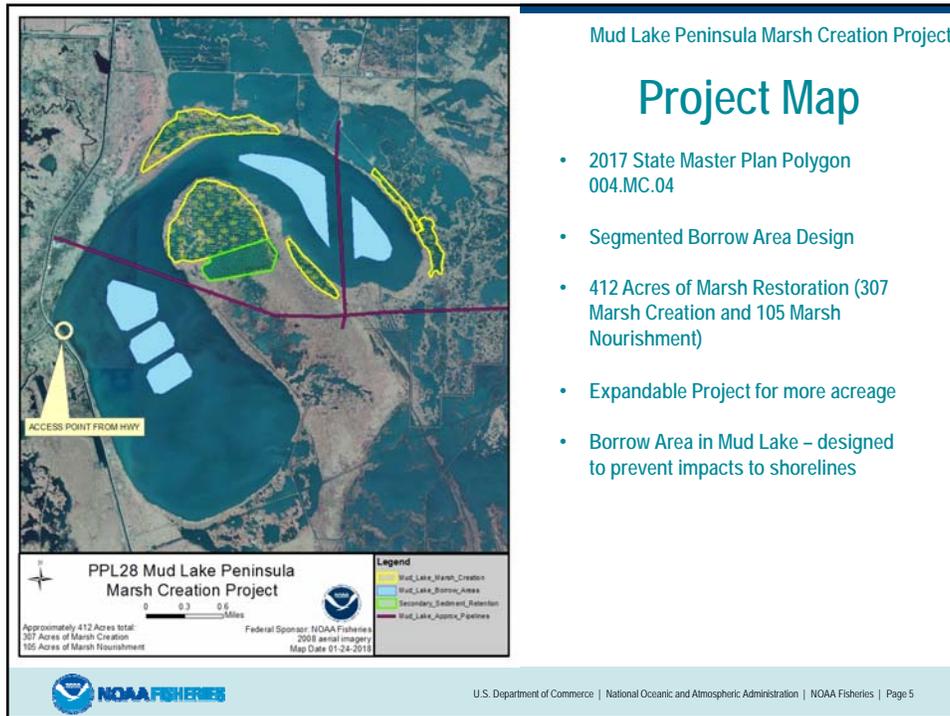
- Wetland degradation
 - The marshes West of the Calcasieu Ship Channel have been hydrologically impacted.
 - Highways as well as oil and gas access roads
 - Spoil banks from canals for petroleum exploration
 - Construction of levees for hydrologic management
 - Hurricane impacts
 - Such activities have led to major loss of wetlands.



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.





Mud Lake Peninsula Marsh Creation Project

Summary

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



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U.S. Department of Commerce | National Oceanic and Atmospheric Administration | NOAA Fisheries | Page 6

R4-CS-03

Mud Lake South Marsh Creation

PPL28 PROJECT FACT SHEET
January 30, 2018

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 water located near Oyster Lake. The area has experienced wetland loss due to storm events, subsidence and saltwater intrusion.

Proposed Solution

The proposed project would create/nourish approximately 604 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 604 acres (create 344 acres and nourish 260 acres) of marsh using sediment dredged from the Gulf of Mexico.

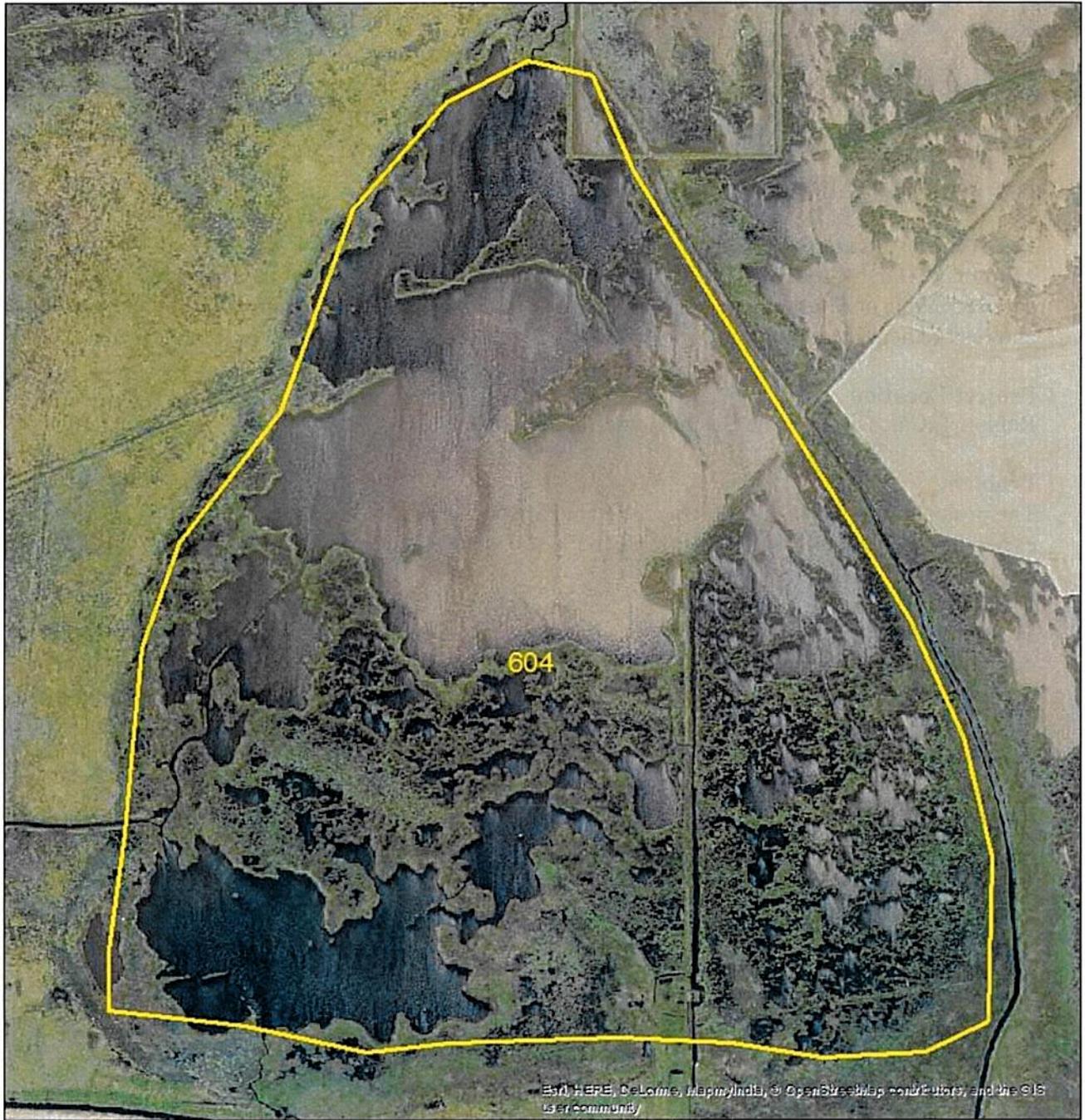
Project Costs

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

Preparer(s) of Fact Sheet:

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Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Mud Lake South Marsh Creation

 Mud Lake South MC 604 ac

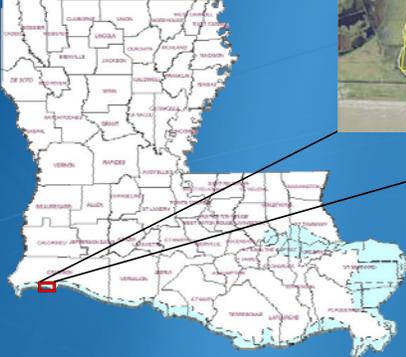


Basemap: 2017 NAIP DOQQ Cameron Parish
Produced by: EPA Region 6, Dallas, TX



0 0.05 0.1 0.2 0.3 0.4
Miles

Mud Lake South Marsh Creation



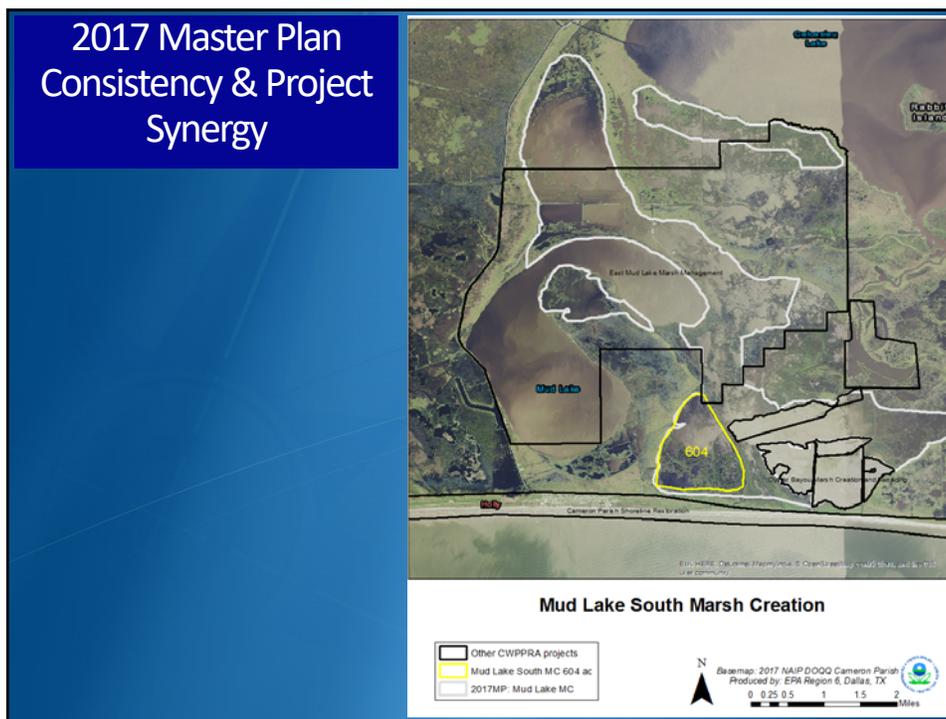
Coastal Wetlands Planning, Protection and Restoration Act

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.



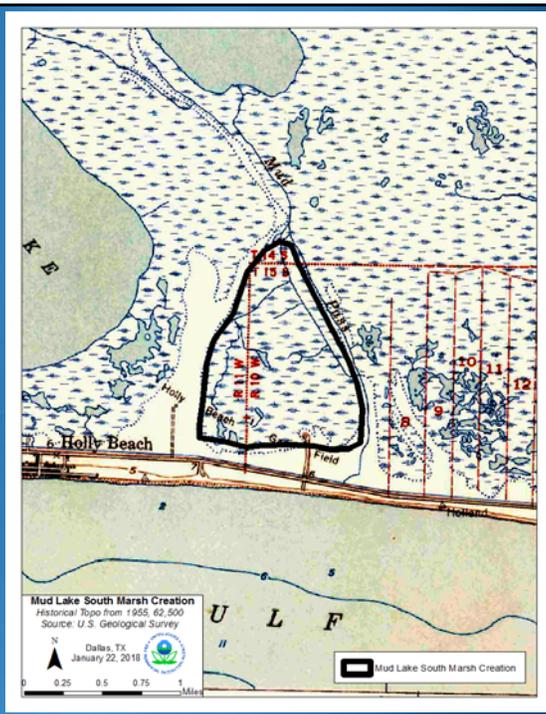
Map labels include: CAM.01N, 004.HR.06, 004.MC.105, 004.MC.107, 004.MC.104, Calcasieu Lake, 004.HR.06, 004.MC.10, 004.MC.04, 004.MC.13, and 004.MC.23.



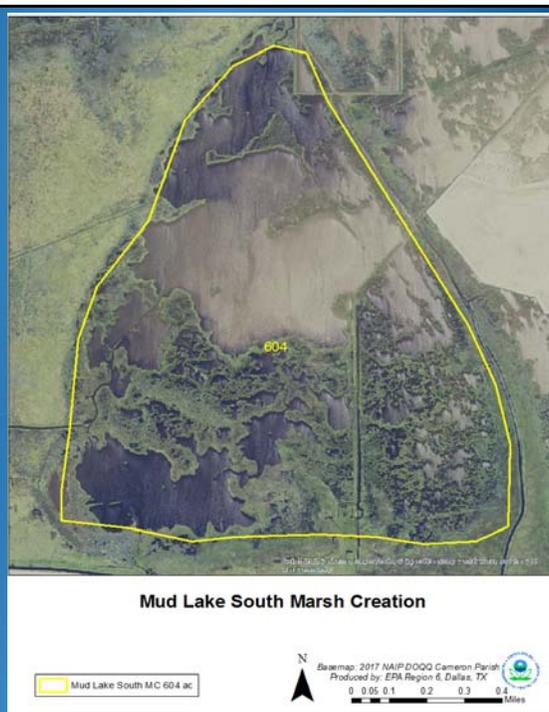
Problems

- 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



Project Features



Species & Habitats Protected or Restored

T & E Species

- Piping Plover
- Red Knot
- Sea Turtles
- Sturgeon
- Manatee

Project Goals

- Create/nourish 604 acres (create 344 acres and nourish 260 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 \$20M - \$25M

R4-CS-04

Long Point Bayou Marsh Creation

CS-04

PPL28 PROJECT FACT SHEET
January 30, 2018

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 8,900 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. Both sediment sources are available and near 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

