REGION 4

Coastal Wetlands Planning Protection & Restoration Act

25th Priority Project List

Region 4

Regional Planning Team Meeting

January 27, 2015
Lafayette, LA

CWPPRA

1. Welcome and Introductions

- RPT Region 4 Leader: Darryl Clark - USFWS

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Announcements

- Copies of the PPL 25 Selection Process & Schedule available at the sign-in table.
- PPL 25 RPT meetings to accept project nominees:
  - **Region IV, Estuarine Fisheries & Habitat Center, Jan. 27, 2015, 11:00 am**
  - Region III, Terrebonne Parish Main Library, Jan. 28, 2015, 9:00 am
  - Region I, USFWS SE LA Refuges Complex (Big Branch), Jan. 29, 2015, 8:00 am
  - Region II, USFWS SE LA Refuges Complex, Jan. 29, 2015, immediately following Region I
- Parish representatives must identify themselves during the RPT meetings and **fill out a voting registration form**, including contact information for the primary and secondary voting representatives that will cast votes during the Coastwide Electronic Vote.

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Region 4 Parishes

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

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RPT Meetings

- Project proposals should be consistent with the 2012 State Master Plan.
- A project can only be nominated in one basin (except for coastwide projects – more info on coastwide projects after the following "RPT Meetings" slide).
- Proposals that cross multiple basins, excluding coastwide projects, shall be nominated in one basin only, based on the majority area of project influence.
- Coastwide projects apply across basin boundaries; their benefits are not tied to one basin. They can be nominated from any basin and can be presented in all RPT meetings.

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RPT Meetings

- Presenters without factsheets **MUST** complete a PPL 25 Nomination Sign-Up Sheet for <u>each</u> project nominee (demo projects too).
- Presenters with factsheets, please give 3 factsheets to Allison, Michelle & Kylie <u>before</u> 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 18, 2015.
- Limit comments/questions during meeting to PPL 25 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 24, 2015.
- The Technical Committee may or may not select a coastwide project in April 2015.

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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 Feb. 24 Coastwide Electronic Vote.
- The Technical Committee selects up to 3 demos in April 2015.
- Workgroups may recommend that no demos move forward to candidate stage
- Previous demo candidates must be ***re-nominated*** for PPL 25.

Coastwide Electronic Vote (Feb 24) 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

- Parishes of each basin are asked to ***identify*** **TODAY** ***who will vote*** during the 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 2/18/2015.

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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.
- Parish representatives must **fill out a voting registration form** at the RPT meetings with their email addresses to receive the voting sheets in February.
- Voters may either email their voting sheets to allison.murry@usace.army.mil OR fax their voting sheets to 504-862-2572.
  All votes must be received by 10:30 am on February 24, 2015.

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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 25 criteria.

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PPL 24 Candidate Project Selection

- CWPPRA Technical Committee meeting, April 16, 2015 at 9:30 am, Louisiana Department of Wildlife and Fisheries in Baton Rouge.
- Technical Committee ranks nominees and votes to select 10 candidate projects and up to 3 demos.
- Written public comments should be submitted to Corps of Engineers prior to Tech Comm meeting by April 2, 2015.
- Public comments also accepted orally during meeting.

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PPL 24 Candidate Project Evaluation & 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
- Technical Committee votes to select up to 4 candidate projects and up to 1 demo to recommend for Phase 1.
  - Dec. 10, 2015, Baton Rouge, 9:30 am
- Task Force final decision to select PPL 25 in January 2016.

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PPL 25 Timeline

- **Coastwide Electronic Vote, Feb. 24, 2015**
  - 21 basin-project nominees, 1 coastwide nominee, and 6 demos selected
- **Technical Committee Mtg, Apr. 16, 2015, Baton Rouge**
  - Selection of 10 candidates and up to 3 demos
- **Technical Committee Mtg, Dec. 10, 2015, New Orleans**
  - Recommend up to 4 projects for Phase 1 funding
- **Task Force Mtg, Jan. 2016, 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 18, 2015**

Brad Inman
CWPPRA Program Manager
U.S. Army Corps of Engineers
P.O. Box 60267
New Orleans, Louisiana 70160

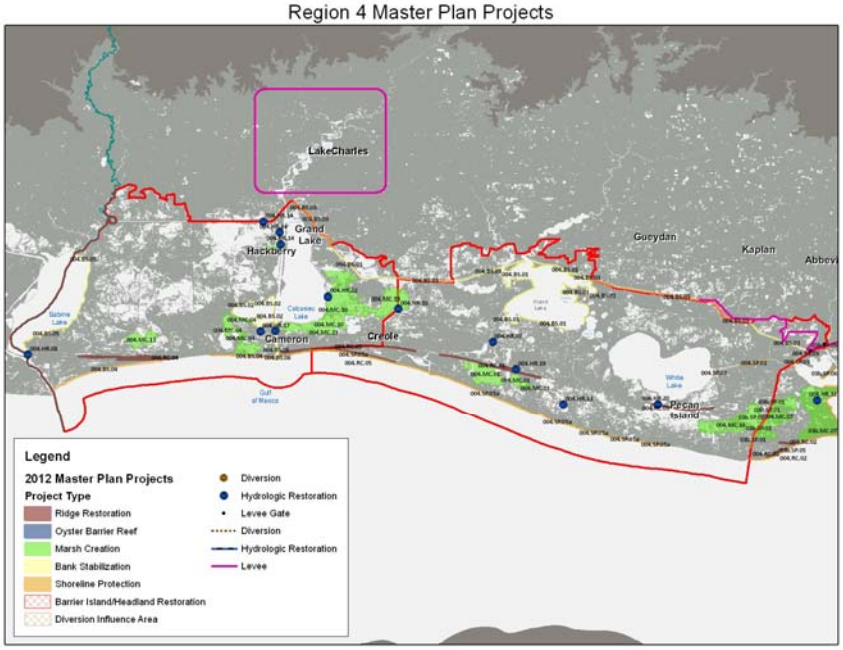
Fax: 504-862-2572
(Attn: Brad Inman)

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

(this information is on the back of the agenda)

CWPPRA

Region 4 Master Plan Projects



CWPPRA

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

CWPPRA

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

CWPPRA

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

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

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

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

ATTENDANCE RECORD

DATE	SPONSORING ORGANIZATION	LOCATION
January 27, 2015 11:00 A.M.	COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT	Estuarine Fisheries & Habitat Center 646 Cajundome Blvd Lafayette, LA

PURPOSE

MEETING OF THE REGIONAL PLANNING TEAM REGION IV

PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER
Darryl Clark	Senior Fish & Wildlife Biologist - USFWS	337-291-3111
Brad Inman	Senior Project Manager USACE	504-862-2124
Erick Swenson	Research Associate LSU	225 578-2730
Ryan Bourriaque	Cameron Parish Administrator	387-775-5718
Ronny Paille	USFWS	337-291-3117
Nedra Davis	Chenier Plain Coastal Restoration & Protection Authority	225 333 8234
Sherrill Segrest	Vermilion	
Mike Carloss	DU	337 408 3288
Brad Crawford	EPA	214 665 2255
Sharon Osowski	EPA	214-665-7506
Laurie Cormier	Calcasieu Parish Police Jury	337 721-3600
Donna Rogers	NOAA RC	225-316-8958
Ron Boustany	NRCS	337-291-3067
Ralph Libersat	Vermilion Parish	337-652-6557
Whitney Broussard	UL Lafayette - Research Scientist	337-482-1356
Lisa Landry	LDWF	985-634-4743
Barry Hebert	LDWF	225 763 0037
Stu Brown	CPRA	225 342-4836
Amanda Taylor	CPRA	225-342-9419
Logan Boudreaux	CPRA	225 342 2674
Chad Courville	Miami Corporation	337.264.1695
John Pettibon	CUE	504-862-2732

LMV FORM 583-R
JAN 88

* If you wish to be furnished a copy of the attendance record, please indicate so next to your name.

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January 27, 2015 11:00 A.M.	COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT	Estuarine Fisheries & Habitat Center 646 Cajundome Blvd Lafayette, LA

PURPOSE

MEETING OF THE REGIONAL PLANNING TEAM REGION IV

PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER
Pat Landry	CPRA	(337) 482-0680
Adrian Chavarria	EPA	214-665-3103
Amber Robinson	HDR, INC	337.962.0619
Kevin Sagrera	U.P.P.J.	337-303-4585
Charles Sasser	LSU	225-578-6375
Josh Anderson	Gulf Coast SWCD	337-515-5442
Mark Chapman	NRCS Lake Charles	337 474 1583
Randy Moertle	RCA	985 856-3630
Angela Trahan	FWS	337 291 3137
Lisa Abernathy	NMFS	225-389-0508
Kimberly Clements	NMFS	225-389-0508

LMV FORM 583-R
JAN 88

* If you wish to be furnished a copy of the attendance record, please indicate so next to your name.

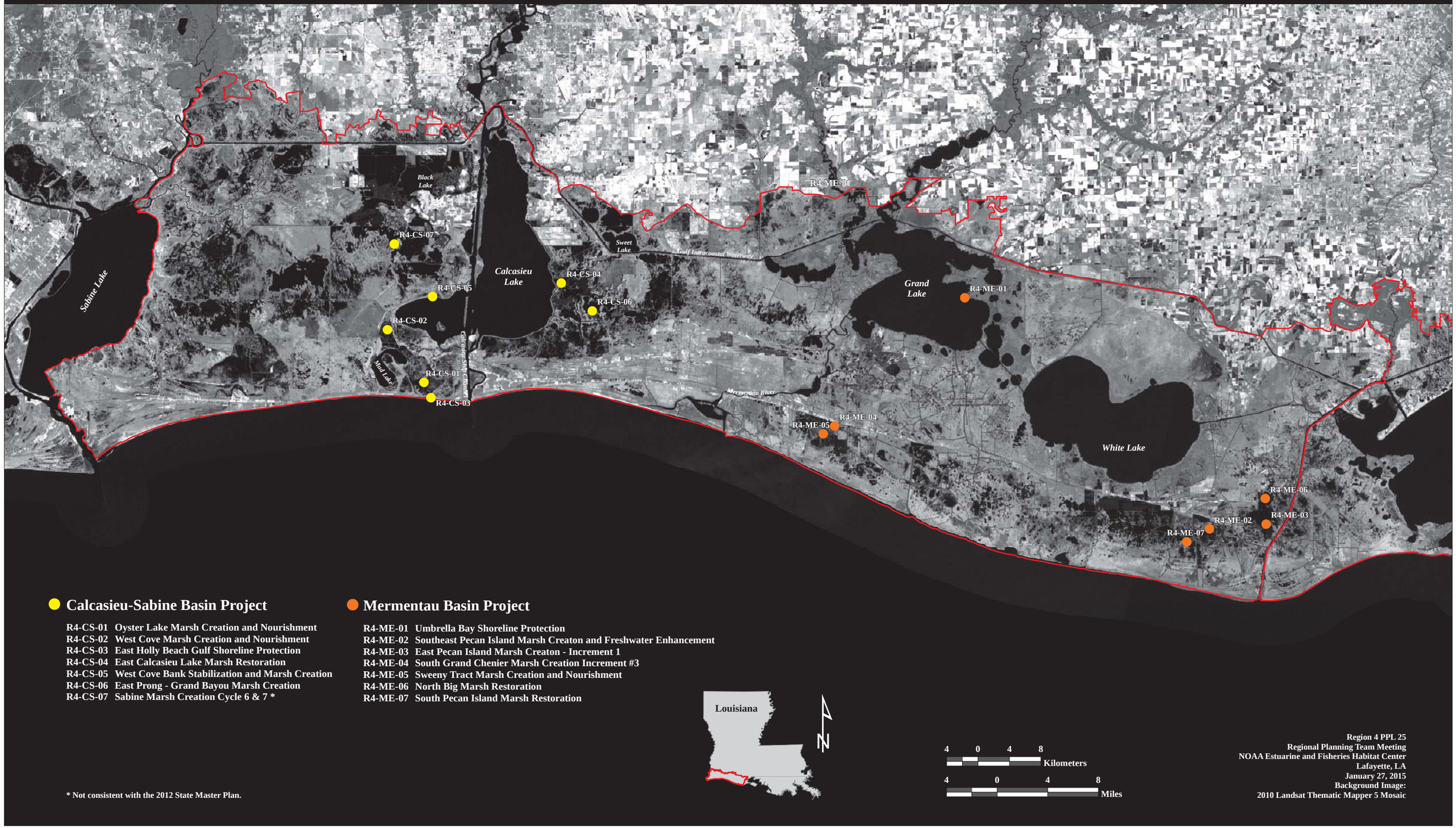
Region 4 – CALCASIEU-SABINE BASIN

Project Number	Project Proposals
R4-CS-01	Oyster Lake Marsh Creation & Nourishment
R4-CS-02	West Cove Marsh Creation & Nourishment
R4-CS-03	East Holly Beach Gulf Shoreline Protection
R4- CS-04	East Calcasieu Lake Marsh Restoration
R4-CS-05	North West Cove Bank Stabilization & Marsh Creation
R4-CS-06	East Prong Grand Bayou Marsh Creation
~~R4-CS-07~~	~~Sabine Refuge Marsh Creation Cycles 6 & 7~~ *not consistent with 2012 State Master Plan*

Region 4 – MERMENTAU BASIN

R4-ME-01	Umbrella Bay Shoreline Protection
R4-ME-02	Southeast Pecan Island Marsh Creation & Freshwater Enhancement
R4-ME-03	East Pecan Island Marsh Creation – Increment 1
R4-ME-04	South Grand Chenier Marsh Creation – Increment 3
R4-ME-05	Sweeney Tract Marsh Creation & Nourishment
R4-ME-06	North Big Marsh Restoration
R4-ME-07	South Pecan Island Marsh Creation

Region 4 PPL25 Nominated Projects



Calcasieu-Sabine Basin Project

R4-CS-01 Oyster Lake Marsh Creation and Nourishment
R4-CS-02 West Cove Marsh Creation and Nourishment
R4-CS-03 East Holly Beach Gulf Shoreline Protection
R4-CS-04 East Calcasieu Lake Marsh Restoration
R4-CS-05 West Cove Bank Stabilization and Marsh Creation
R4-CS-06 East Prong - Grand Bayou Marsh Creation
R4-CS-07 Sabine Marsh Creation Cycle 6 & 7 *

Mermentau Basin Project

R4-ME-01 Umbrella Bay Shoreline Protection
R4-ME-02 Southeast Pecan Island Marsh Creaton and Freshwater Enhancement
R4-ME-03 East Pecan Island Marsh Creaton - Increment 1
R4-ME-04 South Grand Chenier Marsh Creation Increment #3
R4-ME-05 Sweeny Tract Marsh Creation and Nourishment
R4-ME-06 North Big Marsh Restoration
R4-ME-07 South Pecan Island Marsh Restoration

4 0 4 8 Kilometers

4 0 4 8 Miles

* Not consistent with the 2012 State Master Plan.