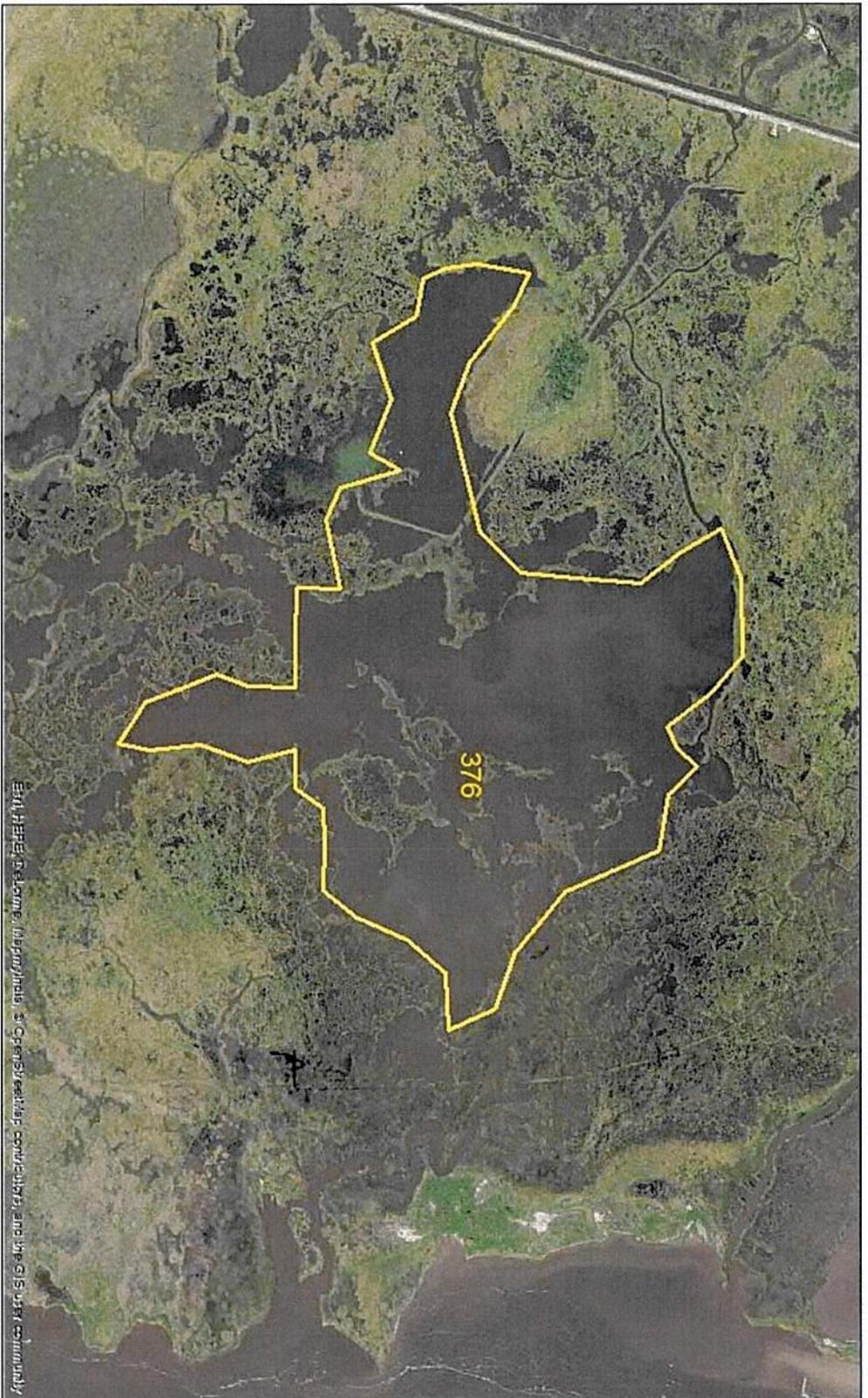
Create and/or nourish approximately 376 acres (create 322 acres and nourish 54 acres) of emergent brackish marsh through beneficial use of the sediment dredged from the Calcasieu Ship Channel or sediment from upland disposal sites of the Calcasieu River.

Project Costs

The estimated construction cost including 25% contingency is \$10M - \$15M.

Preparer(s) of Fact Sheet:

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Long Point Bayou Marsh Creation

Long Point Bayou Marsh Creation



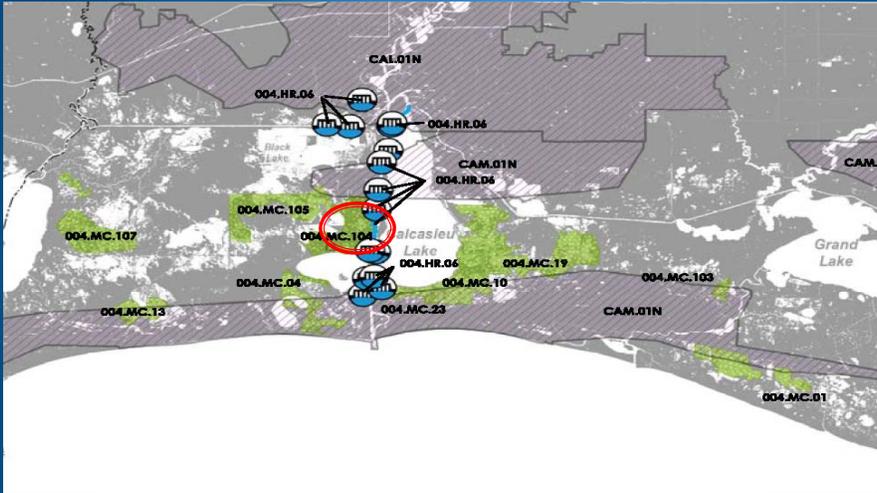
The image shows a map of Louisiana with county boundaries. A red rectangle on the southern coast indicates the location of the Long Point Bayou Marsh Creation project. An inset aerial photograph shows the specific site, which is a large, irregularly shaped area of land adjacent to a body of water, outlined in yellow.



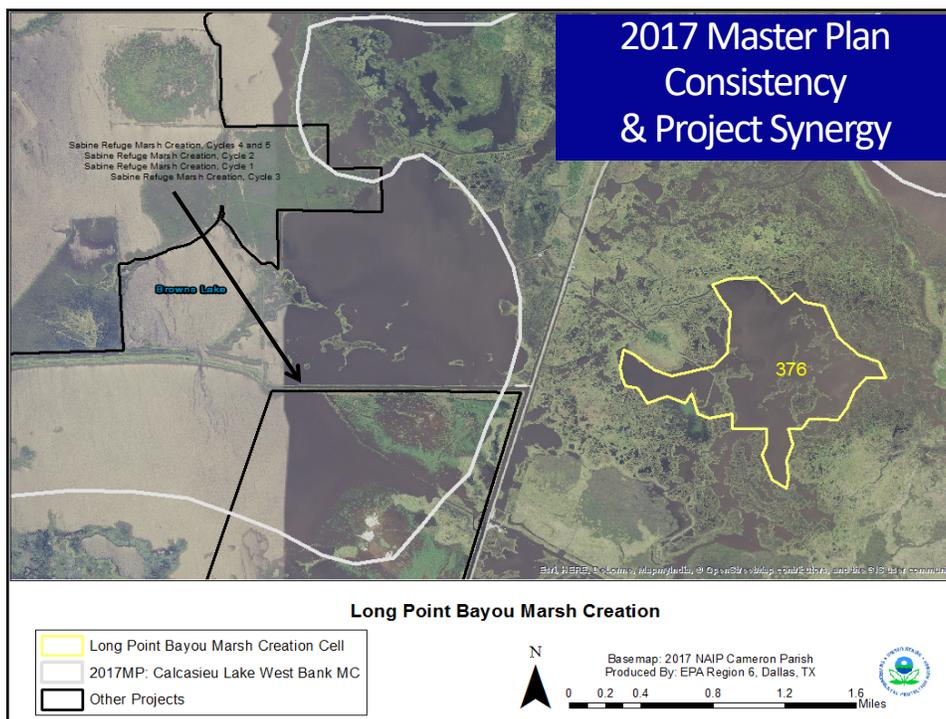
Coastal Wetlands Planning, Protection and Restoration Act

2017 Master Plan Solution

004.MC.104 Calcasieu Lake West Bank Marsh Creation: Creation of approximately 8,900 acres of marsh in Cameron Parish west of Calcasieu Lake to create new wetland habitat and restore degraded marsh.

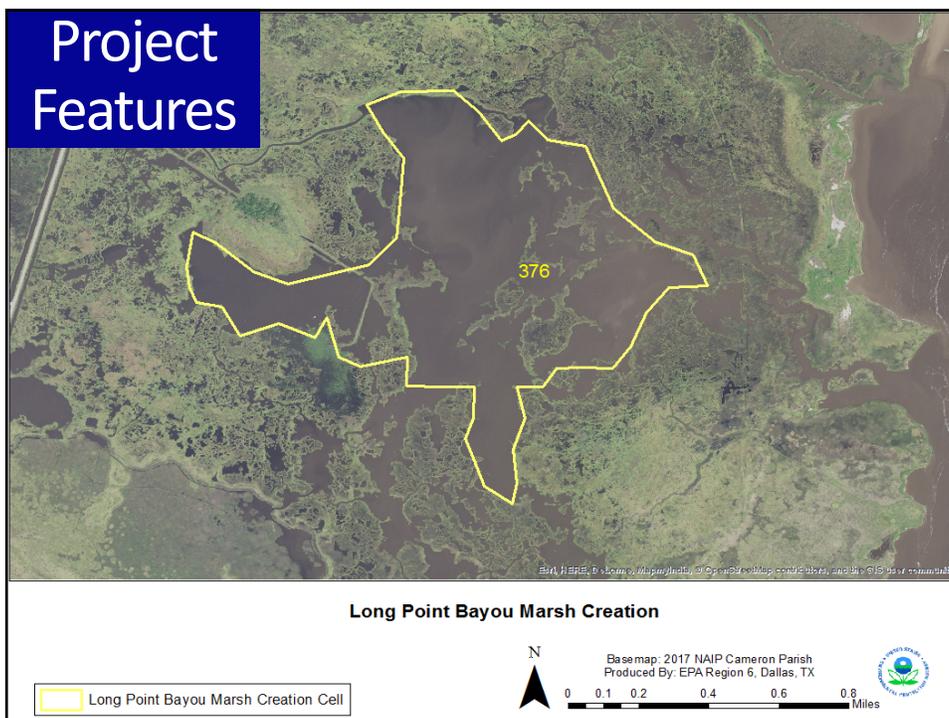
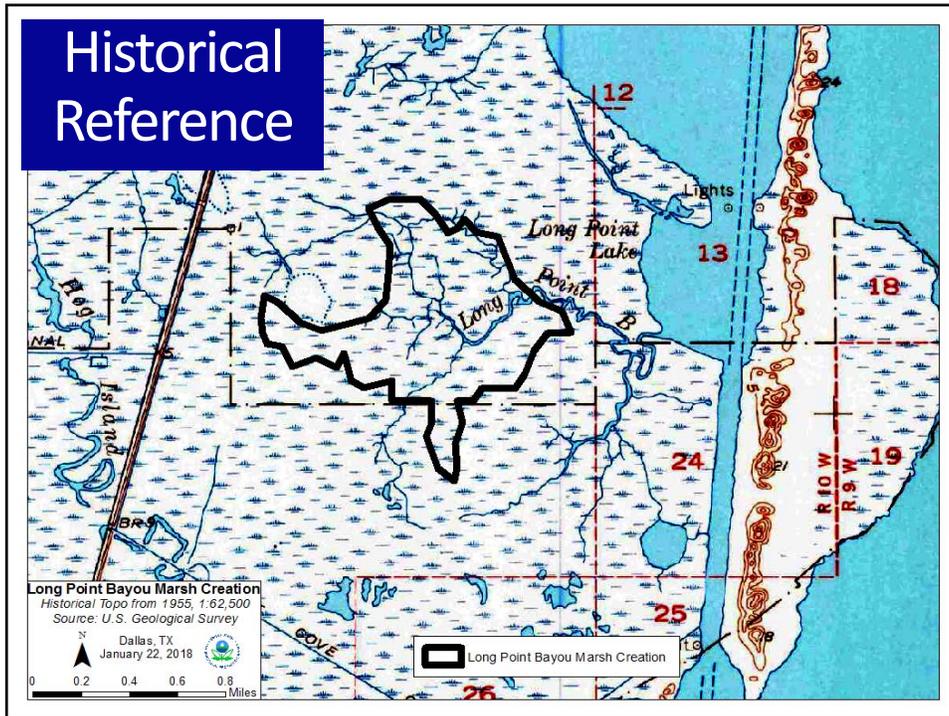


The map displays the Calcasieu Lake West Bank Marsh Creation project area. The lake is labeled 'Calcasieu Lake' and is surrounded by various project areas. The project area 004.MC.104 is highlighted with a red circle. Other project areas shown include 004.MC.105, 004.MC.107, 004.MC.04, 004.MC.13, 004.MC.23, 004.MC.19, 004.MC.10, 004.MC.103, 004.MC.01, 004.HR.06, 004.HR.04, 004.HR.D6, CAM.01N, and CAM.01. The map also shows 'Black Lake' and 'Grand Lake'.



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



Species & Habitats Protected or Restored

T & E Species

- Piping Plover
- Red Knot
- Sea Turtles
- Sturgeon
- Manatee

Migratory Birds

- American Golden-plover
- Am Oystercatcher (Breeding)
- Black Skimmer (Breeding)
- Many shorebirds

Project Goals

- Create/nourish 376 acres (create 322 acres and nourish 54 acres) of emergent marsh to reduce additional marsh loss and erosion
- Use sediment from Calcasieu River upland disposal sites or beneficial use of material from Calcasieu Ship Channel
- Restore wetland habitat
- Construction cost + 25% contingency is \$10M - \$15M

R4-CS-05

~~East Holly Beach Gulf Shoreline Protection~~
Inconsistent with the 2017 State Master Plan

CS-05

PPL28 PROJECT NOMINEE FACT SHEET
January 2018

East Holly Beach Gulf Shoreline Protection

Louisiana's 2017 Coastal Master Plan

Shoreline Protection – 04.SP.05a, consistent

Project Location

Region 4, Calcasieu-Sabine Basin, Cameron Parish, west of the Calcasieu Ship Channel

Problem

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

Goals

The project goals are to halt wave induced shoreline erosion on the Gulf shoreline west of the Calcasieu Ship Channel; Maintain a beach rim component of the coastal ecosystem; protect LA Highway 82 from the Gulf (critical infrastructure); and protect critical habitat for the piping plover and red knot.

Proposed Solution

The project proposes approximately 21,120 linear feet (4.0 miles) of rock shoreline revetment. The revetment will be designed to protect the most critical shoreline area along Highway 82 using lessons learned from the Holly Beach Breakwater Enhancement (CS-001), Holly Beach Sand Management Project (CS-31), and Rockefeller Refuge Gulf Stabilization Project ME-18). The project feature is to construct approximately 21,120 linear feet of rubble shoreline revetment placed along the water's edge, and stack to +3.5' NGVD. This project will protect approximately 257 acres of headland habitat created by the CS-33SF project.

Preliminary Project Benefits:

- 1) *What is the total acreage benefitted both directly and indirectly?*
The total area benefitted is estimated at 257 acres (21,120 x 530/43560)
- 2) *How many acres of wetlands will be protected/created over the project life?*
The project would protect approximately 208 net acres (21,120 x 430 /43560).
- 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%)?*
>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 rimes, cheniers, etc.?*

needs to be brought back SMD consistency

The proposed project would maintain a beach rim component of the coastal ecosystem. This area as also been designated as critical habitat for the threatened piping plover by the US 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 funded CS-33 SF project that recently crated beach habitat in this area and the CS-57 Oyster Bayou Marsh Restoration Project.

Identification of Potential Issues:

Issues to consider for this project include listed species such as the piping plover (critical habitat) and the red knot. O&M should also be evaluated.

Preliminary Construction Costs:

The estimated construction cost including 25% contingency is \$17.8M.

Fully funded range is \$20 - \$25M.

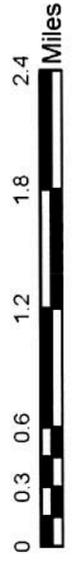
Preparer(s) of Fact Sheet:

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Cameron Parish Police Jury; (337) 775-5716; rbourriaque@cameronpj.org



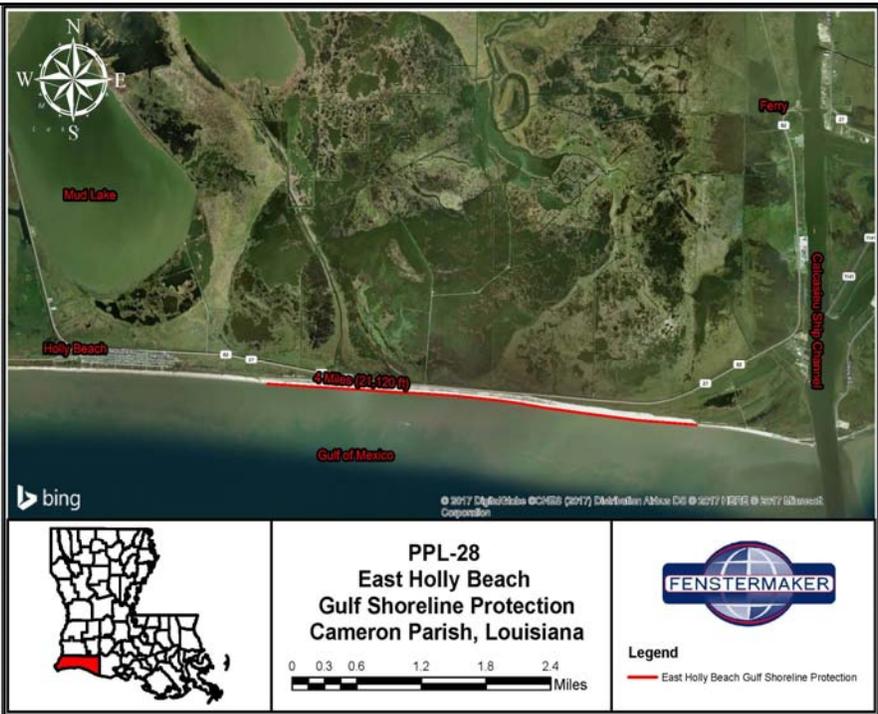
PPL-28
East Holly Beach
Gulf Shoreline Protection
Cameron Parish, Louisiana



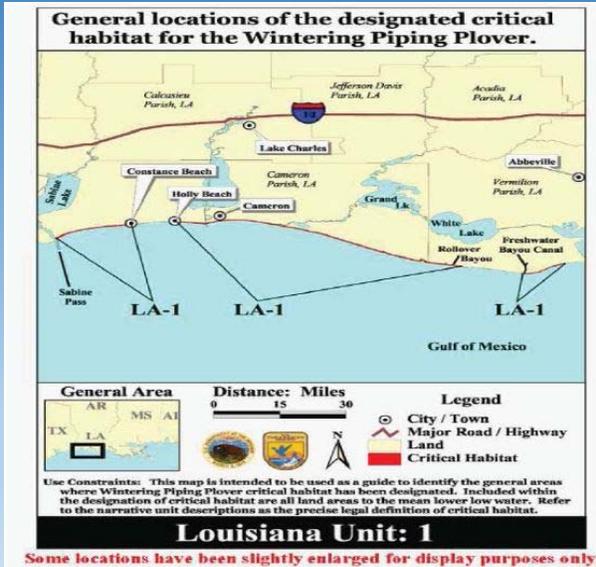
Legend
 — East Holly Beach Gulf Shoreline Protection



PPL 28 Nominee
East Holly Beach
Gulf Shoreline
Protection Project



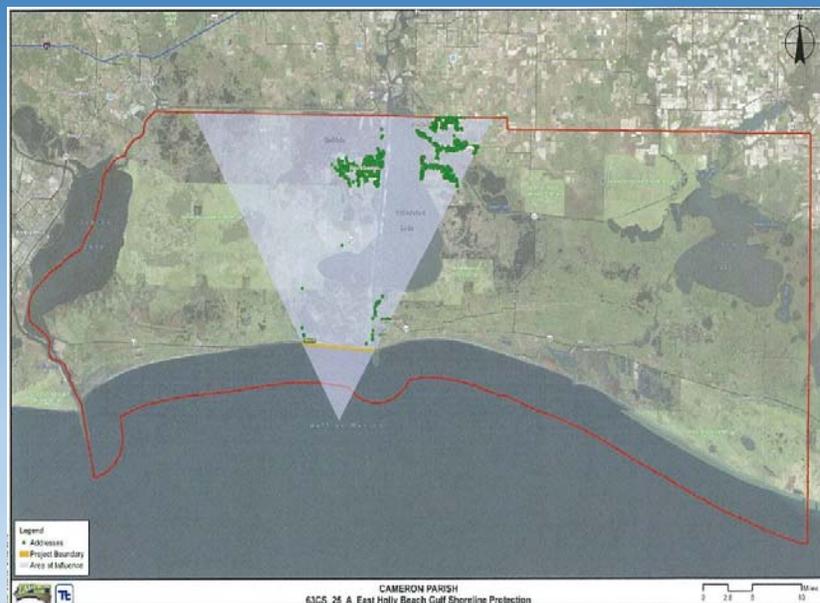
PPL 28 Nominee East Holly Beach Gulf Shoreline Protection Project



- 21,000 linear feet (4.0 miles) of rock shoreline revetment to protect critical shoreline area along Highway 82.
- Benefitting approximately 257 acres of beach habitat constructed by the CS-33 SF project. (CS-33 SF report projected the loss of this acreage over 20-year life)
- Area designated as critical habitat for the threatened piping plover.
- Proposed area is consistent with the 2017 State Master Plan, also included in the SW Coastal Study Plan, and is a priority in the Cameron Parish Master Plan.

PPL 28 Nominee East Holly Beach Gulf Shoreline Protection Project

- Protection for critical infrastructure
 - Evacuation routes,
 - 1,900 Residential structures,
 - 160 Non-Residential structures,
 - Bridges, pipelines
 - Intermodal connectivity for LNG Activities, and
 - \$100M+ in previously constructed CWPRA Projects.



PPL 28 Nominee East Holly Beach Gulf Shoreline Protection Project

- Using lessons learned from CS-001 and ME-18 to construct approximately 21,000 LF of rubble shoreline revetment along the water's edge, placed to an elevation of +3.5' NGVD.
- Estimated construction cost + 25% = \$18 M.
- Fully funded range = \$20 - \$25 M.



R4-CS-06

South Black Bayou Marsh Creation

CS-06

PPL28 PROJECT NOMINEE FACT SHEET
January 2018

Project Name

South Black Bayou Marsh Creation Project

Louisiana's 2017 Coastal Master Plan

Marsh Creation – 004.MC.107

Project Location

Region 4, Calcasieu-Sabine Basin, Cameron Parish

Problem

Mashes south of Black Bayou historically drained northward into Black Bayou via 6 or more small sinuous tributary bayous. In the early 1980's the interior marsh ponds were poorly connected to one another via small channels and broken marsh. Following Hurricane Rita (2005), the southern interior marshes experienced notable scour losses.

Historically, a small bayou extended southwestward from the interior marshes ponds and lakes to near Sabine Lake, but did not connect to Sabine Lake. However, the dredging of The Pines canal intersected this bayou, creating a new water exchange point with the more saline waters of Sabine Lake. In 2007, a rock weir was constructed on this bayou at The Pines Canal (CWPPRA CS-32). Recent imagery reveals the formation of a bayou/rivalet (just upstream of that CWPPRA structure) which extends westward toward Sabine Lake. With continued shoreline erosion and continued rivulet formation, that developing channel threatens to circumvent the structure and connect that bayou to Sabine Lake.

Goals

The project goal is to create a marsh landbridge between The Pines and the banks of Sabine Lake which would block flow through this un-named bayou such that the Black Bayou marshes would no longer exchange water with Sabine Lake. Marsh creation would also restore hurricane damage, reduce the tidal prism, and prevent continued enlargement of the tributary bayous draining into Black Bayou. Terraces would also be constructed within a large interior lake to reduce wave erosion on edge marshes and to promote SAV growth in open waters.

Proposed Solution

Using borrow material from Sabine Lake, create approximately 279 acres of marsh, nourish 186 acres of marsh, and create 4 acres of marsh via earthen terraces.

Preliminary Project Benefits

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

Approximately 469 acres of marsh would be benefitted directly (279 ac from marsh creation, 186 acres from marsh nourishment, and 4 acres created via terraces). Closure of the bayou draining into The Pine Canal would reduce salinities over a large area. Terraces would reduce fetch, restore SAV beds, and reduced shoreline erosion of nearby 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 approximately 281 acres (277 acres from marsh creation /nourishment, and 4 acres via terraces).

- 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:

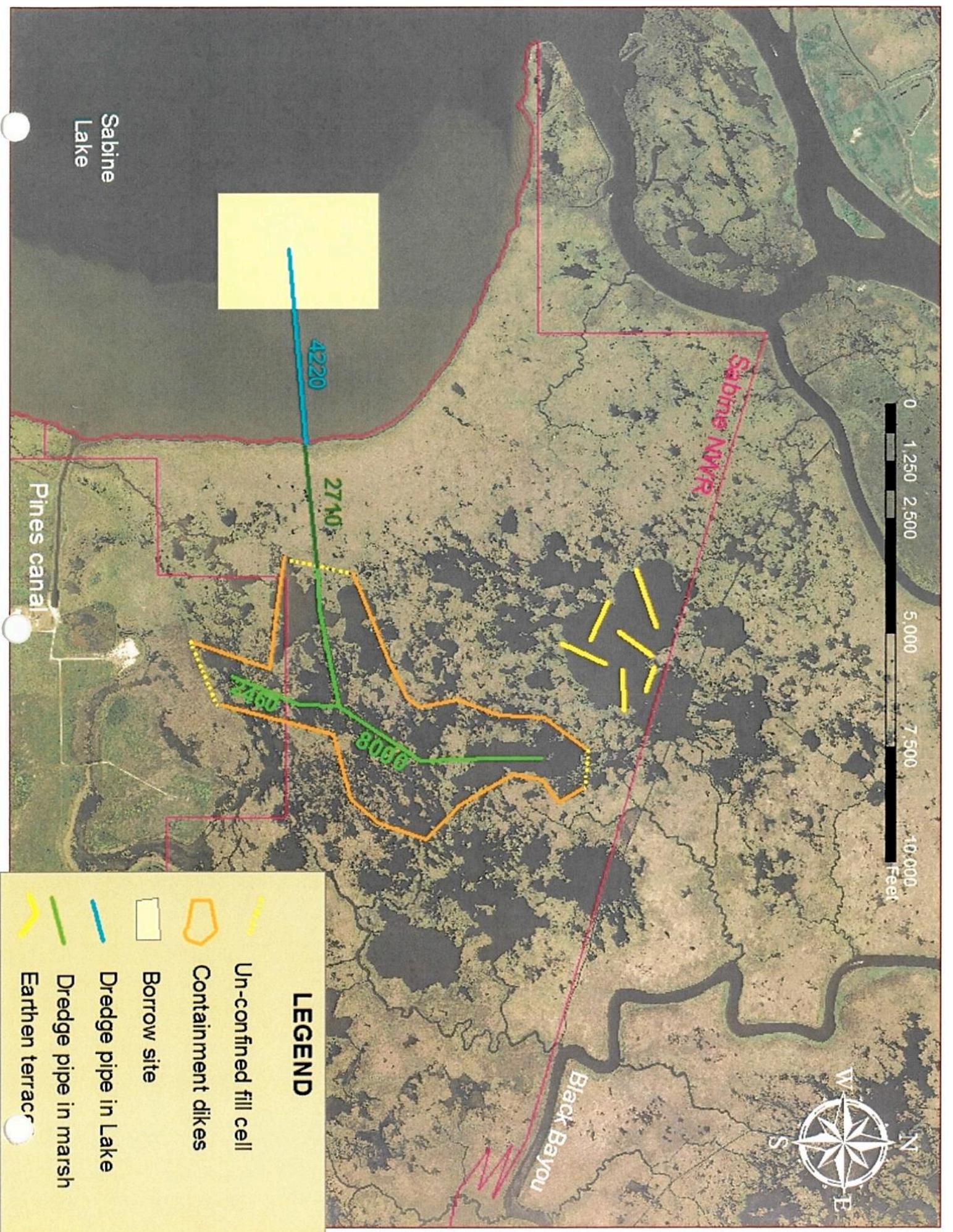
Sabine Lake is an oyster seedground administered by the Louisiana Department of Wildlife and Fisheries. Project area landowners include the Stream Estate, Sabine Refuge, and the Outback Marsh. All landowners are supportive of the proposed project.

Preliminary Construction Costs:

The estimated construction cost including 25% contingency is between \$15 to \$20M.