Region 4 PPL 25
Regional Planning Team Meeting
NOAA Estuarine and Fisheries Habitat Center
Lafayette, LA
January 27, 2015
Background Image:
2010 Landsat Thematic Mapper 5 Mosaic

Region 4 – CALCASIEU-SABINE BASIN

R4-CS-01

Oyster Lake Marsh Creation & Nourishment

PPL25 PROJECT NOMINEE FACT SHEET
January 27, 2015

Project Name:
Oyster Lake Marsh Creation and Nourishment

Louisiana's 2012 Coastal Master Plan
Marsh Creation – 004.MC.04

Project Location:
Region 4, Calcasieu-Sabine Basin, located west of the Calcasieu Ship Channel and south of the west fork of the Calcasieu River

Problem:
The project would restore marsh to offset levels of historic and ongoing wetland loss. Based on USGS and analysis of 1978 to 2000 data and Corps of Engineers data from 1974 to 1990, landloss ranges from 4.8 acres to 18.8 acres per year for the project area. Saltwater intrusion, drought stress, and hurricane induced wetland losses have resulted in interior marsh breakup and coalescence of Oyster Lake with interior water bodies.

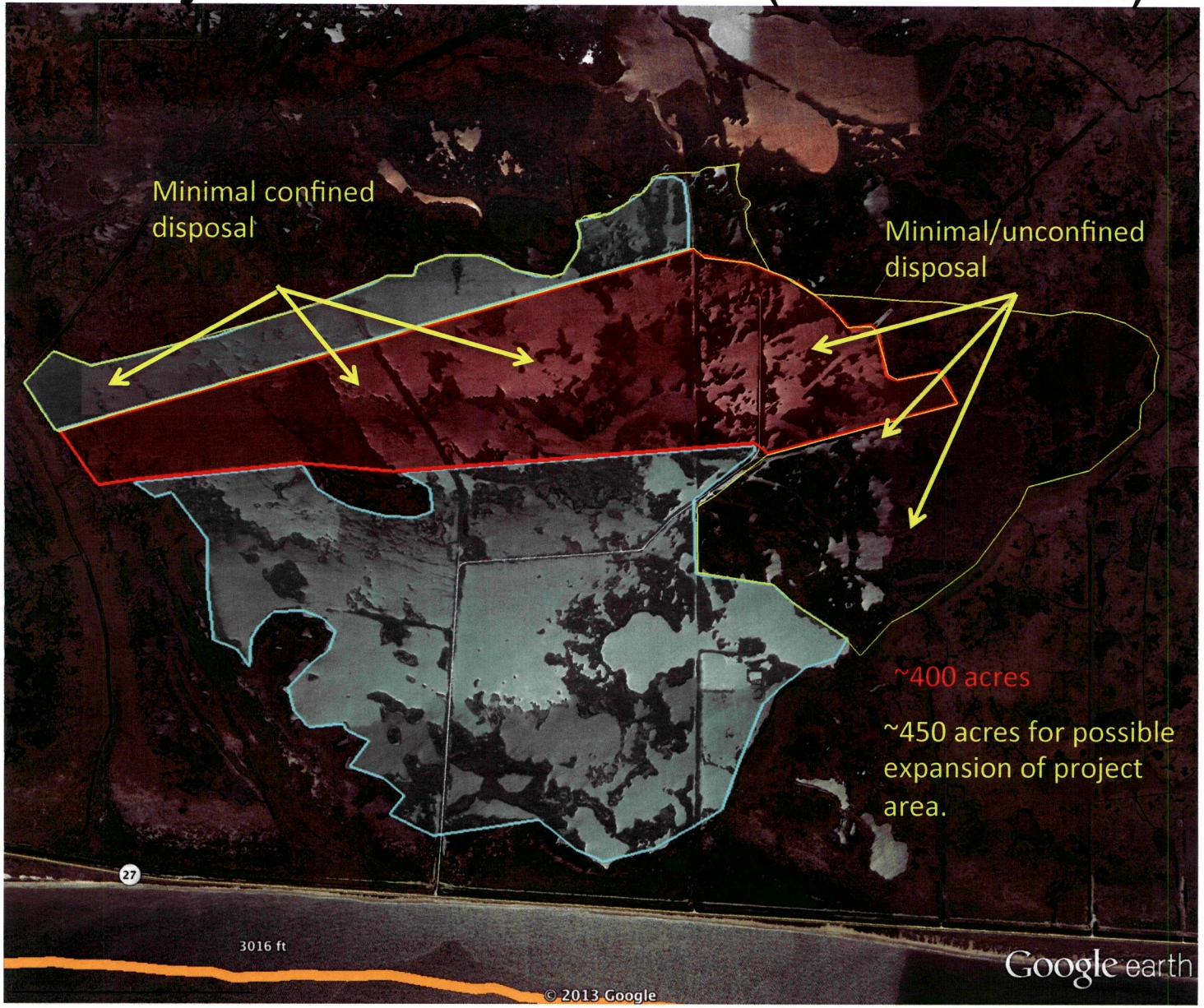
Goals:
Restore coastal marsh habitat through the creation of 400 to 600 acres of saline marsh.

Proposed Solutions:
Sediment would be mined from the offshore disposal area used for CS-59 and placed in multiple disposal areas to create between 400 to 600 acres of saline marsh. Disposal areas would be constructed between the CS-59 marsh creation areas and terrace field depicted on the concept map (red polygon). Disposal would be semi-confined and up to half of the created elevations would be planted with smooth cordgrass plugs. Possible expansion of the marsh creation area is shown on the concept map as yellow polygons. Although marsh creation via dedicated dredging of sediment would be the primary technique, opportunities may exist to include some terracing where warranted, but that is not included in the benefit/cost estimates at this time.

Preliminary Construction Costs:
The cost plus 20% contingency is about $27 million (500 acres). The fully-funded cost range is $30M-$35M.

Preparer(s) of Fact Sheet:
John D. Foret, Ph.D., NOAA's National Marine Fisheries Service, (337) 291.2107;
john.foret@noaa.gov

PPL 25: Oyster Lake Marsh Creation (Cameron Parish)



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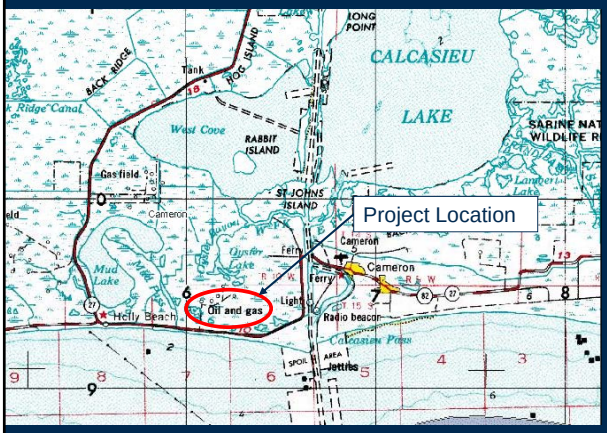
Science, Service, Stewardship

Oyster Lake Marsh Creation and Nourishment (Cameron Parish)

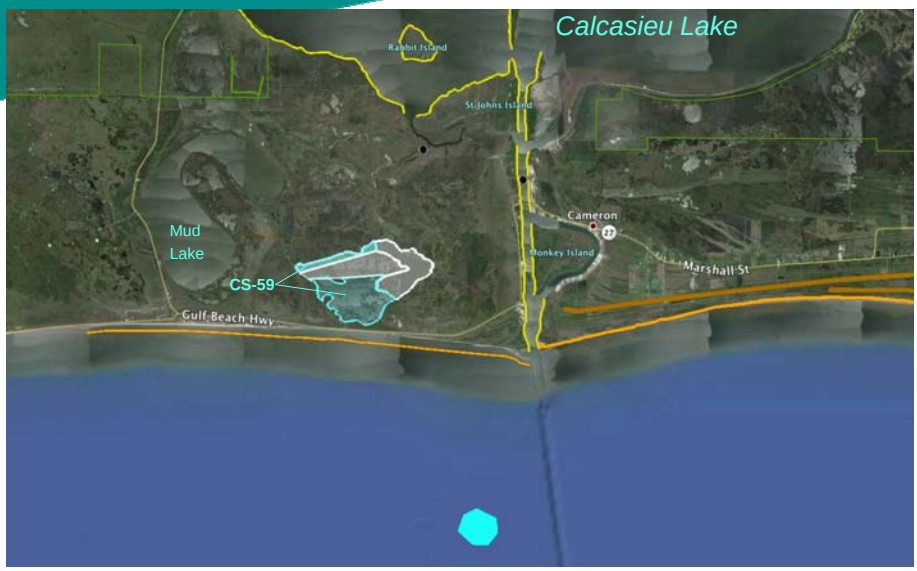
Region IV – Calcasieu/Sabine Basin



NOAA FISHERIES SERVICE

January 27, 2015

NOAA FISHERIES SERVICE



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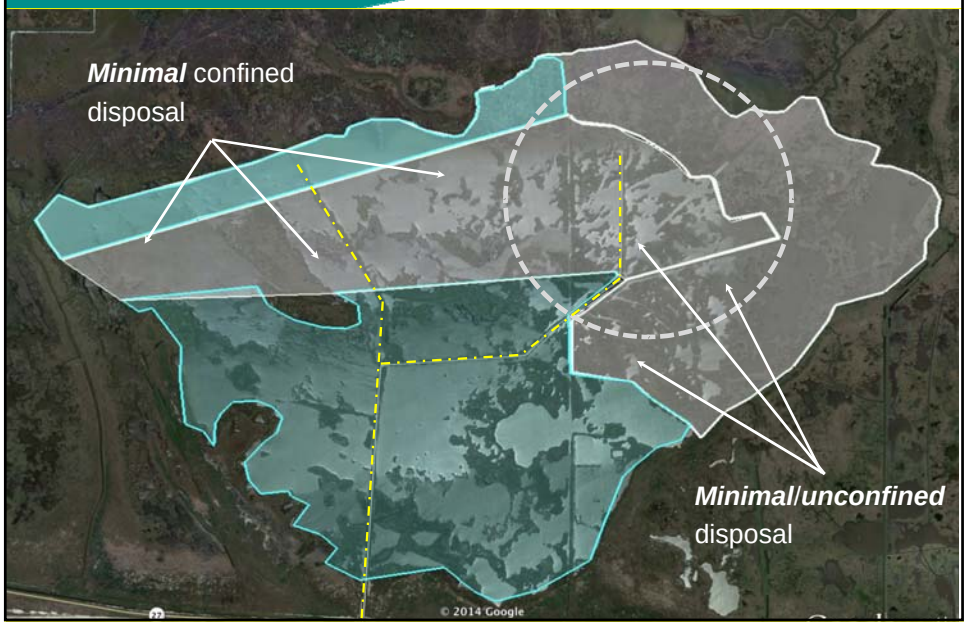
PPL 25: Oyster Lake Marsh Creation/Nourishment



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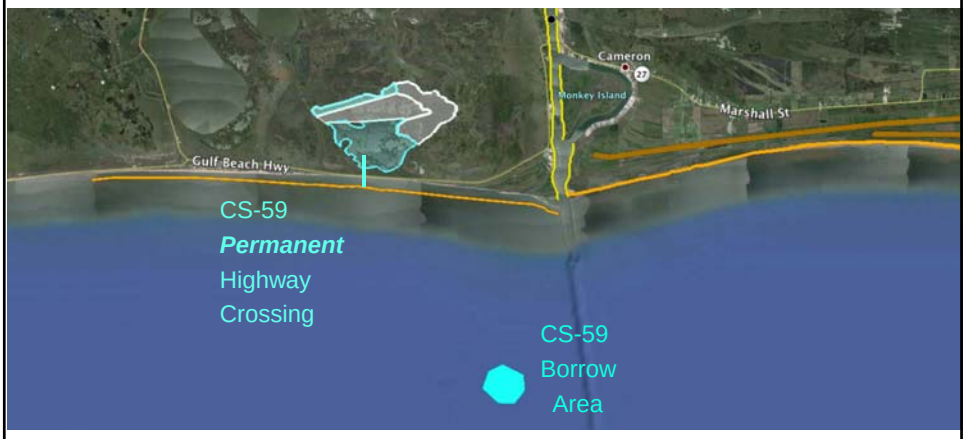

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NOAA FISHERIES SERVICE

Project Features

- Total Acres = 500 acres
- 10,000 LF of tidal creeks
- Project is expandable up to ***800+ acres***
- Re-establishes historic land bridge feature between LA Highway 82 and Oyster Lake
- Re-establishes marsh platform with ponds/tidal channels
- Borrow from identified, surveyed, CS-59 offshore area
- Complements CS-59 and Parish restoration activities in the area
- Consistent with State Master Plan
- Provides protection to Hackberry & Lake Charles
- Construction Cost with 25% contingency = $27 million

6

R4-CS-02

West Cove Marsh Creation & Nourishment

R4-CS-02

PPL23 PROJECT NOMINEE FACT SHEET
January 27, 2015

Project Name
West Cove Marsh Creation and Nourishment

Louisiana's 2012 Coastal Master Plan
Marsh Creation – 004.MC.04

Project Location
Region 4, Calcasieu-Sabine Basin, Cameron Parish

Problem
Historically, 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 such as 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 down warping within this area. These factors contributed to the weakening of the wetland plant community, such that the community could not respond to increasing salinities and flood duration. The conversion of wetlands to open water also occurred during increased tidal action (i.e. tropical events), the wetland vegetation is physically removed, leaving open water areas. Salinity levels and flood duration have been improved with time, however water depths are not conducive for the reestablishment of emergent vegetation. In addition, SAV habitat in the project is also limited by wave action within the large, open water area.