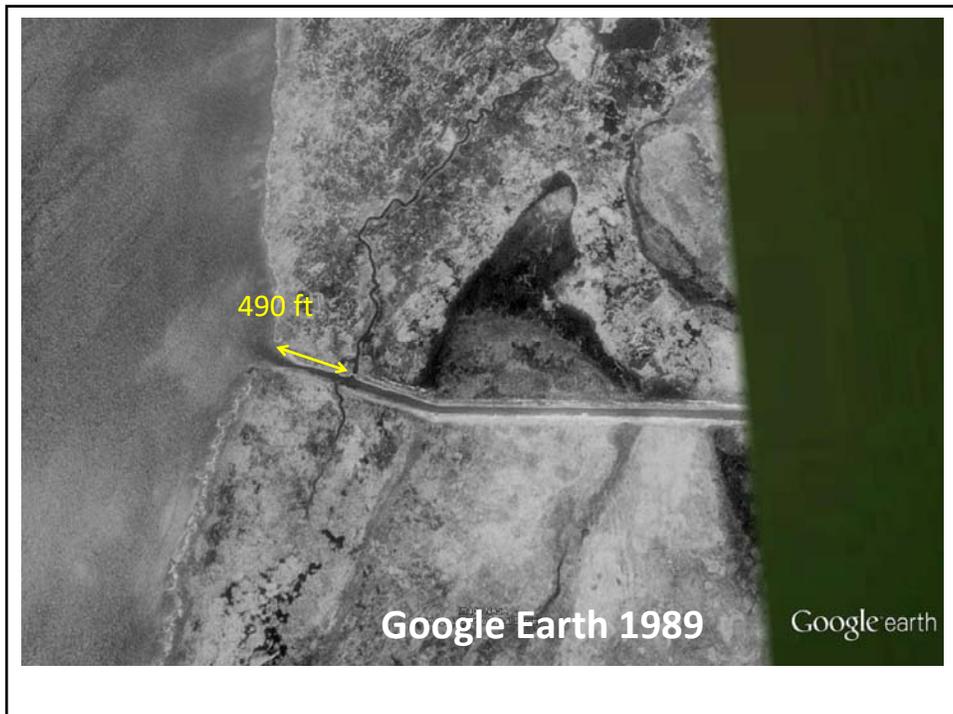
Preparer(s) of Fact Sheet:

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

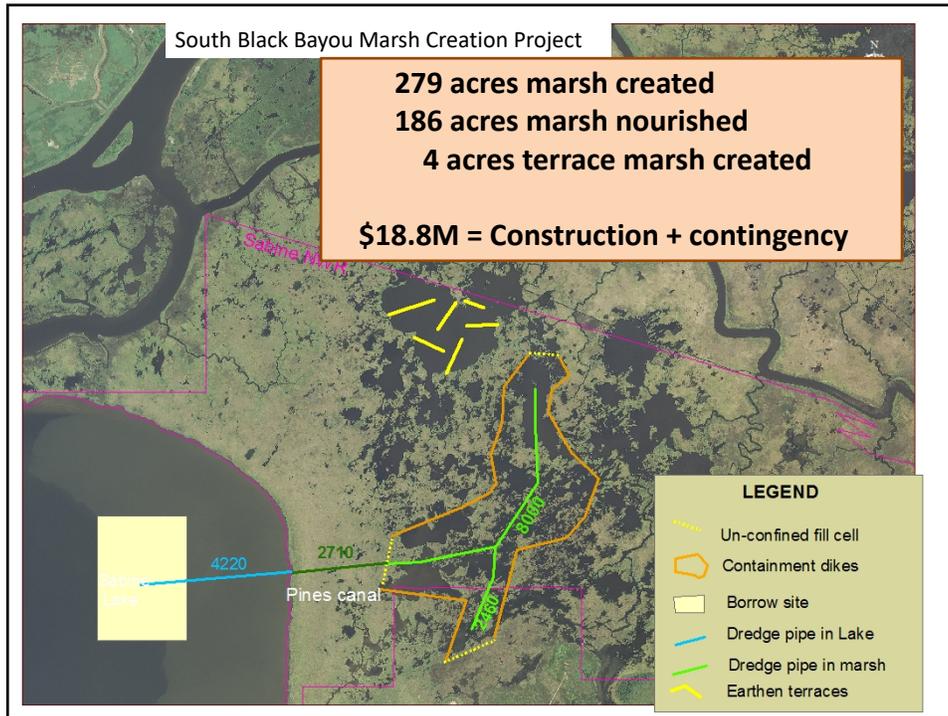


LEGEND

-  Un-confined fill cell
-  Containment dikes
-  Borrow site
-  Dredge pipe in Lake
-  Dredge pipe in marsh
-  Earthen terrace







R4-CS-07

Sabine Refuge Unit 6 Marsh Protection

CS-07

PPL28 PROJECT NOMINEE FACT SHEET
January 2018

Project Name

Sabine Refuge Unit 6 Marsh Protection Project

Louisiana's 2017 Coastal Master Plan

Marsh Creation – 004.MC.107

Project Location

Region 4, Calcasieu-Sabine Basin, Cameron Parish

Problem

Following the construction and enlargement of the Sabine-Neches Waterway, increased salinities in combination with hurricane storm surges and droughts resulted in the loss of interior low salinity marsh vegetation and the export of unvegetated organic soils during the 1960s and 1970s. The conversion of those marshes to large open water areas has allowed wind action to cause erosion of marsh edges. Because of the fetch and continued erosion of marsh edges, turbid water conditions are maintained within those open water areas. As remnant marsh islands disappear, the fetch increases thus exacerbating the erosion/turbidity problem. Earthen terraces have been constructed in portions of these open water areas, but other open water areas remain un-terraced. Hurricane Rita (2005) and Hurricane Ike (2008) have also enlarged these open water areas.

Goals

The project goal is to construct marsh in the remaining open water areas where terraces have not been constructed.

Proposed Solution

Using borrow material from Sabine Lake, approximately 396 acres of marsh would be created within 2 confined disposal cells.

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*
Approximately 396 acres of marsh would be benefitted directly (394 ac from marsh creation, 2 acres from marsh nourishment). Indirect benefits may occur in adjoining open water areas due to reduced fetch, restoration of SAV beds, and reduced shoreline erosion of nearby 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 approximately 389 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

Sabine Lake is an oyster seedground maintained by the Louisiana Department of Wildlife and Fisheries. However, the borrow area is likely too fresh to support oyster production.

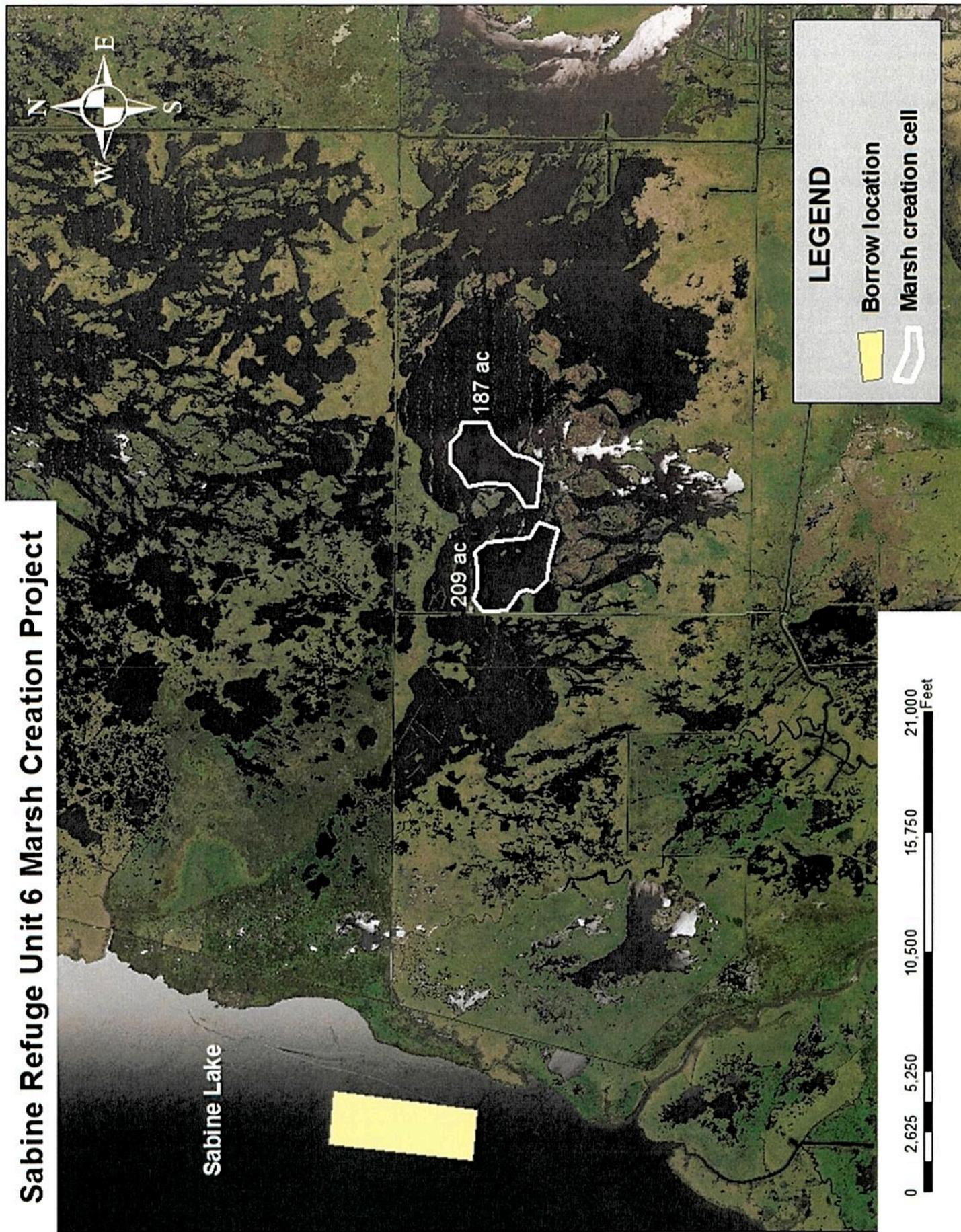
Preliminary Construction Costs:

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

Preparer(s) of Fact Sheet:

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

Sabine Refuge Unit 6 Marsh Creation Project



Sabine Lake

209 ac

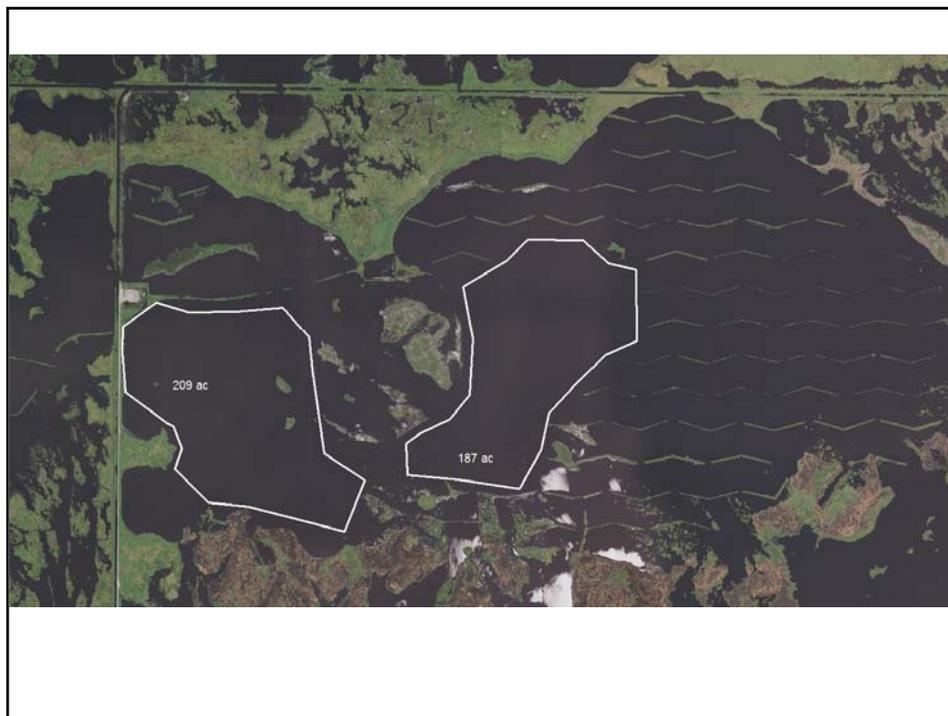
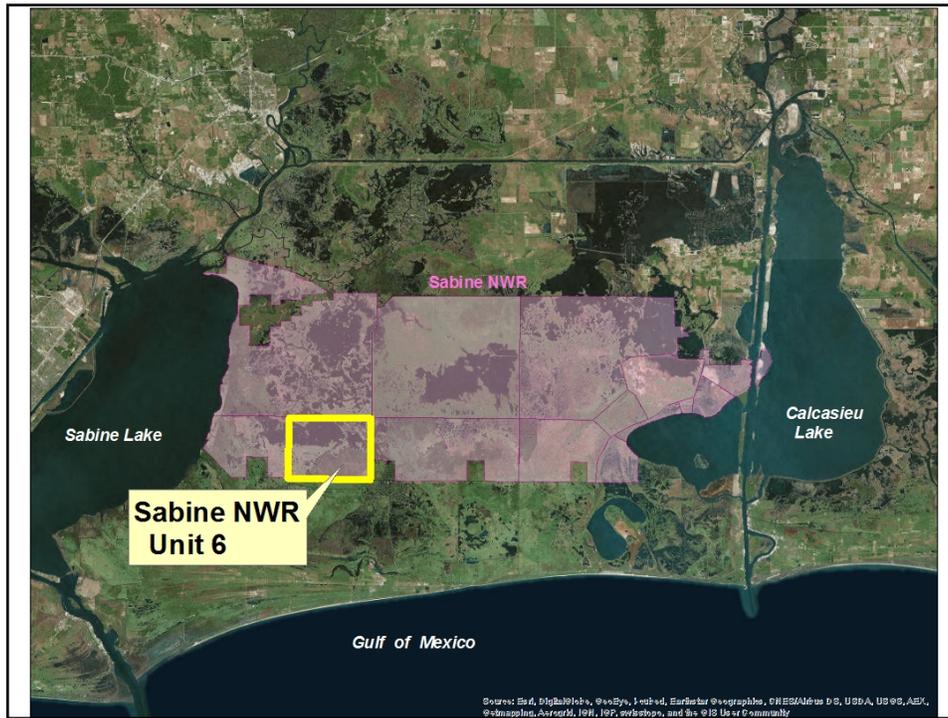
187 ac

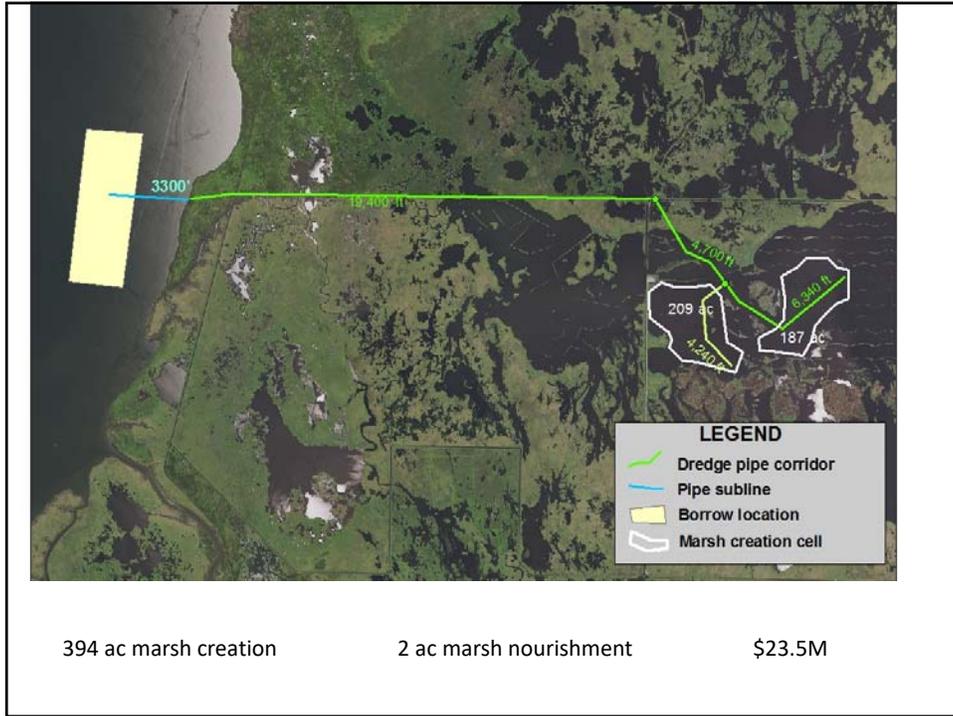
LEGEND

Borrow location

Marsh creation cell

0 2,625 5,250 10,500 15,750 21,000 Feet





R4-CS-08

North Mud Lake Marsh Creation

CS - 08

PPL28 PROJECT NOMINEE FACT SHEET
January 30, 2018

Project Name

North Mud Lake 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 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 turbidity within the large, open water areas.