Proposed Solution
The proposed project's primary feature is to create and/or nourish approximately 500 ac (445 ac created, 55 ac nourished) of marsh, and approximately 10,000 linear ft of tidal creeks. In order to achieve this, sediment will be hydraulically pumped from the upland disposal areas of the Calcasieu Ship Channel into the shallow water marsh creation area. The upland disposal areas will be mined to approximately +2, reestablishing approximately half of this 325 acre area as emergent marsh. Containment dikes will be constructed around the marsh creation area to keep material on site during pumping and the tidal creeks and ponds will be constructed. Once pumping has been completed, the containment dikes will be degraded to the current platform elevation and gaps will be made in the containment dike, hydraulically connecting the constructed tidal creeks to the adjacent water. Additionally, the newly constructed marsh will be assessed to determine if vegetative plantings will be necessary. Funds are budgeted to plant 50% of the created marsh acres (230 ac).

Goals
The project goal is to create and/or nourish approximately 675 ac (450 ac created, 55 ac nourished in placement area and 170 created from upland disposal source) of emergent brackish marsh using sediment from the upland disposal areas along the Calcasieu Ship Channel.

Preliminary Construction Costs
The estimated construction cost range including 25% contingency is $26 million. The fully funded cost range is $30M-$35M.

Preparer(s) of Fact Sheet:
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PPL 25: West Cove Marsh Creation Vicinity Map

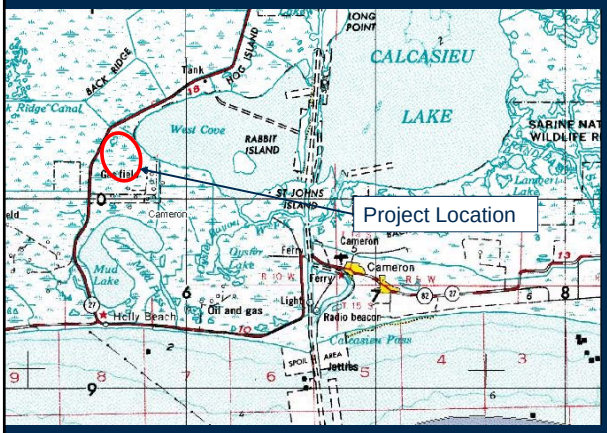
Google Earth Pro

miles 9
km 10

Science, Service, Stewardship

West Cove Marsh Creation and Nourishment (Cameron Parish)

Region IV – Calcasieu/Sabine Basin



NOAA FISHERIES SERVICE

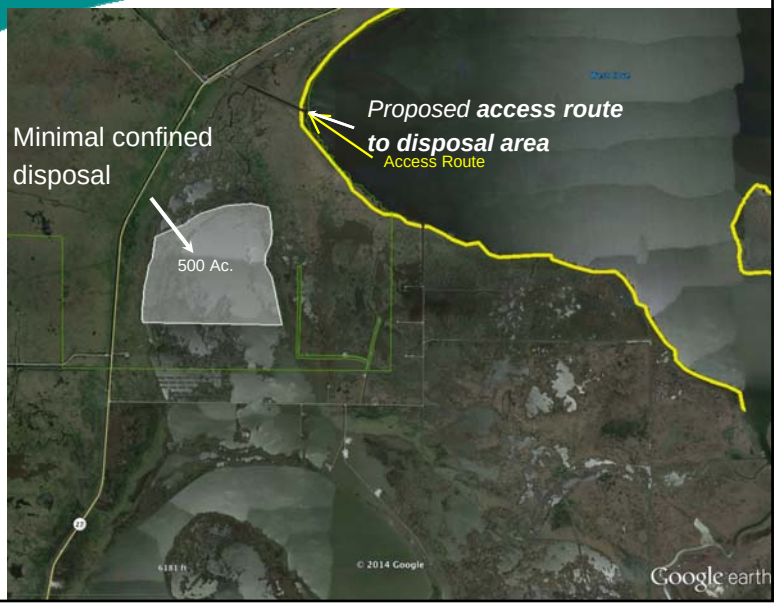
January 27, 2015

NOAA FISHERIES SERVICE

3

NOAA FISHERIES SERVICE

PPL 25: West Cove Marsh Creation/Nourishment



NOAA FISHERIES SERVICE

Project Features

- Total Acres = 675 acres, with 10,000 LF of tidal channels
- Utilizes material from USFWS owned upland disposal areas along Calcasieu Ship Channel for beneficial marsh creation
- Mines upland down to emergent marsh (+2'), and in those areas, no future dredge disposal will be allowed
- Project is ***expandable***
- Re-establishes historic land bridge feature between LA Highway 27 and Calcasieu Lake (West Cove)
- Re-establishes marsh platform with ponds/tidal channels
- Consistent with State Master Plan
- Provides protection to Hackberry & Lake Charles
- Construction Cost with 25% contingency = $26 million

5

R4-CS-03

East Holly Beach Gulf Shoreline Protection

R4-CS-03

PPL25 PROJECT NOMINEE FACT SHEET
January 27, 2015

Project Name
East Holly Beach Gulf Shoreline Protection

Master Plan Strategy
Calcasieu-Sabine Shoreline Protection-Component A: Shoreline protection through rock breakwaters of approximately 38,000 feet of Gulf shoreline - 004.BS.04a. This project is also included in the 2013 Southwest Louisiana Coastal Study.

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

Problem
The project will be designed to reduce erosion of the Gulf Shoreline and protect the State's Beach Nourishment project (CS-33 SF). Recent loss rates (1998-2008) were calculated from aerial photography at 26.5 ft/yr. In some of the areas proposed for protection, less than 25 feet of shoreline remains between Louisiana State Highway 82 and the Gulf of Mexico.

Goals
The project is designed to reduce wave energies on the gulf shoreline west of the Calcasieu Ship Channel and trap sediment between the breakwaters and shoreline. The total area benefited is approximately 267 acres of beach, dune, and supratidal habitat created by (CS-33 SF) the state surplus project. The proposed project maintains a beach rim component of the coastal ecosystem and has a positive net impact on critical infrastructure (Highway 82). The project would also protect and restore critical habitat for the piping plover, a threatened/endangered species.

Proposed Project Features
The project proposes approximately 15,000 linear feet (2.8 miles) of breakwaters similar to the Holly Beach Breakwater Project (CS- 01) to protect the most critical shoreline area along Highway 82. Breakwaters will be designed on the CS-01 template, using all the lessons learned from the Holly Beach Breakwater Enhancement and Sand Management Project (CS-31). Approximately 40 round rubble breakwaters (ranging from 220 – 250 ft with 150 ft gaps), placed 300 feet offshore and built to 3.8 ft NGVD will be created. This project will protect approximately 267 acres of beach created by the CS-33SF project using approximately 2 million cubic yards of sand from an offshore borrow site. The CS-33SF report (Table 16) concludes that the majority of those 267 created acres would be lost 20 years after construction.

Preliminary Project Benefits
1) What is the total acreage benefited both directly and indirectly? The total area benefitted is estimated at 267 acres.

2) *How many acres of wetlands will be protected/created over the project life*? The project would protect approximately **175 net acres** (75% of the 233 acres projected to be lost without project).

3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%).* The anticipated loss rate reduction throughout the area of direct benefit is estimated to be *75%.*

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.* The proposed project would maintain a beach rim component of the coastal ecosystem. This area has also been designated as critical habitat for the threatened piping plover by the Fish and Wildlife Service.

5) *What is the net impact of the project on critical and non-critical infrastructure*? The proposed project would provide protection to Louisiana Highway 82 and the Gulf shoreline.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects*? The proposed project is synergistic with the Holly Beach Breakwater Project (CS- 01), Holly Beach Breakwater Enhancement and Sand Management Project (CS-31), and a proposed state surplus project (CS-33 SF) that will create/nourish this area using sand from offshore borrow sites.

Identification of Potential Issues
There are no issues identified at this time.

Preliminary Construction Costs (w/25% contingency)
The estimated construction cost including 25% contingency is $15.1M.

Preparers of Fact Sheet
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John Jurgensen, NRCS john.jurgensen@la.usda.gov

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

Data Source: NAIP 2013

Map Date: JANUARY 16, 2014

N
W E
S

PPL-25
EAST HOLLY BEACH
SHORELINE PROTECTION

Legend
ROCK_BREAKWATER
ROADS

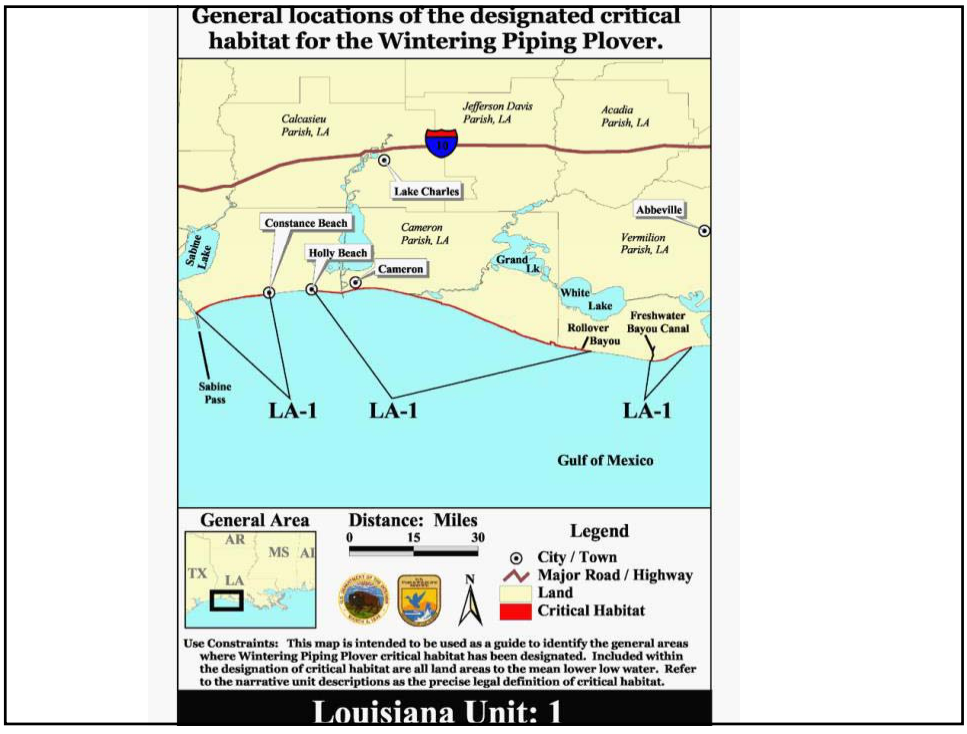
0 5,000 10,000
Feet

PPL 25
Regional Planning Team
January 27, 2015

Region 4
Cal/Sab Basin

East Holly Beach Gulf Shoreline Protection


January 2014


General locations of the designated critical habitat for the Wintering Piping Plover.
Calcasieu Parish, LA
Jefferson Davis Parish, LA
Acadia Parish, LA
Lake Charles
Abbeville
Constance Beach
Cameron Parish, LA
Vermilion Parish, LA
Sabine Lake
Holly Beach
Cameron
Grand Lk
White Lake
Rollover Bayou
Freshwater Bayou Canal
Sabine Pass
LA-1
LA-1
LA-1
Gulf of Mexico
General Area
AR
MS
AL
TX
LA
Distance: Miles
0
15
30
N
Legend
City / Town
Major Road / Highway
Land
Critical Habitat
Use Constraints: This map is intended to be used as a guide to identify the general areas where Wintering Piping Plover critical habitat has been designated. Included within the designation of critical habitat are all land areas to the mean lower low water. Refer to the narrative unit descriptions as the precise legal definition of critical habitat.
Louisiana Unit: 1

East Holly Beach Gulf Shoreline Protection

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

R4-CS-04

East Calcasieu Lake Marsh Restoration

RY-CS-04

PPL25 PROJECT NOMINEE FACT SHEET
January 27, 2015

Project Name
East Calcasieu Lake Marsh Restoration

Master Plan Strategy
Southeast Calcasieu Lake Marsh Creation 004.MC.10 and; East Calcasieu Lake Hydrologic Restoration - 004.HR.22.
This project is also included in the 2013 Southwest Coastal Louisiana Study.

Project Location
Region 4, Calcasieu/Sabine Basin, Cameron Parish, east of Calcasieu Lake west of Highway 27.

Problem
The project area marshes have experienced increased tidal exchange, saltwater intrusion, and reduced freshwater retention associated with the Calcasieu Ship Channel and the GIWW. Between 1952 and 1974, this area is thought to have had some of the highest loss rates of any area in coastal Louisiana. Some of that loss is linked to natural disturbances such as Hurricane Audrey, Hurricane Carla, and the severe droughts of the early 1960's. However, because of man-made alterations to the hydrology those marshes were unable to adapt and repair themselves through natural processes. To reduce impacts associated with the Ship Channel, the Cameron-Creole Watershed Project was completed in 1989. That project has successfully reduced salinities and increased marsh productivity. Recently, Hurricanes Rita and Ike were responsible for additional marsh loss in the Cameron-Creole area. Repairs to the Cameron-Creole Watershed Project structures and levees have been completed; however, hydrology in the project area remains impaired from recent storm impacts.

Goals
The project goal is to promote the expansion of emergent marsh vegetation throughout the project area and restore hydrology by creating/nourishing approximately 230 acres of marsh in areas designed to reduce salt water intrusion and rapid water exchange.

The project will also reduce prolong periods of inundation by relieving flooding stress and restore the function, value, and sustainability to approximately 7,500 acres of marsh and open water.

Proposed Project Features
The project proposes to create approximately 230 marsh acres and construct a spillway structure in the Cameron-Creole Levee at East Calcasieu Lake.

Preliminary Project Benefits
1) What is the total acreage benefited both directly and indirectly? The total area benefitted is estimated at 7,500 acres.

2) *How many acres of wetlands will be protected/created over the project life*? The project would protect/create approximately **250 net acres**

3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%).* The anticipated loss rate reduction throughout the area of direct benefit is estimated to be *25-49%.*

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.* The proposed project would protect and create wetlands that provide critical protection to the Cameron-Creole Levee and the east shoreline of Calcasieu Lake.

5) *What is the net impact of the project on critical and non-critical infrastructure*? The proposed project would provide protection to the Cameron-Creole Levee.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects*? The proposed project is also synergistic with the Cameron-Creole Plugs project (CS-17), the Cameron-Creole Maintenance project (CS-04a), and the Cameron-Creole Freshwater Introduction project (CS-49) implemented and/or designed to reduce salinities and increase marsh production.

Identification of Potential Issues
There are no issues identified at this time.

Preliminary Construction Costs
The estimated construction cost including 25% contingency is approximately $20 million.

Preparer of Fact Sheet
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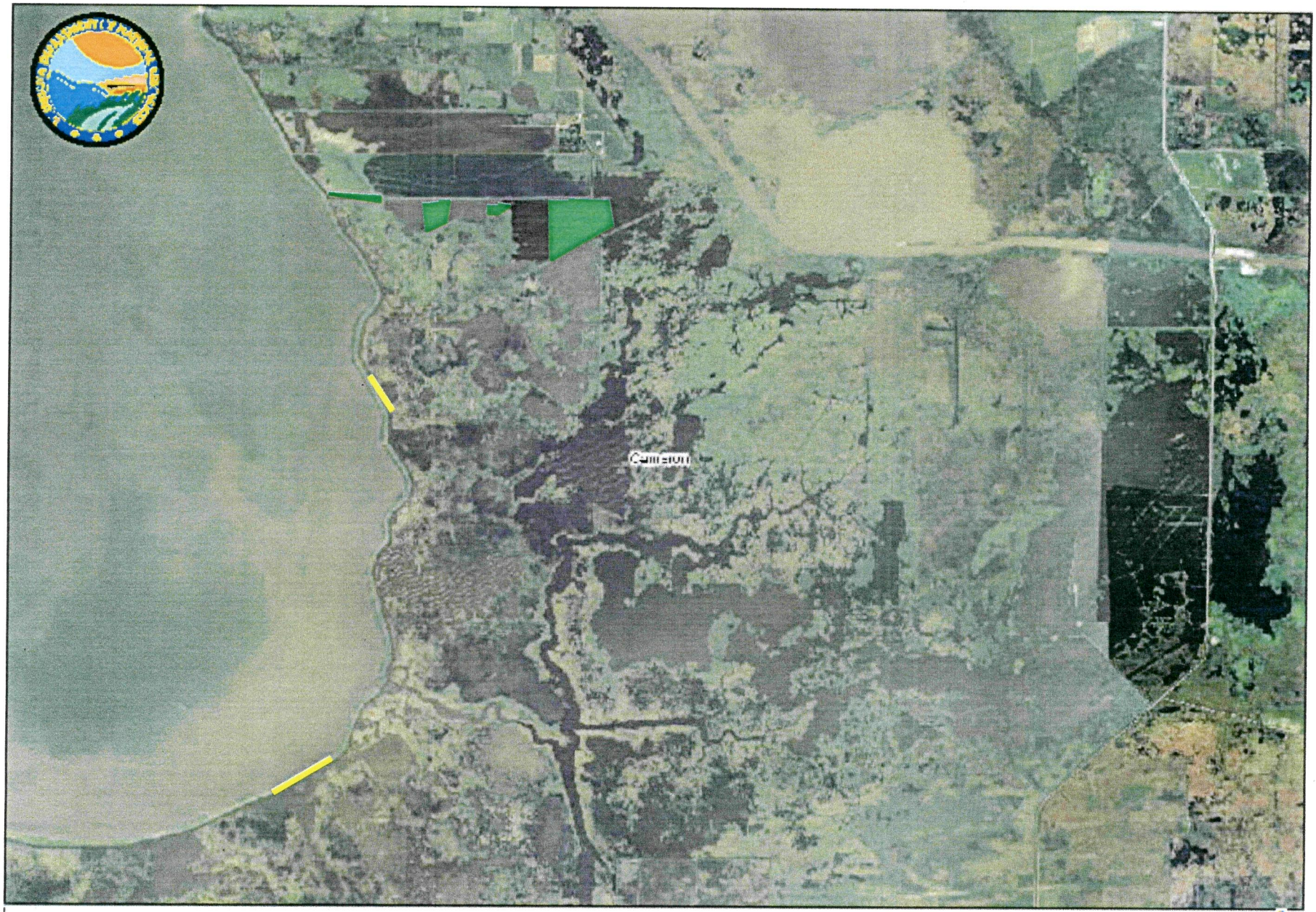
Ronald_Paille@FWS.Gov
Chad Courville, Miami Corporation (337) 264-1695, cjcourville1@bellsouth.net



East Calcasieu Marsh Restoration

0 0.7 1.4 mi

Absolute Scale: 1:91,503

Relative Scale: 1 inch = 7,625 feet

Disclaimer: This data is not to be used for legal purposes.

Date: 1/23/2015

N

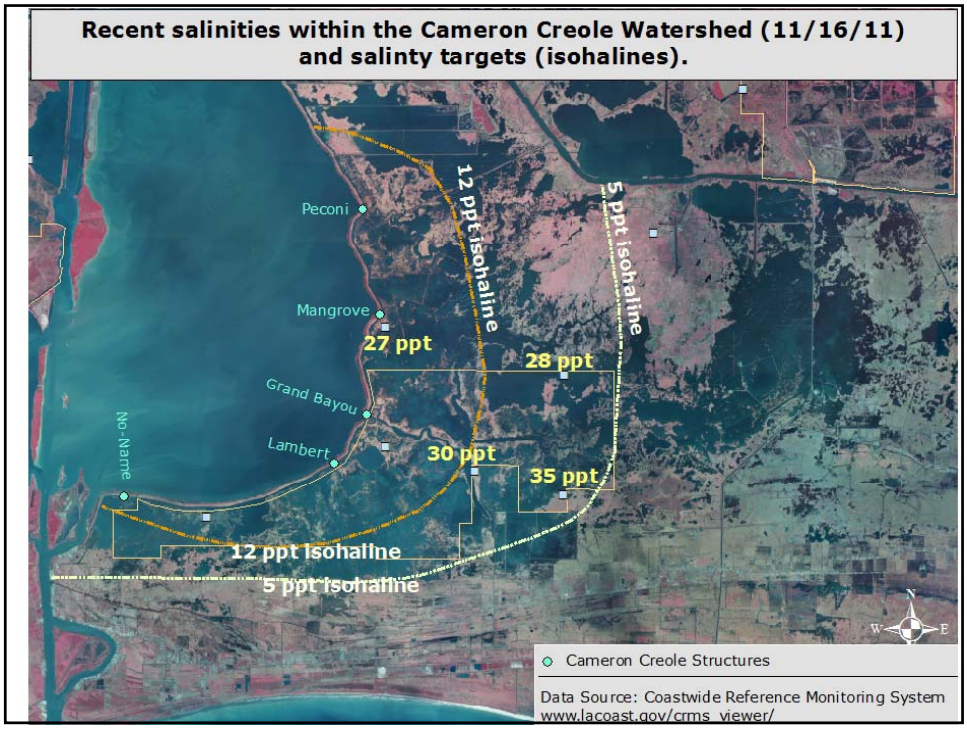
PPL 25
Regional Planning Team
January 27, 2015

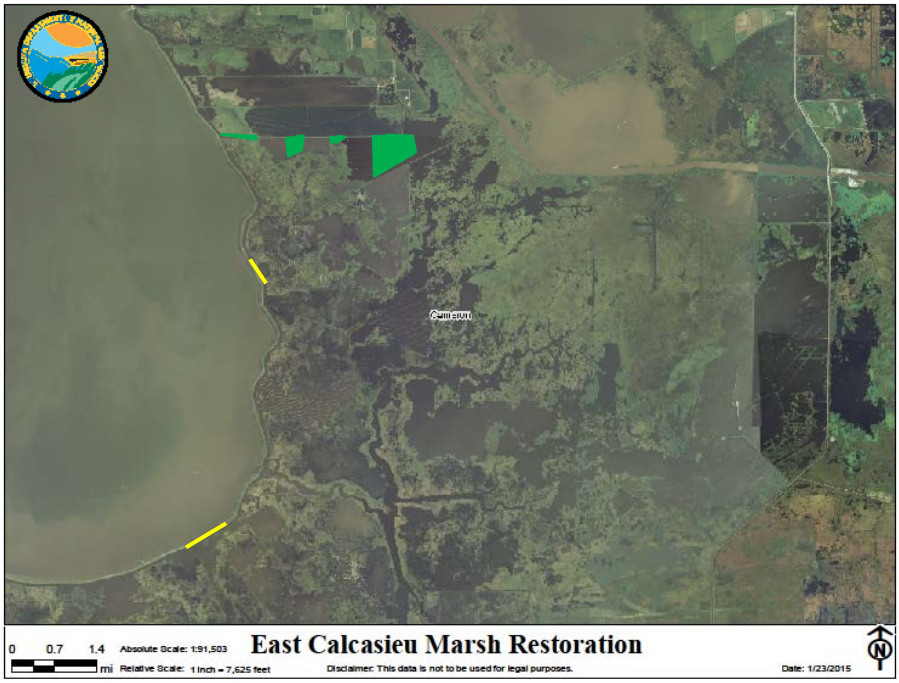
Region 4
Cal/Sab Basin

East Calcasieu Lake Marsh Restoration

Problems

- Salt water intrusion from Calcasieu Ship Channel
- Spillway structure needed to evacuate high water events


Recent salinities within the Cameron Creole Watershed (11/16/11) and salinty targets (isohalines).
Peconi
Mangrove
Grand Bayou
Lambert
No Name
12 ppt isohaline
5 ppt isohaline
27 ppt
28 ppt
30 ppt
35 ppt
12 ppt isohaline
5 ppt isohaline
N
W
E
Cameron Creole Structures
Data Source: Coastwide Reference Monitoring System
www.lacoast.gov/crms_viewer/



East Calcasieu Lake Marsh Restoration

- Create/nourish approx. 230 acres of marsh in strategically located areas to restore a more natural hydrology
- Reduce prolong periods of inundation by relieving flooding stress and restore the function, value, and sustainability to approximately 7,500 acres of marsh

R4-CS-05

North West Cove Bank Stabilization & Marsh Creation

PPL25 PROJECT NOMINEE FACT SHEET
January 27, 2015

Project Name
North West Cove Bank Stabilization and Marsh Creation

Master Plan Strategy
Bank Stabilization – 004.BS.02

Project Location
Region 4, Calcasieu-Sabine Basin, Cameron Parish. Within the Sabine National Wildlife Refuge

Problem
Erosion is a problem along the shores of West Cove and erosion-related breaching of the shoreline exposes the fragile interior marshes to increased water exchange and saltwater intrusion. The Calcasieu Ship Channel, located to the east of the project area, provides an avenue for the rapid movement of high-salinity water into the marshes around West Cove. If not addressed, wind generated waves within the open water areas will cause an increase in shoreline erosion.