Goals

The project goal is to create and/or nourish approximately 330 acres (305 acres created and 25 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 (305 acres created and 25 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 (305 acres created and 25 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 307 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?*
Synergistic with East Mud Lake Marsh Management (CS-20).

Considerations

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

Preliminary Construction Costs

The estimated construction cost plus 25% contingency is \$25M - \$30M

Preparer(s) of Fact Sheet:

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

Jennifer Smith; NOAA Fisheries Service, 225-757-5230, Jennifer.Smith@noaa.gov

Jason Kroll; NOAA Fisheries Service, 225-757-5411, Jason.Kroll@noaa.gov



PPL28 North Mud Lake Marsh Creation Project

0 495 990
Feet



305 Acres of Marsh Creation
25 Acres of Marsh Nourishment

Federal Sponsor: NOAA Fisheries
2008 aerial imagery
Map Date 01-08-2018

Legend

- Approximate_Natural_Gas_Pipeline
- NMLBoundaryWest

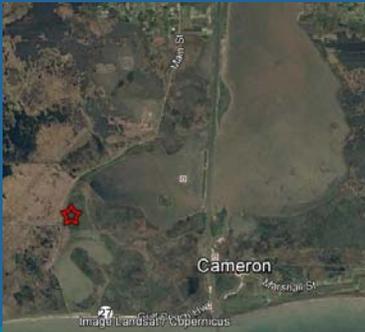


North Mud Lake Marsh Creation Project

NOAA FISHERIES
Restoration Center

Region 4 – Calcasieu-Sabine Basin Cameron Parish

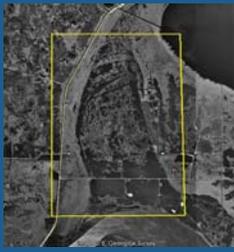
January 30, 2018



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



2017





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



Design Considerations

- Avoid or minimize impacts to:
 - Oyster seed grounds and public oyster grounds
 - Gulf shoreline from nearshore 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 305 acres brackish marsh
- Nourish 25 acres brackish marsh
- Nearshore Gulf borrow area
- Construction Cost + 25% Contingency
\$25 - 30 M

For additional information, contact:
Donna Rogers donna.rogers@noaa.gov 225-636-2095



R4-CS-09

Cameron Meadows East Marsh Creation and Terracing



CWPPRA PPL 28 Nomination Sign-Up Sheet

CS-09

Complete a sign-up sheet for each project you nominate. Please print neatly!

Name of Project: Cameron Meadows East Marsh Creation +

Is this a demonstration project? Yes

No

Terracing

If not, please provide the below information.

Region: (Circle one)

1

2

3

4

Coastwide

Basin: (Circle one)

Pontchartrain

Barataria

Terrebonne

Calcasieu-Sabine

Breton Sound

Atchafalaya

Mermentau

Teche-Vermilion

Did you provide a factsheet? Yes

No

Contact Information:

Name: Pat Williams

Phone Number: (225) 389-0508 ext 208

Email: patrick.williams@noaa.gov



NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

PPL28 Cameron Meadows East

**NOAA
FISHERIES**

January 30, 2018



Cameron Meadows CS-66

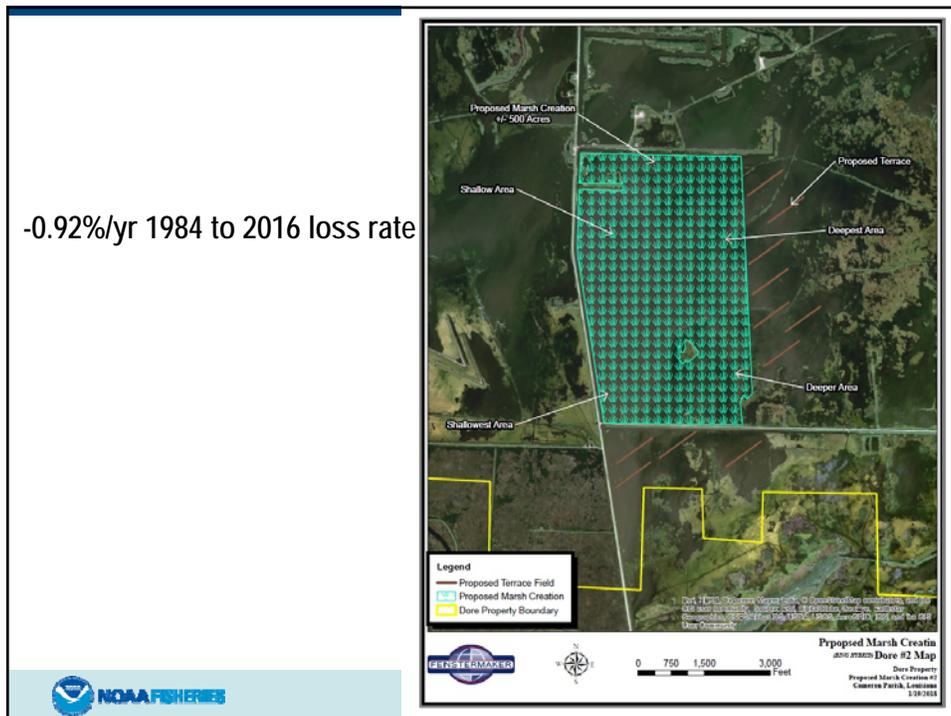
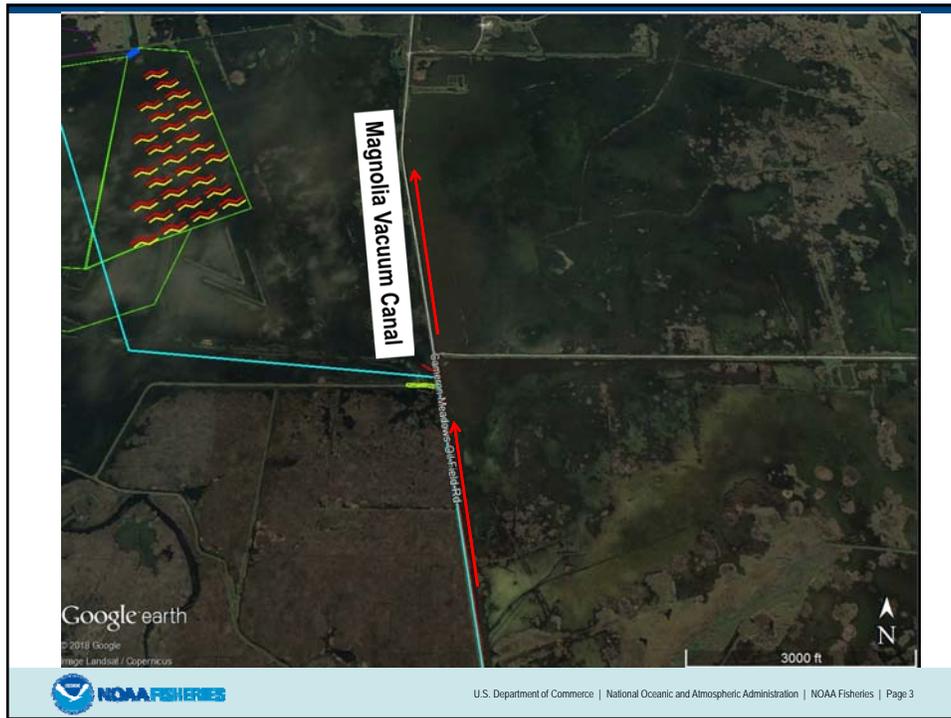
32 Gulf Beach Hwy

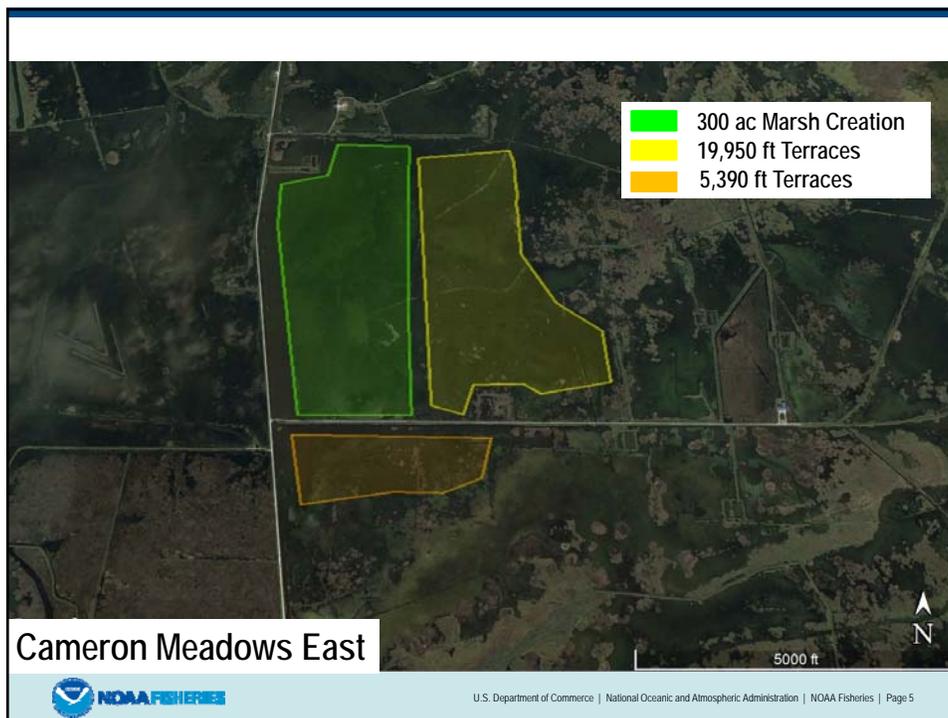
Google earth
© 2018 Google
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

2 mi

**NOAA
FISHERIES**

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





Summary

- Total: 662 ac
- Marsh Creation: 300 ac
- Terraces: 25,340 ft
- Net acres: 250 - 300 ac
- Estimated Construction Cost plus Contingency:
\$25 M - \$30M

REGION 4 – MERMENTAU BASIN

Project Number	Project Proposals
R4-ME-01	Highway 82 South Marsh Creation and Terracing
R4-ME-02	Southeast Pecan Island Marsh Creation and Freshwater Enhancement
R4-ME-03	Southeast White Lake Marsh Creation
R4-ME-04	Gulf Shore Protection at Beach Prong
R4-ME-05	North Big Marsh Restoration
R4-ME-06	South Pecan Island Marsh Creation

R4-ME-01

Highway 82 South Marsh Creation and Terracing

PPL28 PROJECT NOMINEE FACT SHEET
January 30, 2018

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/nourish approximately 320 acres of marsh and 21,000 linear feet of marsh terraces. Approximately 289 acres would be marsh creation and 31 acres is marsh nourishment.

Proposed Solution

Sediment for marsh creation/nourishment 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?*
The total project area is approximately 436 ac.
- 2) *How many acres of wetlands will be protected/created over the project life?*
Approximately 320 acres of marsh (31 of those acres are nourishment) will be initially constructed in the marsh creation area, and approximately 20.5 acres of marsh terraces (21,000 linear feet with a 15 ft. crest width) would initially be constructed. The net acres for the 20 year project life are 250-300 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 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 in process of preparing to solicit for bids. 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 estimated construction cost plus 25% contingency is \$20M - \$25M.

Preparer(s) of Fact Sheet:

Brandon Howard, NOAA Fisheries, 225-389-0508, ext 207, brandon.howard@noaa.gov

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



PPL28 Highway 82 South Marsh Creation and Terracing



0 1,000 2,000
Feet



289 Acres of Marsh Creation
31 Acres of Marsh Nourishment
21,000 Linear Feet of Terraces

Federal Sponsor: NOAA Fisheries
2008 aerial imagery
Map Date 12-20-2017

Legend

-  SHWY82_Terraces_21000
-  SHWY82terracesfield21000
-  HWY82S_Marsh_Creation


NOAA FISHERIES

South HWY 82 Marsh Creation and Terracing

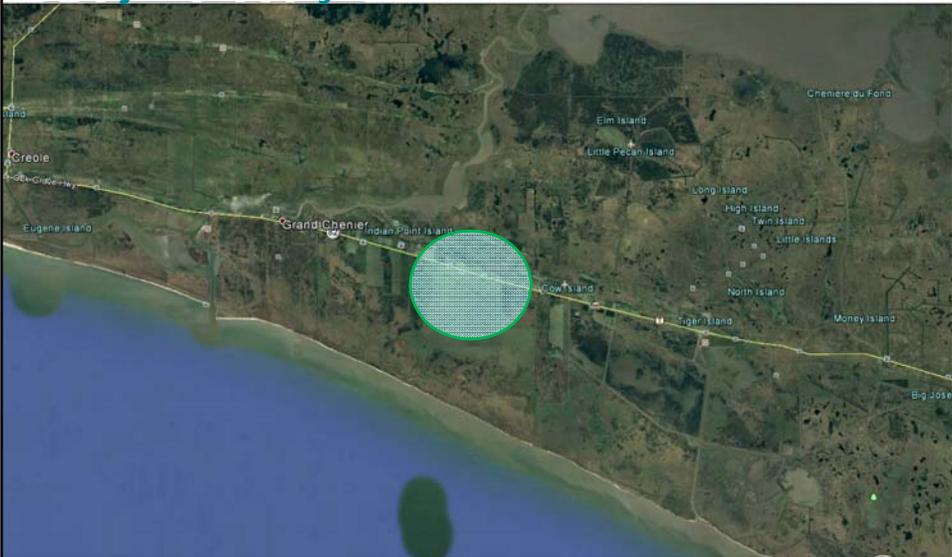
REGION 4 Mermentau Basin
Presenter: Jason Kroll, Civil Engineer, NOAA



PPL28 CWPPRA Regional Planning Team Meeting
Grand Chenier, Louisiana
January 30, 2018