Goals
The project goal is to provide bank stabilization through an earthen filled berm and vegetative plantings approximately 33,000 LF along the north shoreline in the West Cove area of Calcasieu Lake and to create/nourish approximately 350 acres of emergent brackish marsh (210 acres created and 140 acres nourish), in open water areas north of the proposed bank stabilization and south of Hwy. 27, using beneficial use sediment dredged from the Calcasieu Ship Channel or by utilizing sediment from as upland disposal sites of the Calcasieu River.

Proposed Solution
This project will provide approximately 33,000 linear feet of bank stabilization along the northern shoreline of West Cove through an earthen berm and vegetative plantings which will preserve shoreline integrity and reduce wetland loss from wave erosion. This project will also create and/or nourish 350 acres of emergent brackish marsh utilizing either beneficial use of material hydraulically pumped 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. Those sites would have constructed earthen dikes that will be used to contain dredged material on site. Material would be pumped to a healthy marsh elevation as deemed by healthy marsh survey. Once material is in place and adequately dewatered, containment dikes will be adequately gapped to allow tidal exchange of nutrients and aquatic organisms with the marsh.

Project Benefits
- Provide approximately 33,000 linear feet of bank stabilization along the northern shoreline of West Cove through an earthen berm and vegetative plantings, and
- Create and/or nourish approximately 350 acres of emergent brackish marsh (210 acres created and 140 acres nourish) through beneficial use of the sediment dredged from the Calcasieu Ship Channel or sediment from an upland disposal sites of the Calcasieu River.

Preliminary Construction Costs
With beneficial use of dredge sediment material from the Calcasieu Ship Channel, the preliminary project cost estimate with 25% contingency is approximately $19 million. The fully funded cost range is $15M-$20M.

Mining the upland disposal site east of West Cove: project preliminary cost estimate with 25% contingency is approximately $18 million and the fully funded range is $15M-$20M.

Preparer of Fact Sheet
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Scott Wandell, USACE, (504) 862-1878, Scott.F.Wandell@usace.army.mil

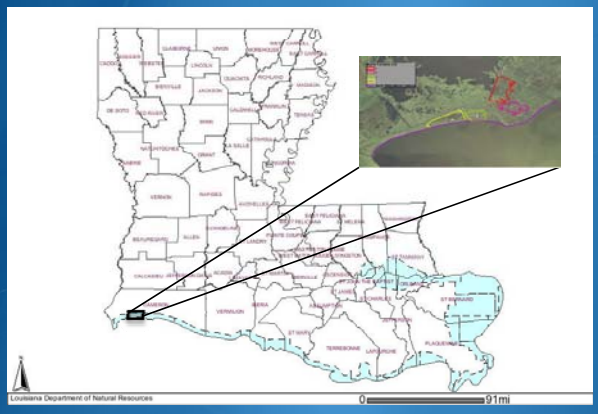
West Cove Bank Stabilization

Basemap: 2013 NAIP DOQQ
Produced by: EPA Region 6, Dallas, TX
in cooperation with USACE-MVN, New Orleans, LA

Miles
0 0.275 0.55 1.1 1.65

N

West Cove Bank Stabilization and Marsh Creation



Coastal Wetlands Planning, Protection and Restoration Act

West Cove Bank Stabilization and Marsh Creation

- Located in the eastern portion of Calcasieu Lake on the northern shore of West Cove.
- Part of Master Plan's West Cove Bank Stabilization - 004.BS.02 component
- Provides additional protection of Hwy. 27, north of West Cove, as an evacuation route
- Use beneficial use of sediment dredged from the Calcasieu Ship Channel or mine the upland disposal site of the Calcasieu River for marsh creation.

Coastal Wetlands Planning, Protection and Restoration Act

Solution

Master Plan 2012: 004.BS.02: West Cove Bank Stabilization: Bank stabilization through earthen fill placement and vegetative plantings of approximately 106,000 feet of perimeter shoreline in the West Cove area of Calcasieu Lake to preserve shoreline integrity and reduce wetland degradation from wave erosion.

Coastal Wetlands Planning, Protection and Restoration Act

West Cove Bank Stabilization and Marsh Creation

Coastal Wetlands Planning, Protection and Restoration Act

Project Features

- Provide approximately 33,000 feet of bank stabilization along the northern shoreline of the West Cove
- Create/nourish 1193 acres of emergent brackish marsh using either beneficial use of dredged material from the Calcasieu Ship Channel or by mining the upland disposal site of the Calcasieu River.
- Estimated cost + 25% contingency = $20M-$22M
- Fully funded range = $25M-$30M

Coastal Wetlands Planning, Protection and Restoration Act

Questions?

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Coastal Wetlands Planning, Protection and Restoration Act

R4-CS-06

East Prong Grand Bayou Marsh Creation

R4-CS-06

PPL25 PROJECT NOMINEE FACT SHEET
January 27, 2015

Project Name: East Prong - Grand Bayou Marsh Creation 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. Hurricanes Rita and Ike in 2005 and 2008 breached the watershed levee scouring the marsh and allowing higher Calcasieu Lake salinities to enter the watershed causing more land loss. The Calcasieu-Sabine Basin lost 28 mi^2 (17,920 acres) (4.4%) as a result of Hurricane Rita (Barras et al. 2006). Land loss is estimated to be 1.33 percent/year based on USGS data from 1985 to 2009. It is likely that as marsh loss occurred unstable sediments settling out in open water areas including natural ponds and bayous staying within the system.

Goals: Project goals include restoring and nourishing marsh with dedicated dredged material to benefit fish and wildlife resources in the Cameron Prairie NWR and within the Calcasieu Lake estuary. Restoring these marshes will reduce wind induced erosion and will buffer higher saline waters from penetrating further inland protecting fresher marshes. Specific phase 0 goals include creating 511 acres and nourishing 75 acres of brackish marsh in open water areas north of East Prong-Grand Bayou. Approximately 207 acres of brackish marsh could be nourished and restored through spray dredging material that has silted into the natural bayous. Restoring the bayous would also improve the natural tidal gradient and organism access.

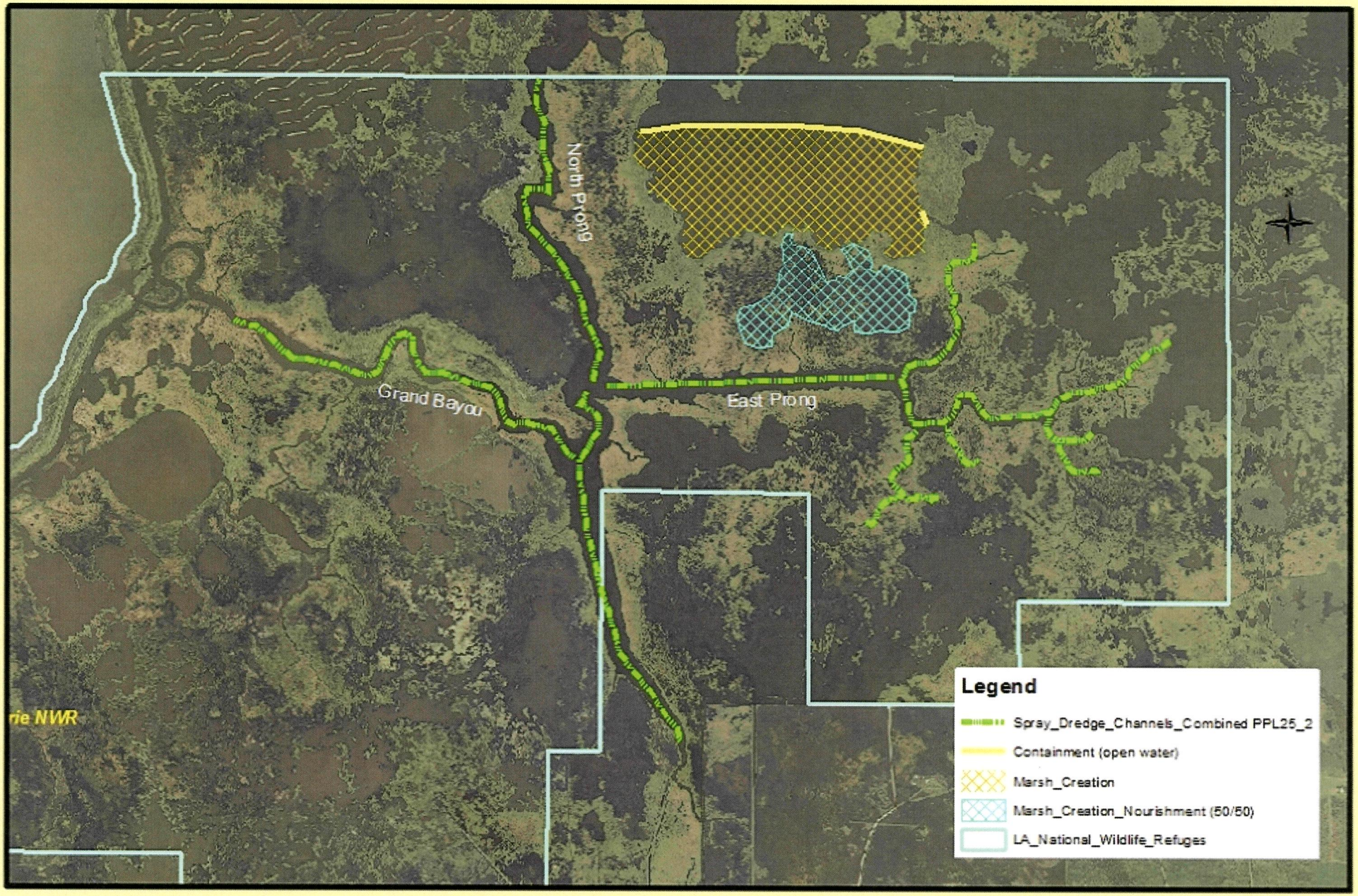
Restoring brackish marshes in the Cameron Creole Watershed is a conservation strategy identified by the FWS' *Vision for a Healthy Gulf of Mexico Watershed,* and would benefit Fish and Wildlife Service trust resources such as migratory waterfowl, shorebirds, and wading birds including Cameron Prairie NWR priority species such as the mottled duck and greater white fronted goose. Additionally, restoring these marshes may be beneficial to at-risk species such as black rail, diamondback terrapin, and Louisiana eyed silkmoth by providing refugia for those species.

Proposed Solution: Establish two marsh creation/nourishment areas north of East Prong to restore 511 acres and nourish 75 acres of brackish marsh using approximately 3 million cubic yards of dedicated dredge material from either Calcasieu Lake or the ship channel. Approximately 559,711 cyds of material is available through dredging of the natural bayous: assuming a 6-foot bottom depth, a 12-foot bottom width, and a 1:5 side slope. Spray dredging