HWY 82 South Marsh Creation and Terracing

Project Vicinity



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

Project Area Problems

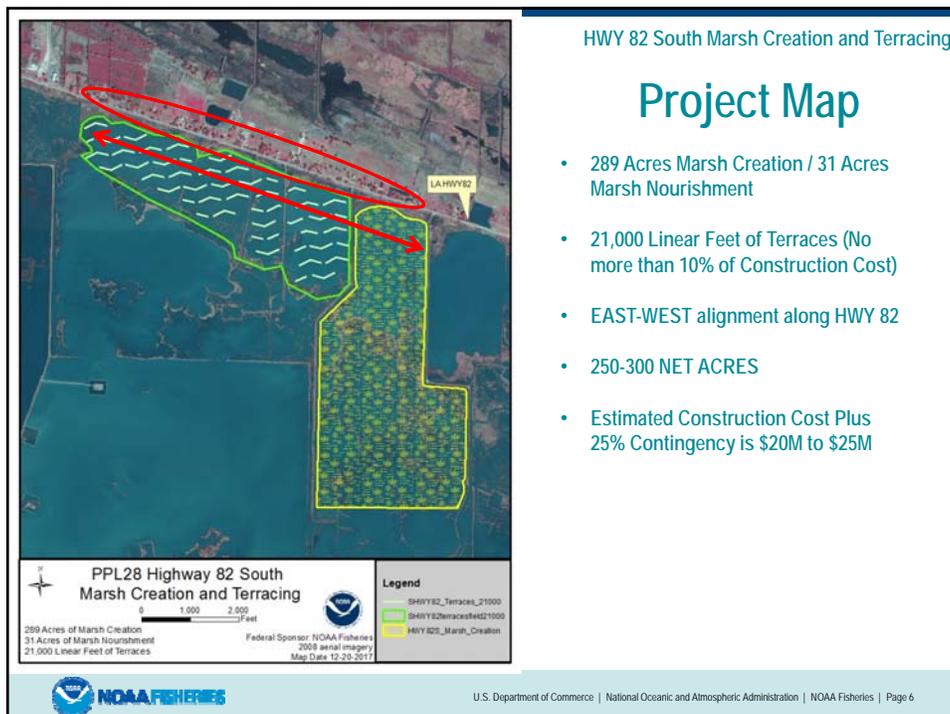
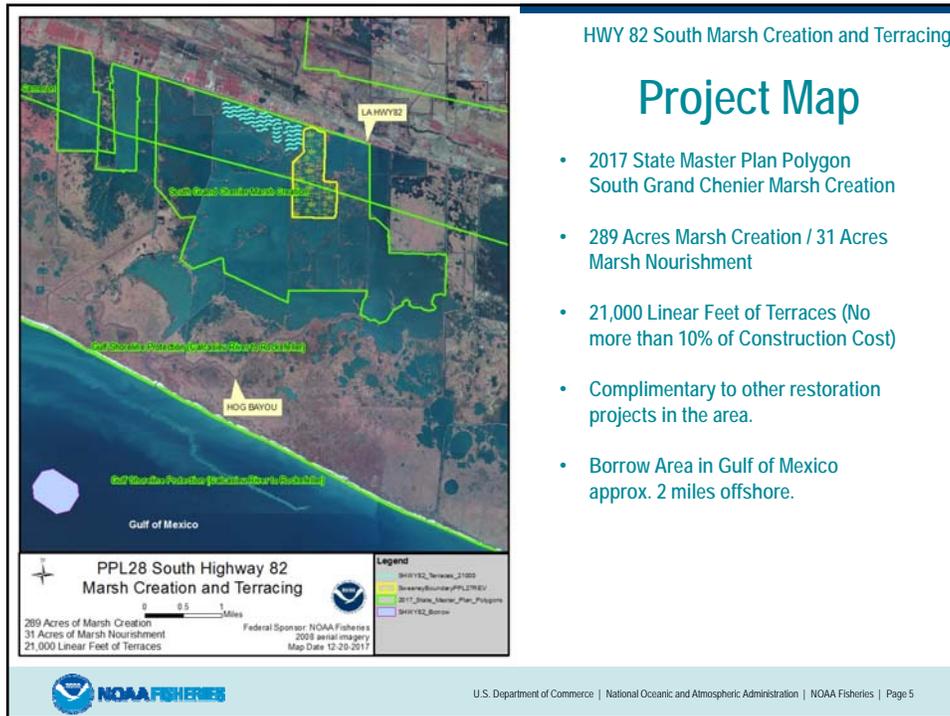
- Wetland degradation
 - The marshes south of Louisiana Highway 82 between the Mermentau Ship Channel and Freshwater Bayou have been hydrologically impacted.
 - Highways as well as oil and gas access roads
 - Spoil banks from canals for petroleum exploration
 - Construction of levees for hydrologic management
 - 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 Restoration (289 Creation/31 Nourishment)
 - 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
- 21,000 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 could be.

Project Area Photos



 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 Restoration
- 21,000 Linear Feet of Terraces
- Construction + 25% Contingency Cost is \$20M - \$25M
- 250-300 NET ACRES

Price Lake Terracing Project (Courtesy LDWF)



Price Lake Terracing Project (Courtesy LDWF)

Contact information:
Brandon Howard, 225-389-0508, ext 207
brandon.howard@noaa.gov
Jason Kroll, 225-757-5411
jason.kroll@noaa.gov

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

R4-ME-02

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

ES
ME - 02

PPL28 PROJECT FACT SHEET
January 30, 2018

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.

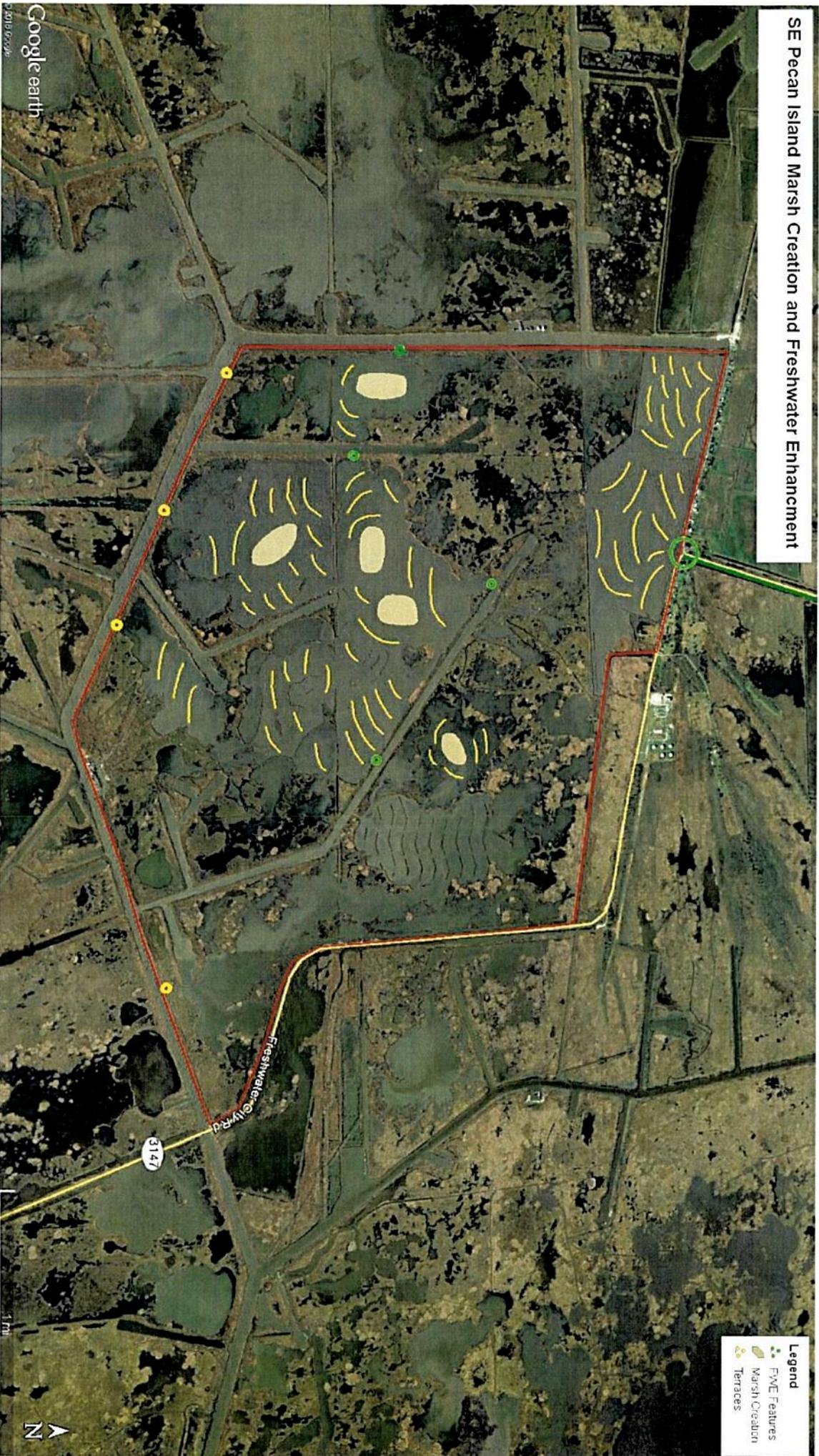
Preliminary Construction Costs

The estimated construction cost including 25% contingency is approximately \$11M (\$10-15M range).

Preparer of Fact Sheet

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

SE Pecan Island Marsh Creation and Freshwater Enhancement

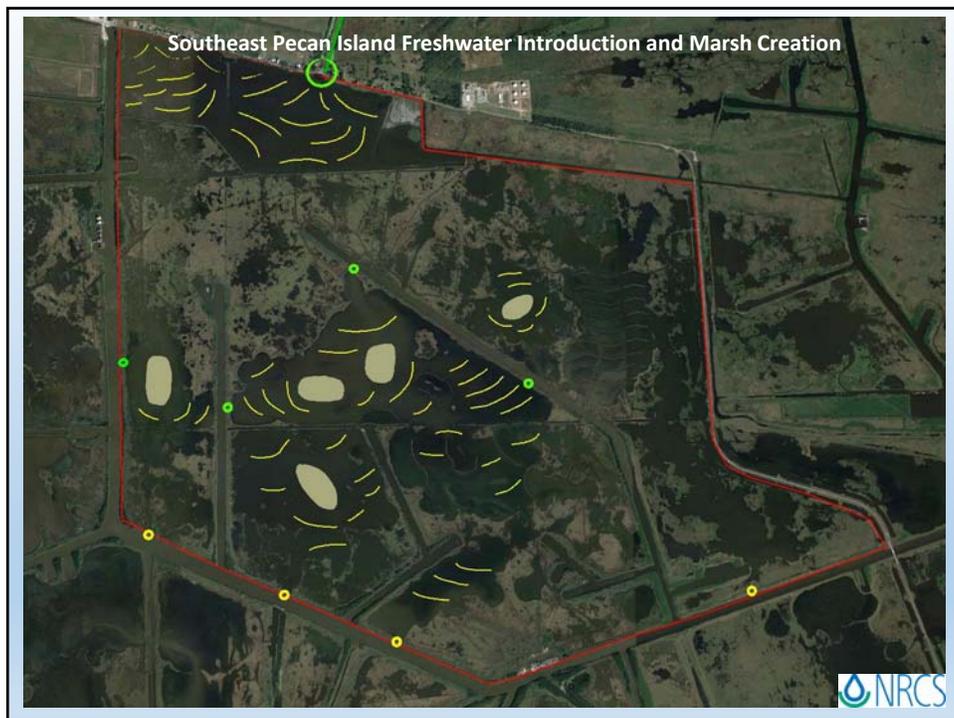
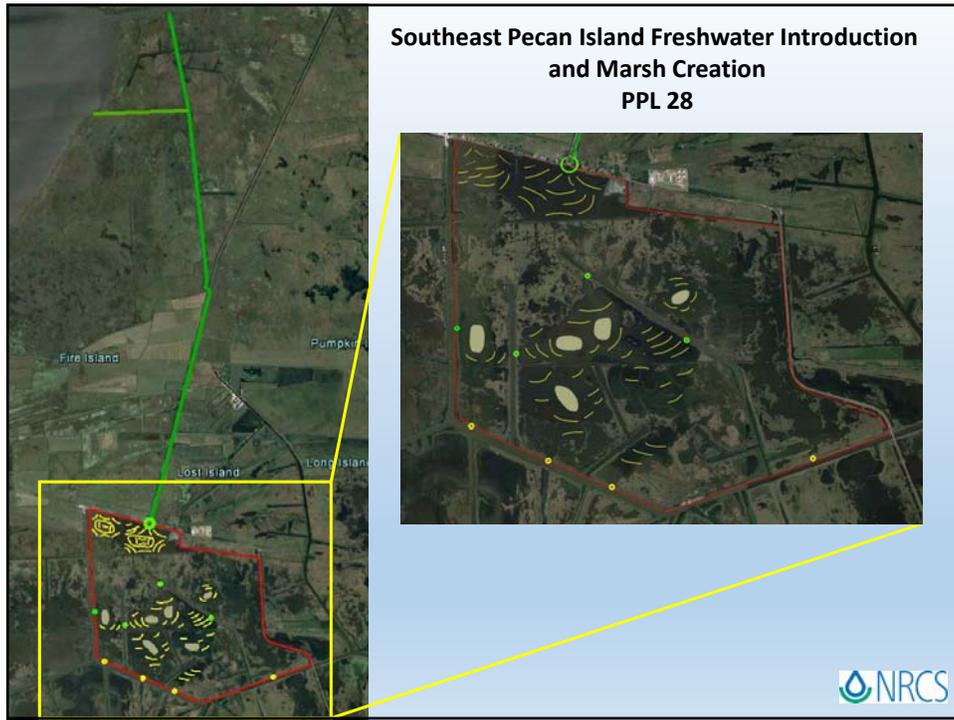


- Legend**
- FME Features
 - Marsh Creation
 - Terraces



1 mi

Google earth
2016-07-20



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 – 42,000 ft
- 8 sets of 2-36" flap-gated culverts (tidal pumps)
- Freshwater introduction structure at Front Ridge
- Total Estimated Net Acres = 154 acres

Estimated Cost:

Construction + 25% = \$10.9M



R4-ME-03

Southeast White Lake Marsh Creation

PPL28 PROJECT NOMINEE FACT SHEET
January 30, 2018

Project Name

Southeast White Lake Marsh Creation

Project Location

Region 4, Mermentau Basin, Vermilion Parish, north of Pecan Island and southeast of White Lake

Problem

The project area consists of fresh/intermediate marsh and has historically been very stable with little marsh loss. However, it is believed that several high-water events during 2015 to 2017 led to marsh detachment and extensive wetland loss throughout the area. Limited marsh recovery is expected throughout much of this area due to the water depths. The 1985-2016 loss rate calculated for the South White Lake mapping unit is -0.68%/yr.

Goals

The primary goal of this project is to restore marsh habitat via marsh creation. The specific goal of the project is to create and nourish approximately 845 acres of marsh with dredged material from White Lake.

Service goals include restoration/protection of habitat for threatened and endangered species and other at-risk species. This project would restore habitat potentially utilized by the black rail which is petitioned for listing as a threatened/endangered species.

Proposed Solution

Sediments from White Lake will be hydraulically dredged and pumped via pipeline to create/nourish approximately 845 acres of marsh. Dewatering and compaction of dredged sediments should produce elevations conducive to the establishment of emergent marsh. Containment dikes will be constructed as necessary for the northern marsh creation cell. It is proposed that the northern cell be constructed in a semi-contained fashion. Full perimeter containment is proposed for the southern cell. Containment dikes will be gapped at the end of construction or by target year 3.

Preliminary Project Benefits

- 1) *What is the total acreage benefited both directly and indirectly?*
Approximately 845 acres would be benefited directly. Direct benefits include 545 acres of marsh creation and 300 acres of marsh nourishment. Indirect benefits would occur to marsh surrounding the project area.
- 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 500-600 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?*
There are no authorized restoration projects in this area.

Considerations

None at this time.

Preliminary Cost

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

Preparer of Fact Sheet

Kevin Roy, USFWS, (337) 291-3120, kevin_roy@fws.gov



U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

Southeast White Lake Marsh Creation



Borrow Area

Marsh creation/nourishment - 845 acres

0 1,600 3,200 6,400 Feet

USFWS APFO Aerial Photography Field Office

REGION IV

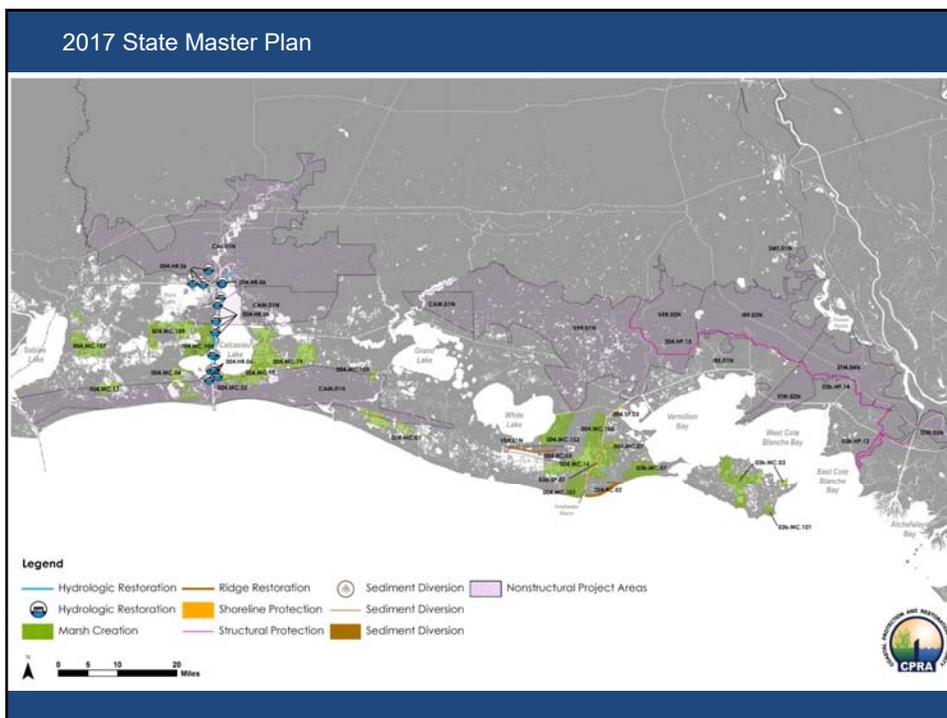
**REGIONAL
PLANNING
TEAM
MEETING**

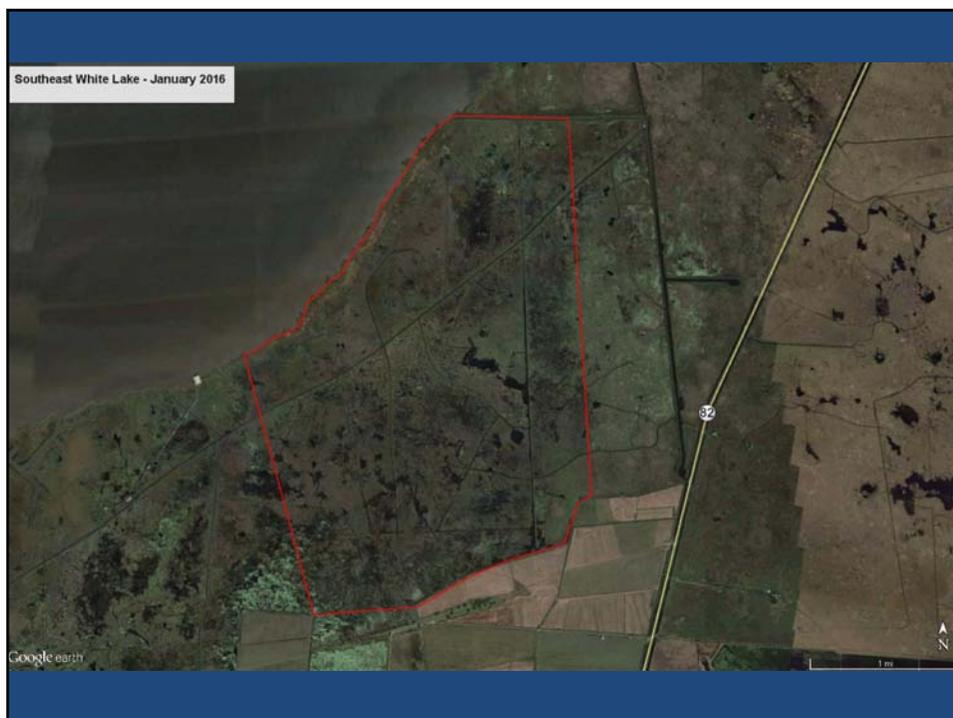
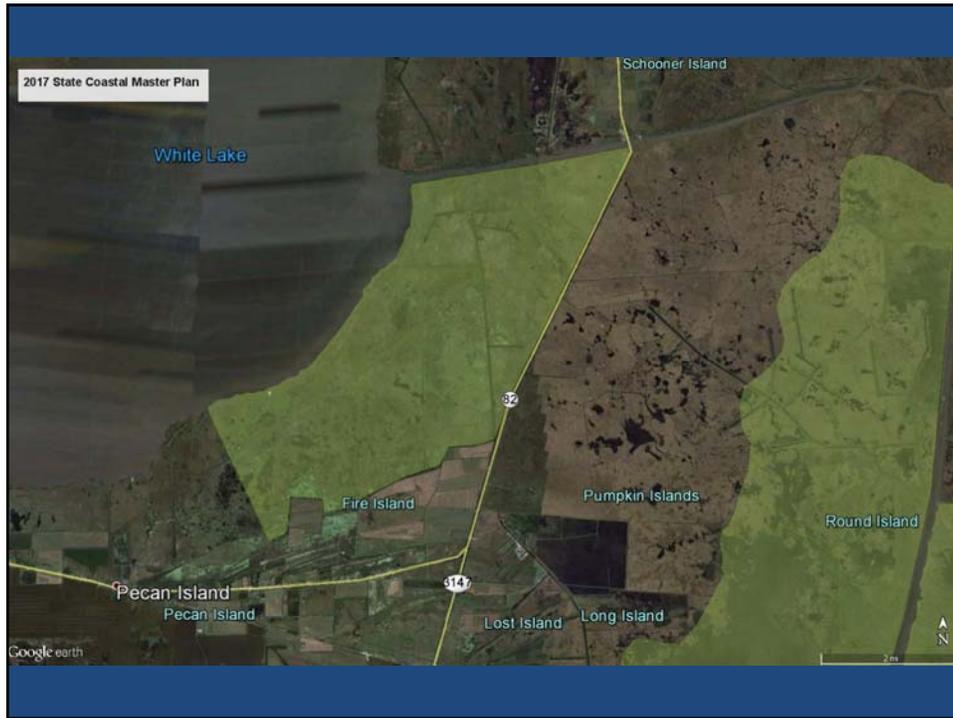
**MERMENTAU
BASIN**

Rockefeller State
Wildlife Refuge

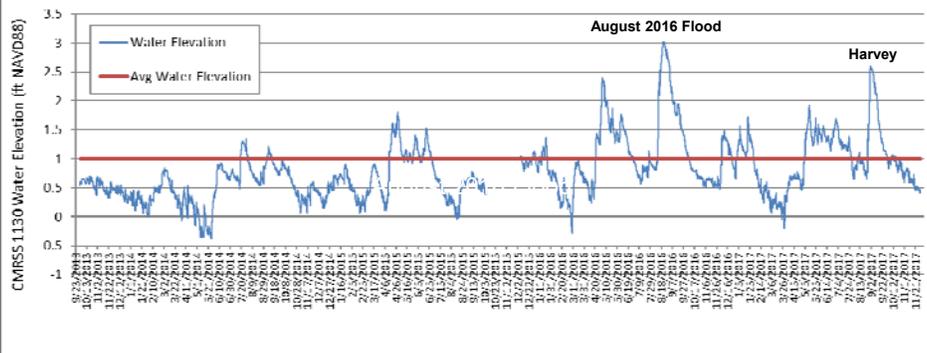
January 30, 2018

Kevin Roy
U.S. Fish and
Wildlife Service
Lafayette, LA





High Rainfall Events
Extended Periods of Elevated Water Levels



Southeast White Lake Marsh Creation

- White Lake borrow site
- 12,000 ft pump distance
- 845 acres of marsh creation/nourishment
- Terracing? Lakeshore Berm?
- Net acres = 500 - 600
- Construction plus contingency = \$15M - \$20M

R4-ME-04

Gulf Shoreline Protection at Beach Prong

PPL28 PROJECT NOMINEE FACT SHEET
January 2018

Project Name

Gulf Shore Protection at Beach Prong

Louisiana's 2017 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 (1998 to 2015). 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 3-mile-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, 3 miles 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 294 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 294 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 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 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 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: ME-18 has done the E&D, geotech, and permitting for a portion of the proposed project. Low bid for MR-18 construction was \$7M/mile.

Preliminary Construction Costs:

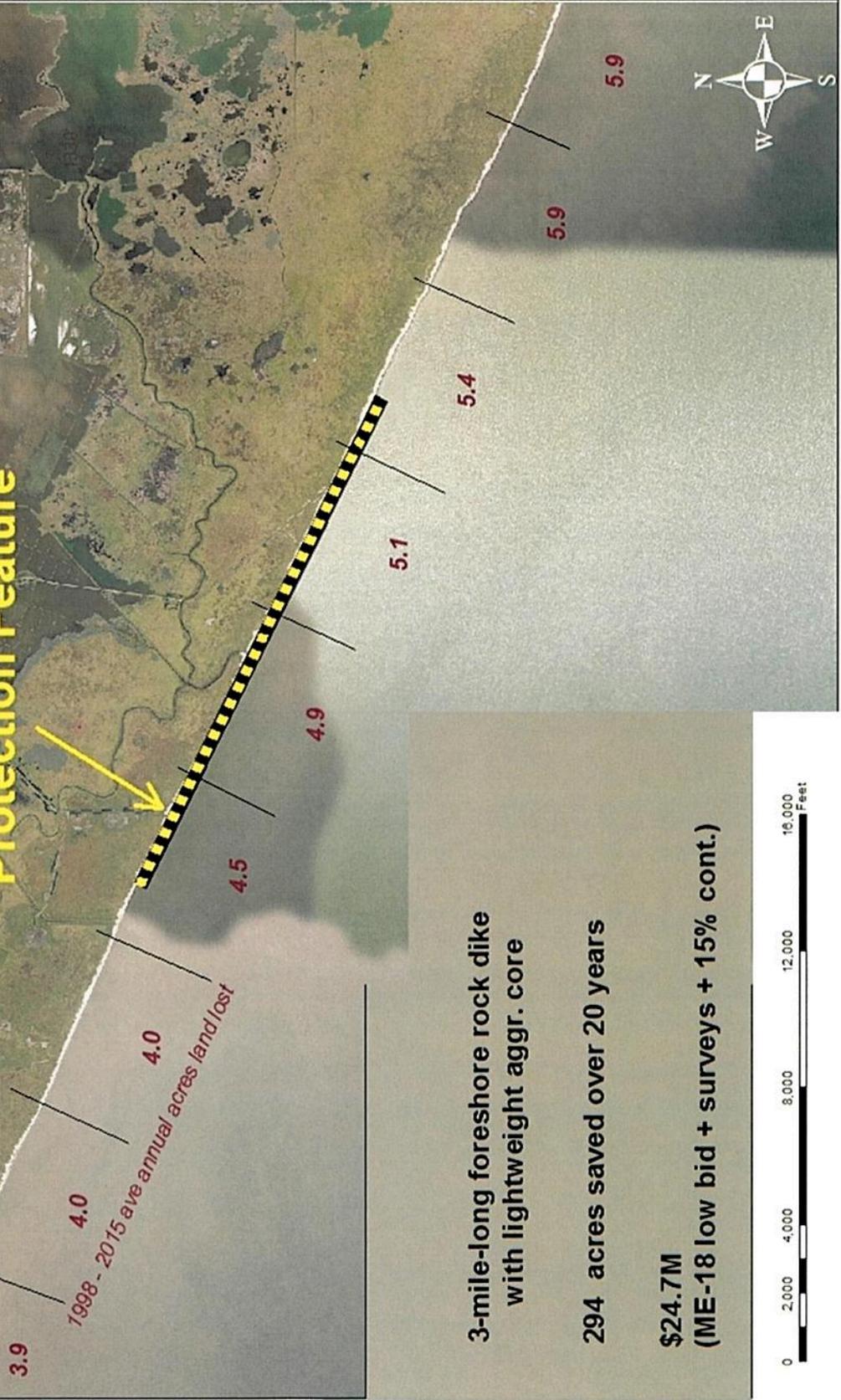
The estimated construction cost including 15% contingency is \$20 to \$25M.