Fish and Wildlife Service

Louisiana Ecological Services Office

East Prong Marsh Creation Project

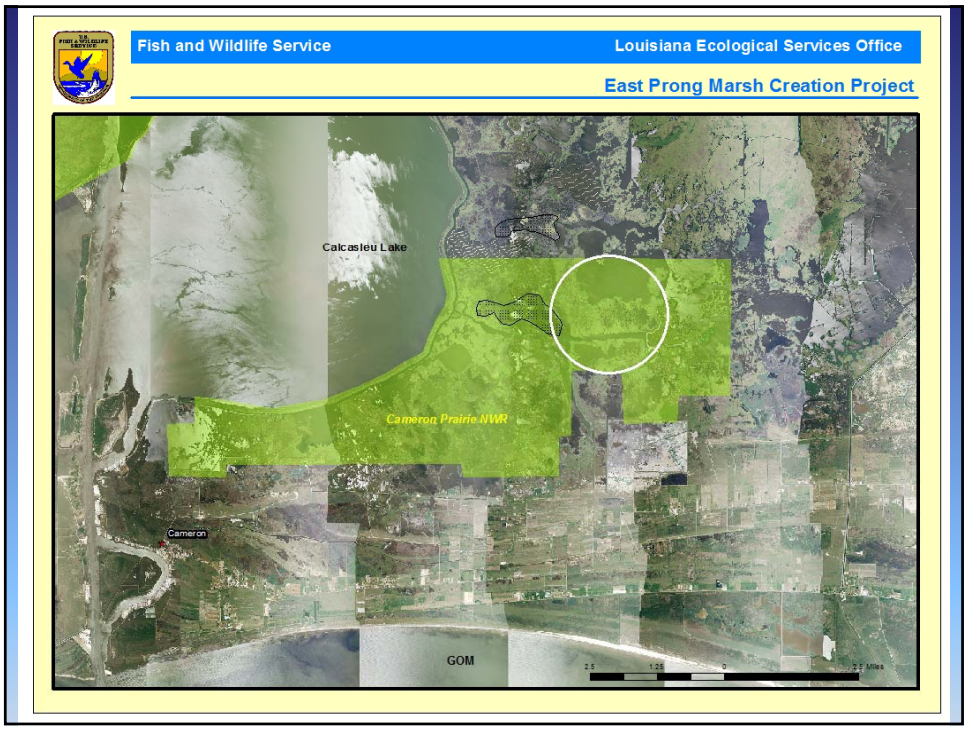


2013 DOQQ, 20150121; ACT

East Prong Marsh Creation

PPL 25

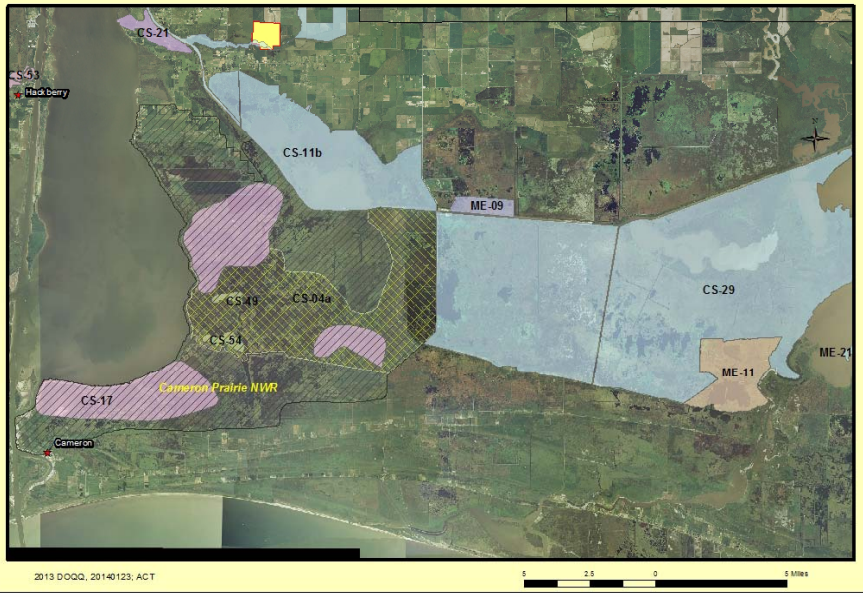
Region 4, Calcasieu - Sabine Basin



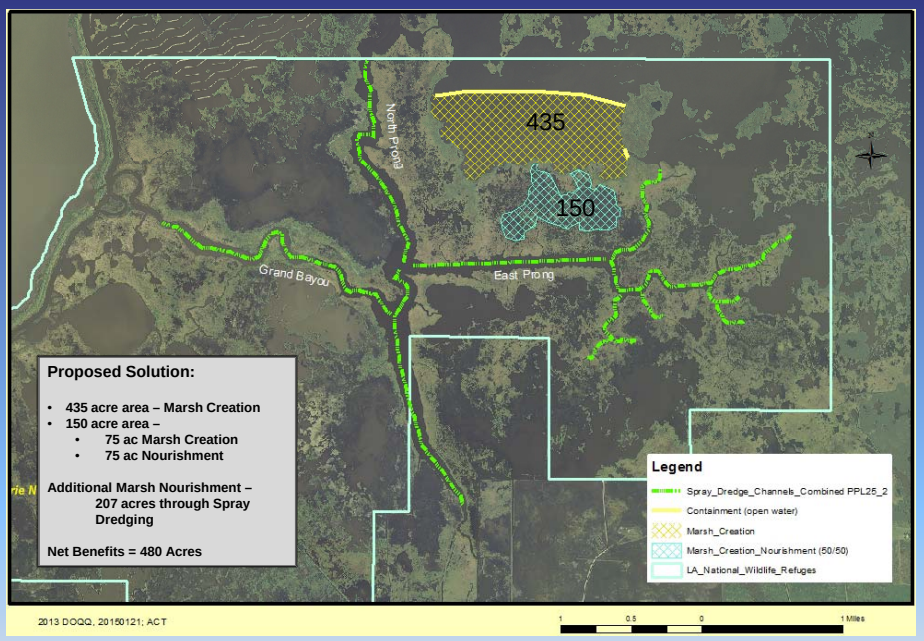
East Prong Marsh Creation

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

Goal: restore marshes within large open water areas scoured by tropical storms and along the natural historic bayous



East Prong Marsh Creation



East Prong Marsh Restoration

- Potential Issues
- Estimated Cost (25% contingency): $20 M

~~R4-CS-07~~

~~Sabine Refuge Marsh Creation Cycles 6 & 7~~

Not consistent with 2012 State Master Plan

R4-CS-07

PPL 25 PROJECT NOMINEE FACT SHEET
January 27, 2015

Project Name
Sabine Refuge Marsh Creation Project Cycles 6 and 7

Project Location
Region 4, Calcasieu-Sabine Basin, Cameron Parish, east of Hwy. 27 within and north of the Sabine NWR

Problem
The project area consists of a large open water area which increases wind induced fetch, saltwater intrusion, and loss of freshwater. As the area gets larger the wind induced waves will get larger and increase erosion. Material that is not used beneficially will be placed in an upland disposal site.

Description of the Project
The project would be an extension of the Sabine Refuge Marsh Creation Project (CS-28) which consists of 5 marsh creation cycles and the construction of a permanent pipeline. All 5 marsh creation cycles have been completed (Cycle 5 currently being filled) along with the permanent pipeline. Cycles 4 and 5 utilized the material from the FY14/15 Calcasieu River Ship Channel maintenance dredging cycles with the permanent pipeline. The current project features the creation of two marsh creation cells totaling 467 acres.

Proposed Solution
This project will extract material from the Calcasieu Ship Channel by way of hydrologic dredge and place that material into shallow open water sites with the use of the CWPPRA permanent pipeline. Those sites will have earthen dikes that will be used to contain that dredged material which would be pumped to a healthy marsh elevation as deemed by healthy marsh survey. Material would be part of the Army Corps of Engineers' maintenance dredging program of the Calcasieu River Ship Channel with CWPPRA paying the incremental portion of the dredging cost to place the material in the project area. Upon consolidation of the dredged material, the containment dikes will be gapped or degraded to allow exchange of nutrients and aquatic organisms with the constructed marsh tidal. A series of trenasses would also be constructed within the constructed marsh.

Service goals include the creation of habitat or improvement of habitat for rare species, species of concern, and threatened and endangered species. The creation of brackish intertidal marsh habitat would be beneficial to several species that are currently on the lists of rare species and species of concern. These include, but are not limited to Least Bittern, Black Rail, Mottled Duck, Brown Pelican, King Rail, Louisiana Eyed Silkmoth, Bald Eagle, Osprey, and Saltwater topminnow. Keeping these species off the threatened and endangered list is a goal of FWS because at that point ALL Federal agencies must then address those species.

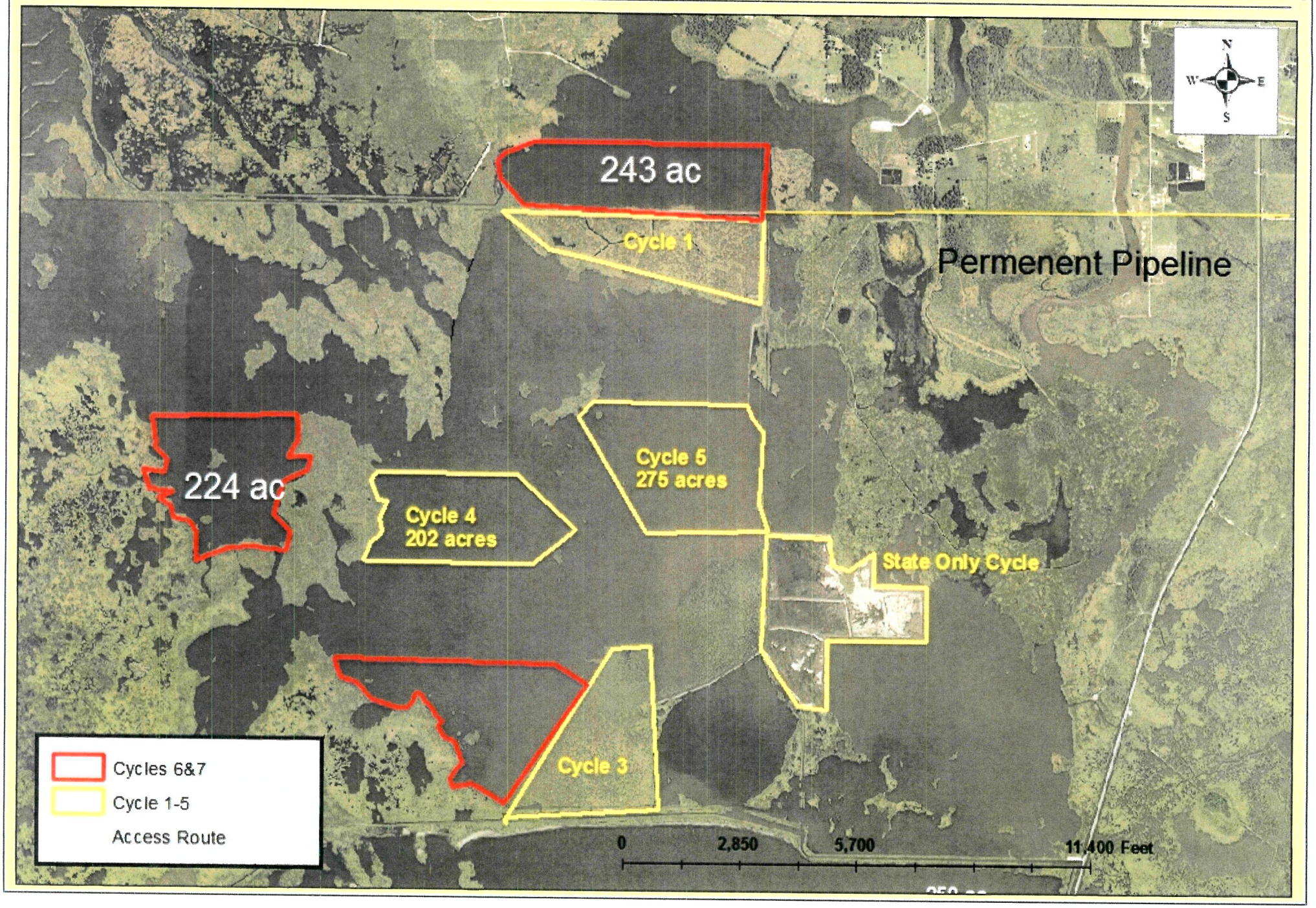
Goals
1) Create 467 acres of emergent brackish marsh.

Preliminary Project Benefits:
1) What is the total acreage benefited both directly and indirectly?

U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

Sabine Marsh Creation Cycles 6 and 7

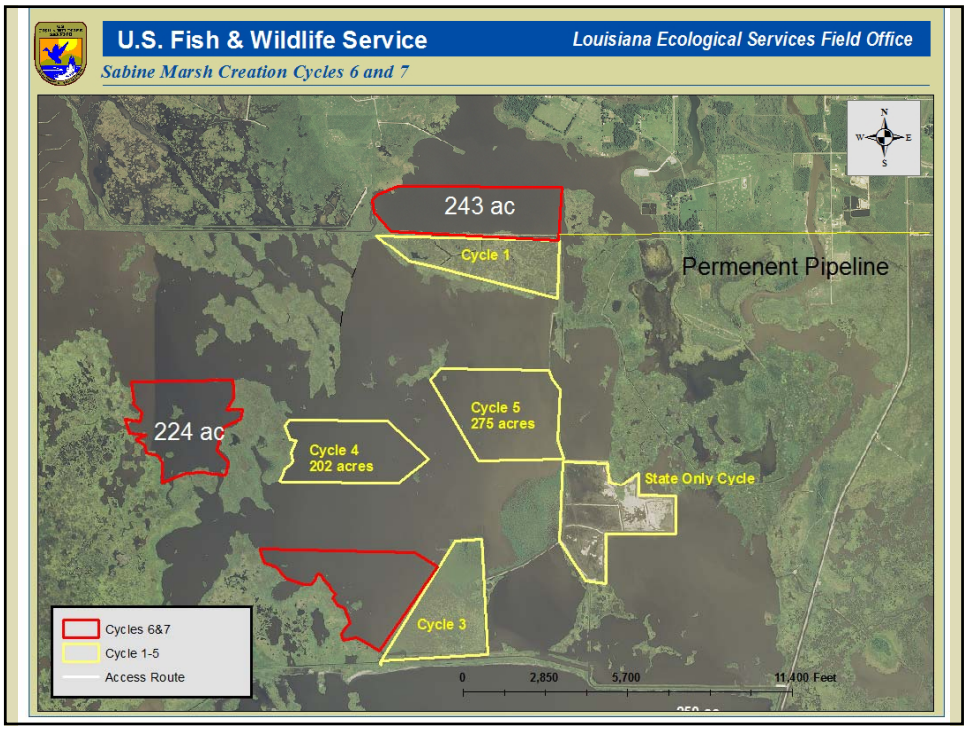


PPL 25

SABINE

MARSH CREATION

CYCLES 6 AND 7



Sabine Marsh Creation Cycles 6 and 7

Problem

The project area consists of a large open water area which increases wind induced fetch, saltwater intrusion, and loss of freshwater. As the area gets larger the wind induced waves will get larger and increase erosion.

Proposed Solution

This project will extract material from the Calcasieu Ship Channel by way of hydrologic dredge and place that material into shallow open water sites with the use of the CWPPRA permanent pipeline. Those sites will have earthen dikes that will be used to contain that dredged material which would be pumped to a healthy marsh elevation as deemed by healthy marsh survey. Material would be part of the Army Corps of Engineers' maintenance dredging program of the Calcasieu River Ship Channel with the CWPPRA group paying the incremental portion of the dredging cost to place the material in the project area. Upon consolidation of the dredged material, the containment dikes will be gapped or degraded and trenasses would also be constructed within the constructed marsh.

Species of Concern and Rare Species

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

Sabine Marsh Creation Cycles 6 and 7

Description of the Project

The project would be an extension of the Sabine Refuge Marsh Creation Project (CS-28) which consists of 5 marsh creation cycles and the construction of a permanent pipeline. All of the 5 marsh creation cycles have been completed along with the permanent pipeline. Cycles 4 and 5 utilized the material from the FY14/15 Calcasieu River Ship Channel maintenance dredging cycles. The current project would utilize the permanent pipeline.

Goals

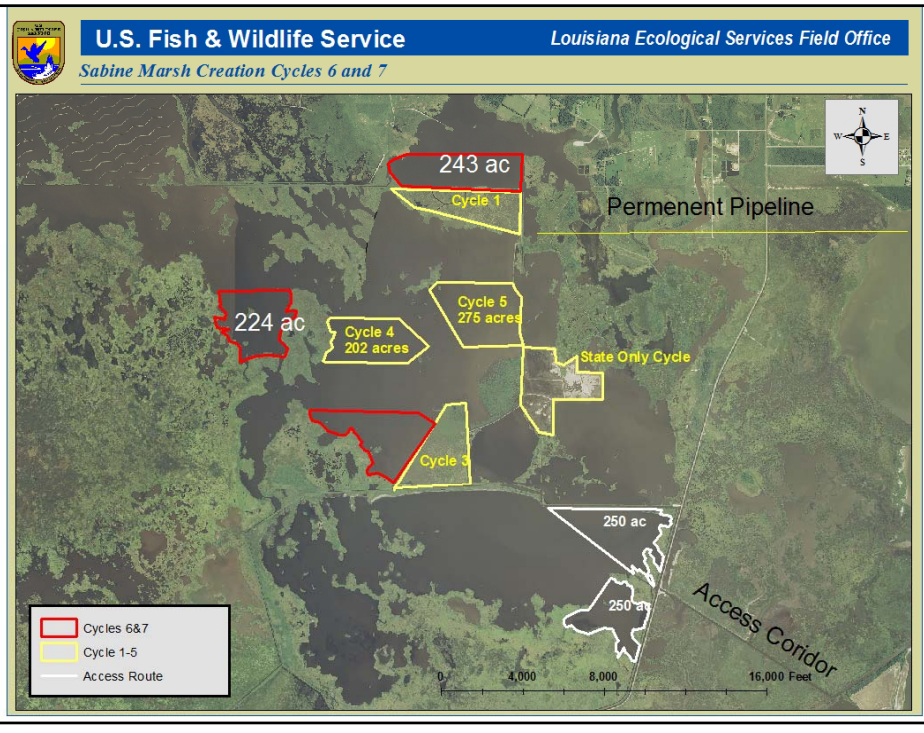
Reduce wind induced waves and reduce saltwater intrusion
Specific Goals: Create 467 acres of emergent brackish marsh.

Net Acres

Net acres would be 456

Preliminary Construction Costs

The estimated construction cost is with 25 % contingency is estimated to be **$7 M.**



Region 4 – MERMENTAU BASIN

R4-ME-01

Umbrella Bay Shoreline Protection

PPL25 PROJECT NOMINEE FACT SHEET
Feb 5, 2015

Project Name
Umbrella Bay Shoreline Protection Project

Project Location
Region 4, Mermentau Basin, Cameron Parish, Eastern Grand Lake, Umbrella Bay

Problem
The project area experiences shoreline erosion estimated at an average of 5 feet per, based on 1993 to 2013 GIS analysis). Approximately 183 acres of marsh will be lost over the next 20 years in the project area. Shoreline breaches have caused small interior lakes to become part of Grand Lake; continued shore loss will increase connectivity with Grand Lake and introduce greater energy to the interior marsh.

Goals
1) Reduce shoreline erosion along the eastern Grand Lake at Umbrella Bay
2) Prevent shoreline breaches into interior ponds.

The project would protect prime waterfowl habitat between Grand and White Lakes recognized by the State. The State White Lake Preserve and experimental Whooping Crane colony is 3-5 miles eastward in the northwestern portion of White Lake. If Umbrella Bay erosion continues to Mallard Bay, Umbrella Point would become an island threatening prime waterfowl and rare species habitat.

The project will also benefit the black rail and Louisiana eyed silkmoth, both of which are petitioned for listing as threatened/endangered species. The project would also benefit State species of concern including the peregrine falcon, sandhill crane, and glossy ibis. Resident waterfowl (mottled duck), migratory waterfowl, king rail, wood stork, little blue heron, lesser snow goose, greater white-fronted goose, and Canada goose would also benefit.

Proposed Solution
The project consists of constructing 35,100 linear feet (6.6 miles) of foreshore rock dike having a 4-foot-wide crown, 3H:1V side slopes, and constructed to an initial elevation of +2.5' NAVD88. The dike would be constructed 150 feet from the existing shoreline in water averaging -1.2 ft NAVD88. Material dredged from an adjacent access channel would be deposited behind the rock dike to an initial elevation of +2.5' NAVD88, to create 52 acres of marsh. The rock dike would include 50-ft-wide gaps every 1000 linear feet. The earthen spoil would be vegetated with 4 rows of Roseau cane, panicum sprigs or other vegetation, planted on 5-foot centers to jump start the natural revegetation process (28,080 plugs).

Preliminary Project Benefits
1) What is the total acreage benefited both directly and indirectly?
Marsh creation and protection totals 235 acres (52 acres created; 182 acres protected).

2) *How many acres of wetlands will be protected/created over the project life?*
The net benefit after 20 yrs would be 52 ac of created marsh and 182 ac of protected marsh (a total of 234 ac of marsh created/protected).

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 interior marsh loss rate is essentially zero. Shoreline erosion loss is the predominant form of marsh loss and it will be completely halted. Therefore, the proposed project would reduce loss by approximately 100%.

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*
The shoreline berm would restore the natural Grand Lake rim, which is a structural component of the coastal ecosystem and provides a line of defense against further erosion of the eastern Grand Lake shoreline.

5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project would have a net positive impact to critical infrastructure which consists of oil and gas facilities east of Grand Lake due to stopping shoreline erosion in that part of the lake.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
The project will have synergistic effects with the constructed Grand-White Lake Landbridge and the South Grand Lake shoreline protection CWPPRA projects to the south.

Project Considerations
Pipelines/utilities will have to be avoided and maintenance will be required on the shoreline protection feature.

Preliminary Construction Costs
The estimated construction cost including 25% contingency is $16,110,325. The fully funded cost range is $20M-$25M.

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U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

Umbrella Bay Shoreline Protection - 2013 Imagery

R4-ME-02

Southeast Pecan Island Marsh Creation & Freshwater Enhancement

R4-ME-02

PPL25 PROJECT NOMINEE FACT SHEET
January 27, 2015

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
Virtually all of the project area marshes have experienced increased tidal exchange, saltwater intrusion, and reduced freshwater retention associated with the Freshwater Bayou Canal and Humble Canal. Highway 82 traverses cheniers wherever possible, however, low spots between cheniers historically allowed drainage from the Lakes Subbasin south into the Chenier Subbasin. Currently, Highway 82 forms a hydrologic barrier that isolates those sub basins from freshwater runoff.

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 feature would create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Proposed Project Features
The project proposes approximately 250 acres of marsh creation and 85,000 linear feet of terraces.

The majority of the necessary freshwater introduction infrastructure exists and would require minimal improvement/cleanout and the construction of an outlet structure at Front Ridge.

Preliminary Project Benefits
1) What is the total acreage benefited both directly and indirectly? The total area benefitted is approximately 4,083 acres.

2) *How many acres of wetlands will be protected/created over the project life*? The project would protect/create approximately **358 net acres** (240 MC + 85 terraces + 33 FWI).

3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%).* The anticipated loss rate reduction throughout the area of direct benefit is estimated to be *50-74%.*

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.* The project would protect the Front Ridge Chenier.

5) *What is the net impact of the project on critical and non-critical infrastructure*? The project would help protect Louisiana Highway 82.

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

Identification of Potential Issues
There are no issues identified at this time.

Preliminary Construction Costs
The estimated construction cost including 25% contingency is approximately $25M. The fully-funded cost range is $30M-$35M.

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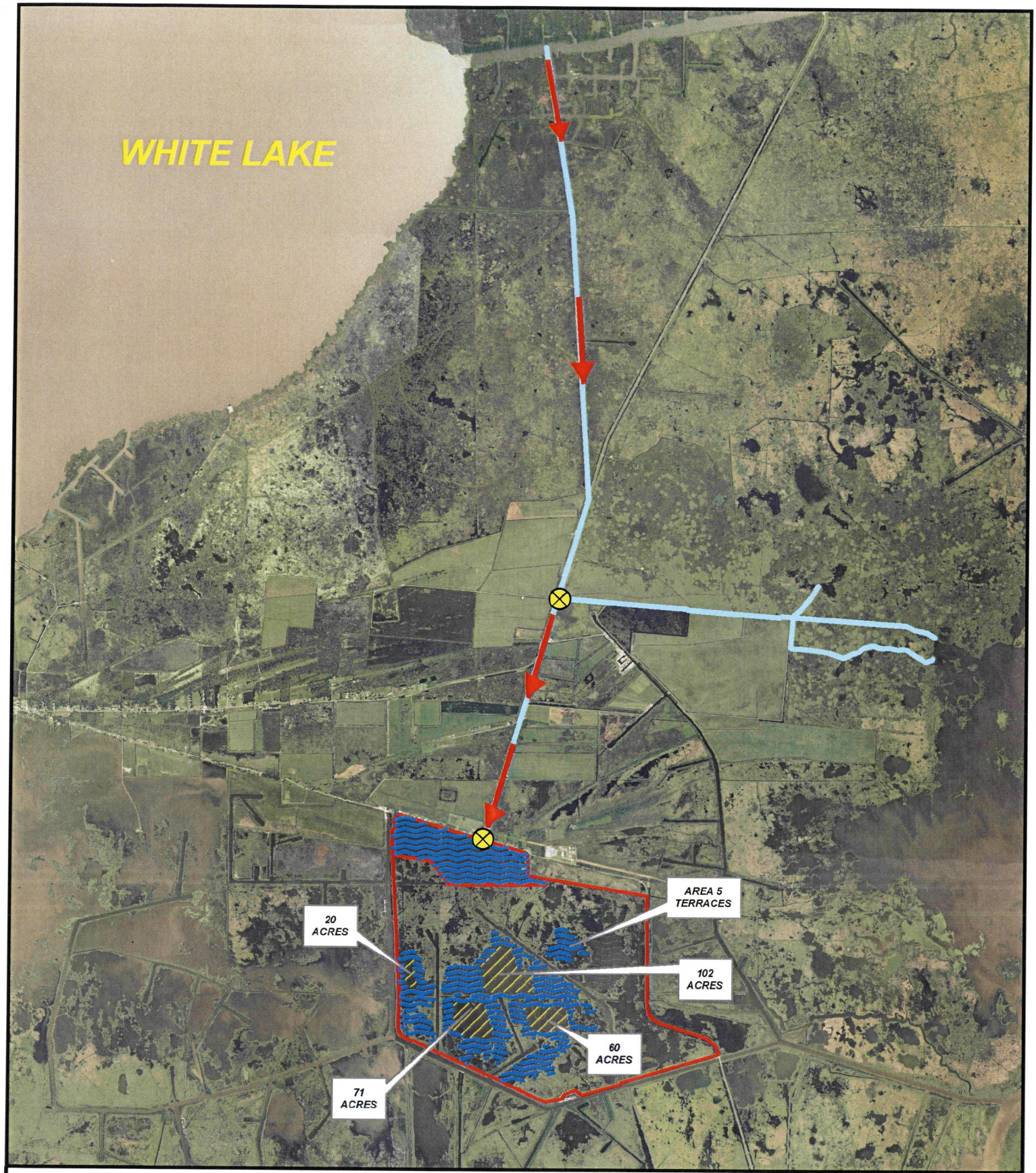
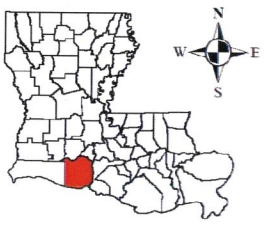
Billy Broussard, Vermilion Corps, (337) 893-0268, bbillypb@kaplantel.net