Preparer(s) of Fact Sheet:

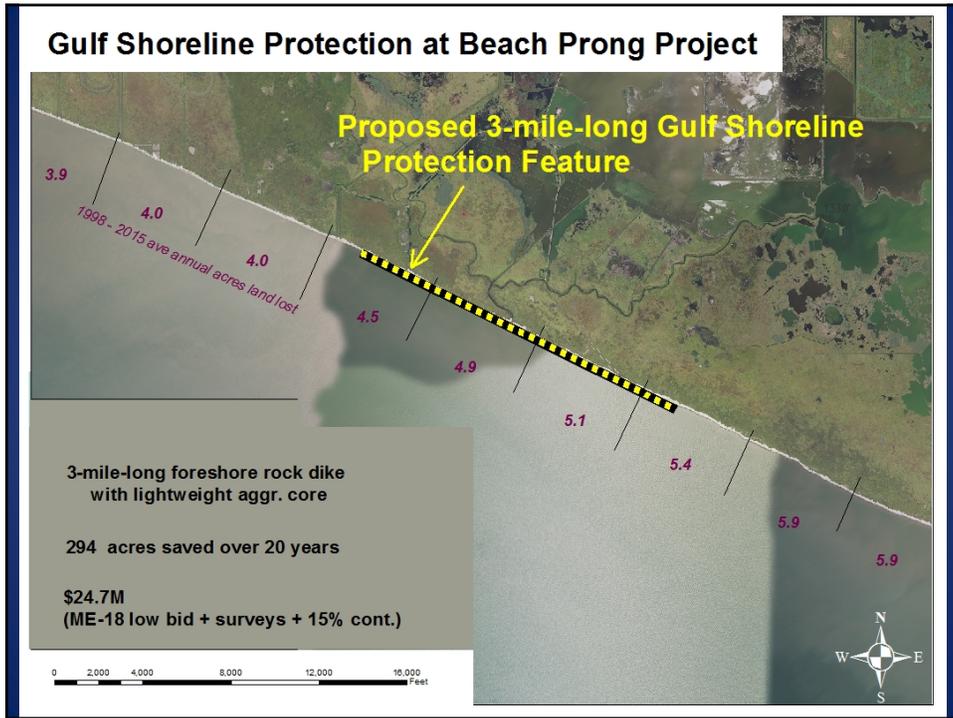
Ronny Paille: U.S. Fish and Wildlife Service; 337-291-3117; Ronald_Paille@fws.gov

Gulf Shoreline Protection at Beach Prong Project

Proposed 3-mile-long Gulf Shoreline Protection Feature







R4-ME-05

North Big Marsh Restoration

PPL28 PROJECT NOMINEE FACT SHEET
January 30, 2018

Project Name

North Big Marsh Restoration

Project Location

Region 4, Mermentau Basin, Vermilion Parish. Within the 2017 State Master Plan's "East Pecan Island Marsh Creation" project (No. 004.MC.16).

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 due to hurricanes Rita (2005) and Ike (2008). A large 4,700-acre shallow open water area developed in the center of Big Marsh mapping unit mostly due to those hurricanes. Prior to 2000, the Big Marsh Coast 2050 mapping 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 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's 1985 to 2016 land loss rate was -0.28%/year (LA Land Loss Change Trends 1985-2016, USGS).

Goals

The project goal is to restore and nourish 483 acres of fresh and intermediate marsh in the northern portion of Big Marsh via marsh creation and freshwater introduction from White Lake.

Proposed Solution

Restore 405 acres and nourish 45 acres of marsh to restore 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 from White Lake (~100 cfs) via 3, 48-inch-diameter culverts at Hwy 82 and an existing canal (33 acres restored). 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 – 33-acres restored).

- 2) *How many acres of wetlands will be protected/created over the project life?*
427 net acres of fresh and intermediate marsh will be restored over the project life (483 total; 450 acres marsh creation, 33 acres freshwater introduction). The project would restore intermediate marsh habitat for the Black Rail (petitioned species), the glossy ibis (at-risk species), and FWS Joint Venture species of concern - mottled duck other

waterfowl, king rail, wood stork, little blue heron, lesser snow goose, greater white-fronted goose, and Canada goose.

- 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 estimated construction cost, including 25% contingency, is \$25M-\$30M.

Preparer(s) of Fact Sheet:

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Vermilion Corporation & U.S. Fish & Wildlife Service - Louisiana Ecological Services
North Big Marsh Restoration



0 2000 Feet

September 12, 2017 USDA Imagery

North Big Marsh Restoration Project PPL 28 Nominee

Problem

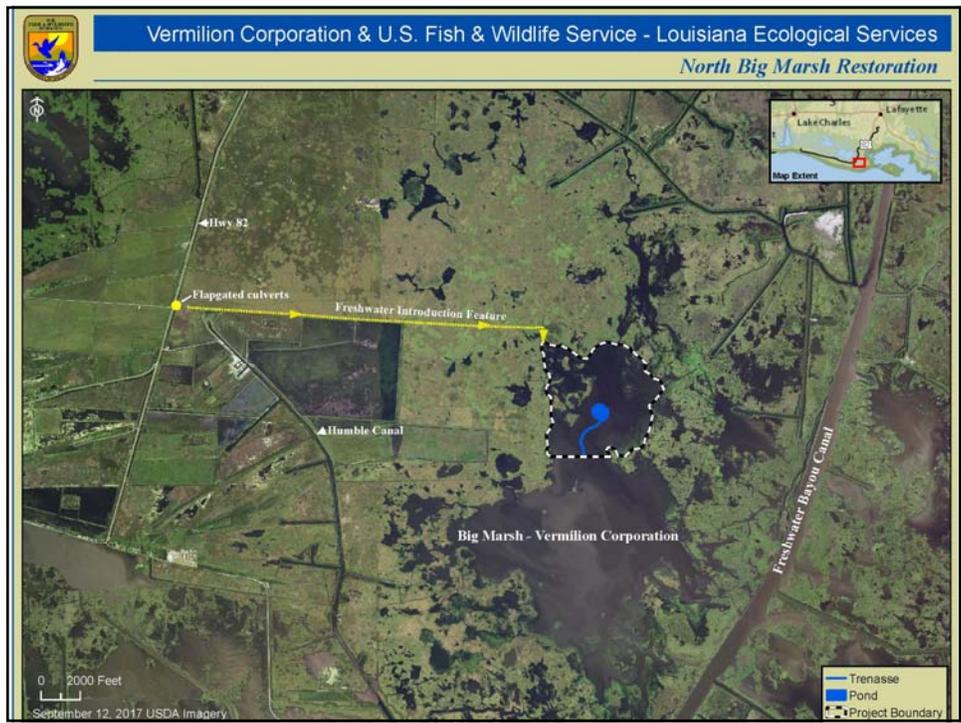
- Big Marsh unit lost 11% marsh (-3,810 acres) (1932 to 1990).
- Coast 2050 Study predicted another 10% loss by 2050 (3,000 acres).
- A large 4,700-acre shallow open water area caused mostly due to Hurricanes Rita (2005) & Ike (2008). Cost 2050 loss has accelerated due to hurricanes.
- Current 1985 to 2016 land loss rate is -0.28%/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 (33 acres restored).
- 3) Total restored = 483 acres (= 427 net acres)

Sponsors – Vermilion Corp., FWS





- **Features** – 1) Restore & nourish over 483 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 427 acres at the loss rate of 0.28 %/year.
- 2) The project would restore the northern portion of Big Marsh & provide protection to adjacent marshes.
- **Cost** - Estimated construction cost is \$25 to \$30 M.
Estimated cost effectiveness = \$62,100/acre.

R4-ME-06

South Pecan Island Marsh Creation

Draft PPL28 PROJECT NOMINEE FACT SHEET
January 30, 2018

South Pecan Island Marsh Creation Project

State Master Plan Consistency

Consistent with the 2017 State Master Plan "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, hurricane and storm events (Coast 2050). Twenty-five percent (25%; 11,520 acres) of the 46,370 acres of marshes 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) of that marsh 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.

Proposed Project Features

Marsh creation of 448 acres and nourishment of 11 acres of intermediate to brackish marsh for a total 459 acres south of Pecan Island with dredged material from the Gulf of Mexico. Restore 19 acres of marsh via 42,860 linear feet of vegetated earthen terraces. The total restored area equals 478 acres. Water depths range from 1.0 to 1.5 feet. Retention dikes will be gapped or degraded and tidal creeks and ponds constructed post-construction in marsh creation areas to restore area hydrology, allow fisheries access, and improve wetland productivity.

Preliminary Project Benefits

1) The project will directly benefit a net 445 acres over the 20-year project life at a land loss rate of 0.39 %/year. 2) It will provide some storm protection to the community of Pecan Island to the north. 3) It would restore intermediate and brackish marsh habitat to benefit black rail and the Louisiana eyed silk moth petitioned species; glossy ibis at-risk species, and Joint Venture species of concern - mottled duck other waterfowl, king rail, wood stork, little blue heron, seaside sparrow, lesser snow goose, greater white-fronted goose, and Canada goose.

Identification of Potential Issues

No significant issues have been identified.

Preliminary Construction Costs

The estimated construction cost including 25% contingency is \$30 to \$35 M.

Preparers of Fact Sheet

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

Louisiana Ecological Services

South Pecan Island Marsh Creation

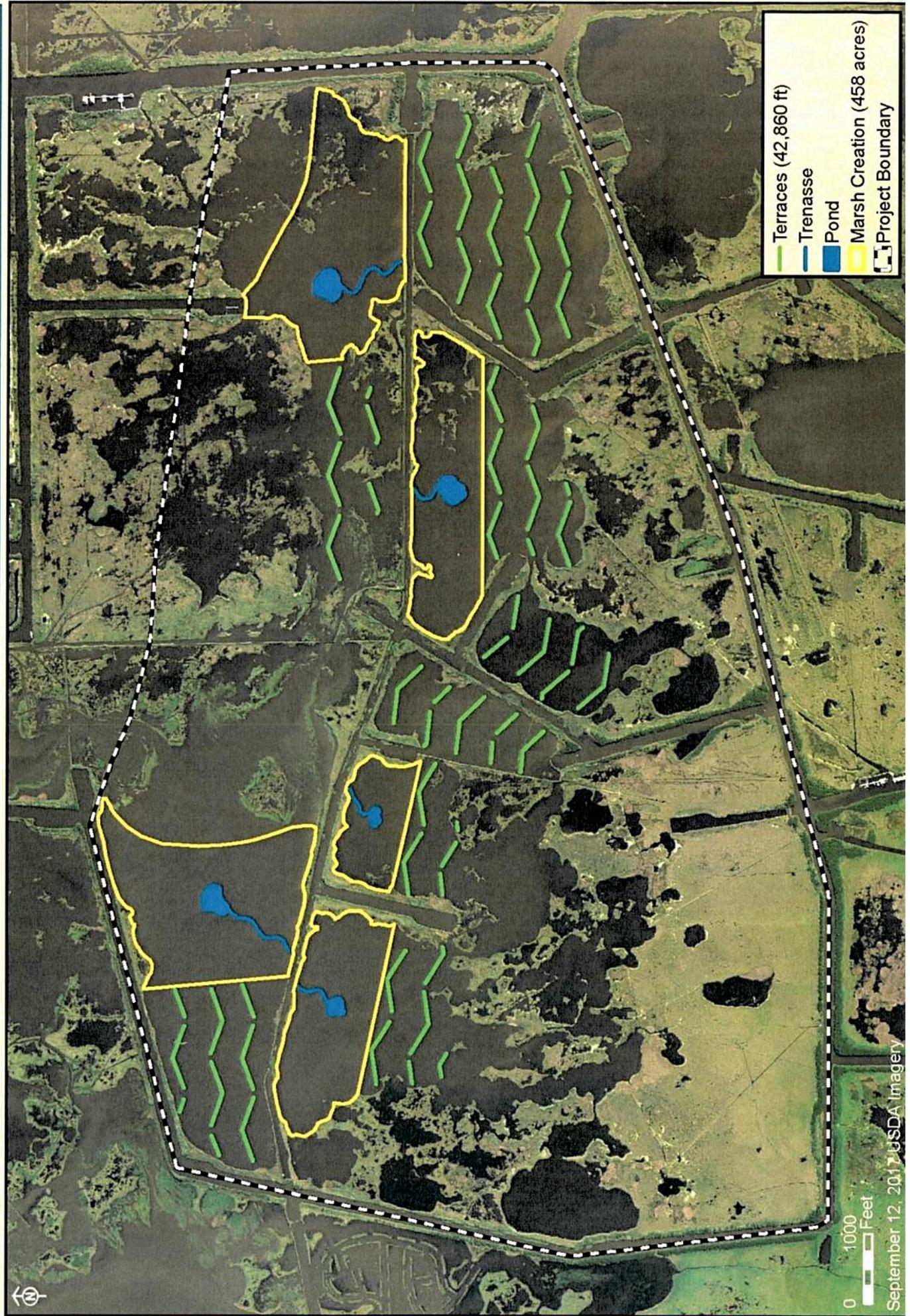


South Pecan Island Restoration Vicinity Map



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

Louisiana Ecological Services
South Pecan Island Marsh Creation



- Terraces (42,860 ft)
- Trenasse
- Pond
- Marsh Creation (458 acres)
- Project Boundary

0 1000 Feet
September 12, 2017 USDA Imagery

South Pecan Island Marsh Creation Project PPL 28 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 2016 land loss rate is -0.39%/year

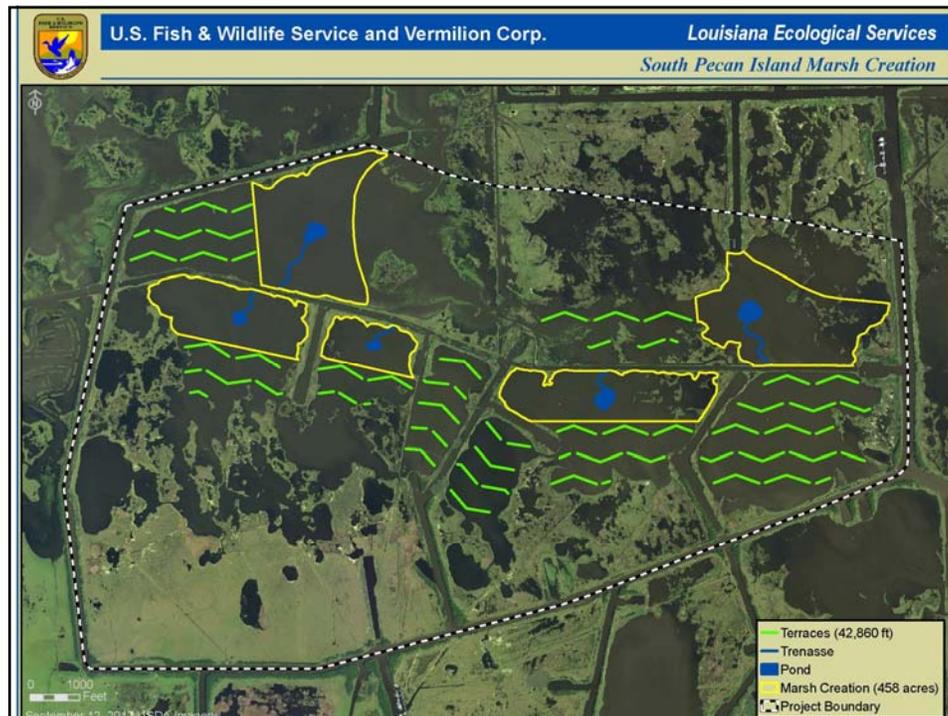
Goal

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

Sponsors – Vermilion Corp., FWS







- **Features** – Restore & nourish 478 acres of brackish to intermediate marsh south of Pecan Island with dredged material from the Gulf of Mexico (459 acres MC/MN) & terraces (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 an area south of Pecan Island to help protect the island & adjacent marshes.
- **Cost** - Estimated construction cost is \$30 to \$35 M.
Estimated cost effectiveness ~ \$73,200/acre.