USDA

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

Data Source: NAIP 2013
Map Date: JANJUARY 26, 2015



PPL-25
SOUTHEAST PECAN ISLAND MARSH CREATION AND FRESHWATER ENHANCEMENT

0 5,000 10,000 Feet

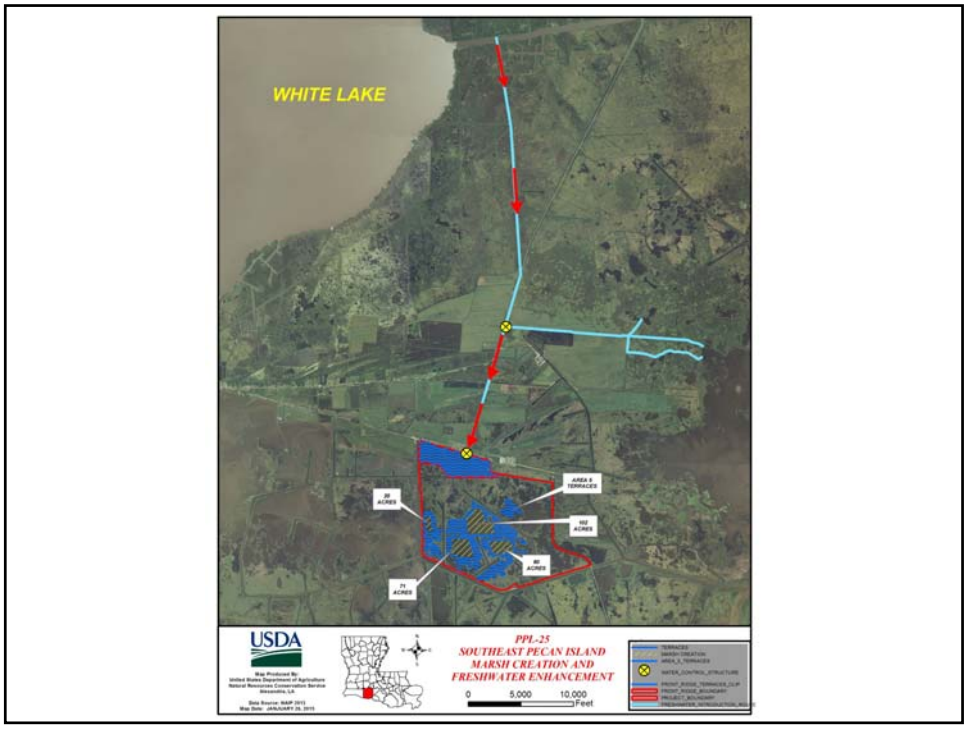
TERRACES
MARSH CREATION
AREA_5_TERRACES
WATER_CONTROL_STRUCTURE
FRONT_RIDGE_TERRACES_CLIP
FRONT_RIDGE_BOUNDARY
PROJECT_BOUNDARY
FRESHWATER_INTRODUCTION_ROUTE

PPL 25
Regional Planning Team
January 27, 2015

Region 4
Mermentau Basin

Southeast Pecan Island Marsh Creation and Freshwater Enhancement

- Project area marshes have experienced increased tidal exchange, saltwater intrusion, and reduced freshwater retention associated with the Freshwater Bayou Canal and Humble Canal
- Highway 82 forms a hydrologic barrier that isolates those sub basins from freshwater runoff


WHITE LAKE
AREA 5 TERRACES
102 ACRES
80 ACRES
71 ACRES
PPL-25
SOUTHEAST PECAN ISLAND
MARSH CREATION AND
FRESHWATER ENHANCEMENT
0
5,000
10,000
Feet

R4-ME-03

East Pecan Island Marsh Creation – Increment 1

PPL 25 PROJECT NOMINEE FACT SHEET
January 27, 2015

Project Name:
East Pecan Island Marsh Creation – Increment 1

Project Location:
The project is located in Region 4, Mermentau Basin, Vermilion Parish, west of the Freshwater Bayou Navigation Channel.

2012 Master Plan Strategy:
004.MC.16 – East Pecan Island Marsh Creation: Creation of approximately 7,340 acres of marsh between Pecan Island and the west bank of the Freshwater Bayou Canal to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Problem:
The marshes to the west of the Freshwater Bayou Navigation Channel have experienced severe land loss and habitat conversion. What was once a productive fresh water marsh has been converted to open water due to the negative effects of exchange from the Freshwater Bayou Navigation Canal on soils followed by major hurricane impacts.

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

Proposed Solutions:
This project intends to create and nourish 506 acres of marsh using approximately 3.5M C.Y. of marsh fill material borrowed from offshore within state waters. Some historical ponds will be retained and creeks will be included to promote exchange with the surrounding marsh and provide marsh functionality. Half of the acreage will be planted to encourage rapid vegetation. Earthen containment dikes will be gapped upon construction completion and included in the operations and maintenance.

Preliminary Project Benefits:
The project will result in approximately 450 net acres of marsh over the 20-year project life. It will work synergistically with two existing CWPPRA projects: the Freshwater Bayou Wetland Protection project (ME-04, constructed) and the Freshwater Bayou Marsh Creation project (ME-31, in engineering and design).

Preliminary Construction Costs:
The preliminary project cost estimate including 25% contingency $30 - $35 million.

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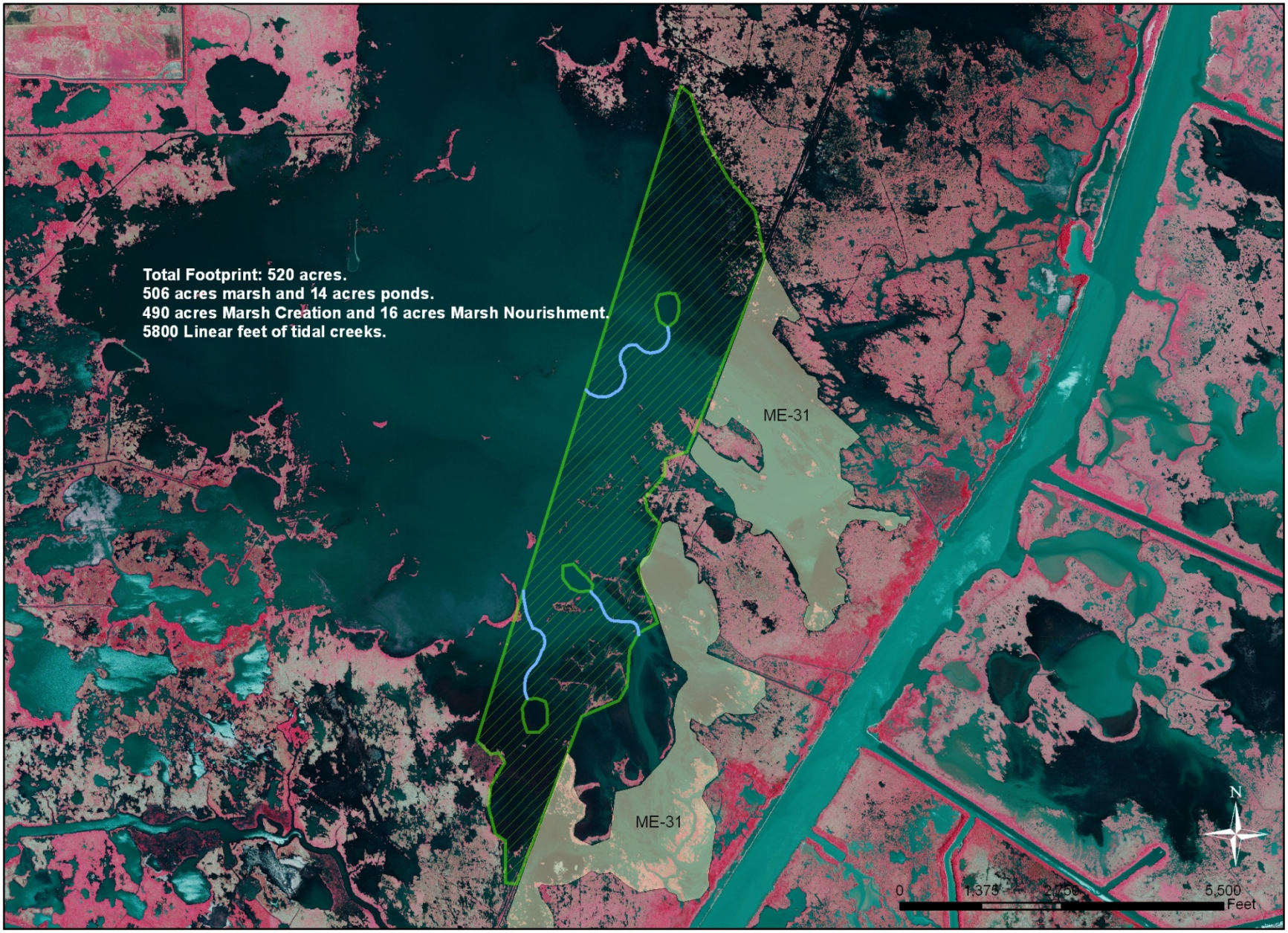
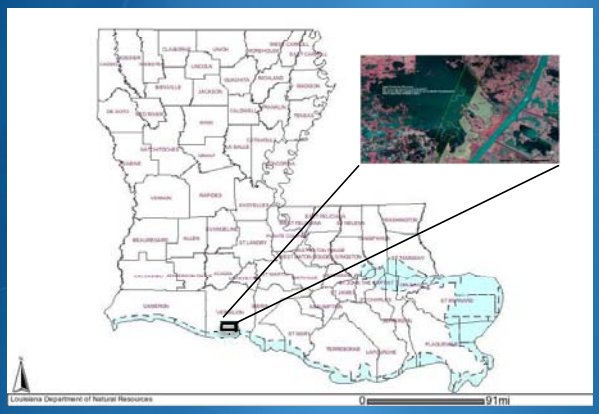
East Pecan Island Marsh Creation - Increment 1



East Pecan Island Marsh Creation – Increment 1



Coastal Wetlands Planning, Protection and Restoration Act

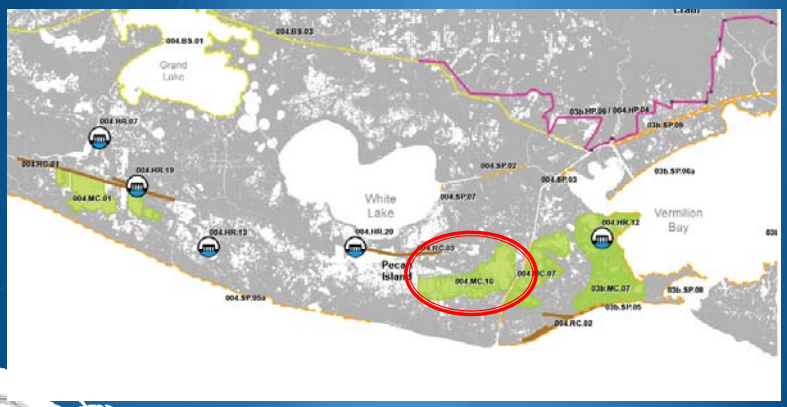
Problem

- Marsh loss and Altered area hydrology due to:
  - Subsidence
  - Saltwater intrusion
- Resulted in marsh losses that left the area very shallow open water

Coastal Wetlands Planning, Protection and Restoration Act

Solution

- **Master Plan 2012**: 004.MC.16 East Pecan Island Marsh Creation: Creation of approximately 7,340 acres of marsh between Pecan Island and the west bank of the Freshwater Bayou Canal to create new wetland habitat, restore degraded marsh, and reduce wave erosion.



Coastal Wetlands Planning, Protection and Restoration Act

East Pecan Island Marsh Creation

Coastal Wetlands Planning, Protection and Restoration Act

Project Features

- 506 ac MC using approximately 3.5M cy borrowed from offshore
- Retain historical ponds and add creeks for functionality (14 ac)
- Cost + 25% contingency = $30 - $35 million

Coastal Wetlands Planning, Protection and Restoration Act

Questions?

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Coastal Wetlands Planning, Protection and Restoration Act

R4-ME-04

South Grand Chenier Marsh Creation – Increment 3

PPL25 PROJECT NOMINEE FACT SHEET

Project Name:
South Grand Chenier Marsh Creation Increment #3

Master Plan 2012: 004.MC.01: South Grand Chenier Marsh Creation: Creation of approximately 7,330 acres of marsh south of Highway LA-82 near Grand Chenier to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Location:
The project is located in Region 4, Mermentau Basin, south of Grand Chenier in Cameron Parish, Louisiana, between Highway 82 and Hog Bayou.

Problem:
Marshes within the Hog Bayou Unit are stressed due to limited freshwater input and seasonal salinity spikes exacerbated by construction of the Mermentau Ship Channel. The dredging of the Mermentau River Ship Channel and subsequent wetland loss has increased tidal amplitude and salt water intrusion into the watershed. Other contributors to land loss in the area are subsidence, compaction, and erosion of organic soils. Currently, the project area is characterized as large open water with degraded areas of wetland vegetation, low organic production, and large areas of wave fetch.

Goals:
The primary project goal is to create new wetland habitat, restore degraded marsh, and reduce wave erosion. The project would promote the expansion of emergent marsh and submerged aquatic vegetation throughout the project area. Primary focus is marsh creation to increase organic production and reduce tidal prism. Sediment would be mined from the Gulf of Mexico.

Preliminary Project Benefits:

1) *What is the total acreage benefited both directly and indirectly?*
   This total project area is 413 ac.

2) *How many acres of wetlands will be protected/created over the project life?*
   Approximately 390 acres will be protected over the 20 year life.

3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (e.g., 50% reduction in the background loss rate)?*
   The anticipated land loss rate reduction throughout the area of direct benefits will be 50-74% over the projects life.

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*
   The project will help maintain the Grand Chenier ridge and the Marshes within the Hog Bayou Unit.

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

The project would have moderate net positive impact to protecting LA82, a hurricane evacuation route.

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 the South Grand Chenier Marsh Creation (Baker Tract) and

Identification of Potential Issues
The proposed project has potential borrow source and utility/pipeline issues.

Preliminary Construction Costs
The total fully-funded cost is estimated at $20 - $25 Million

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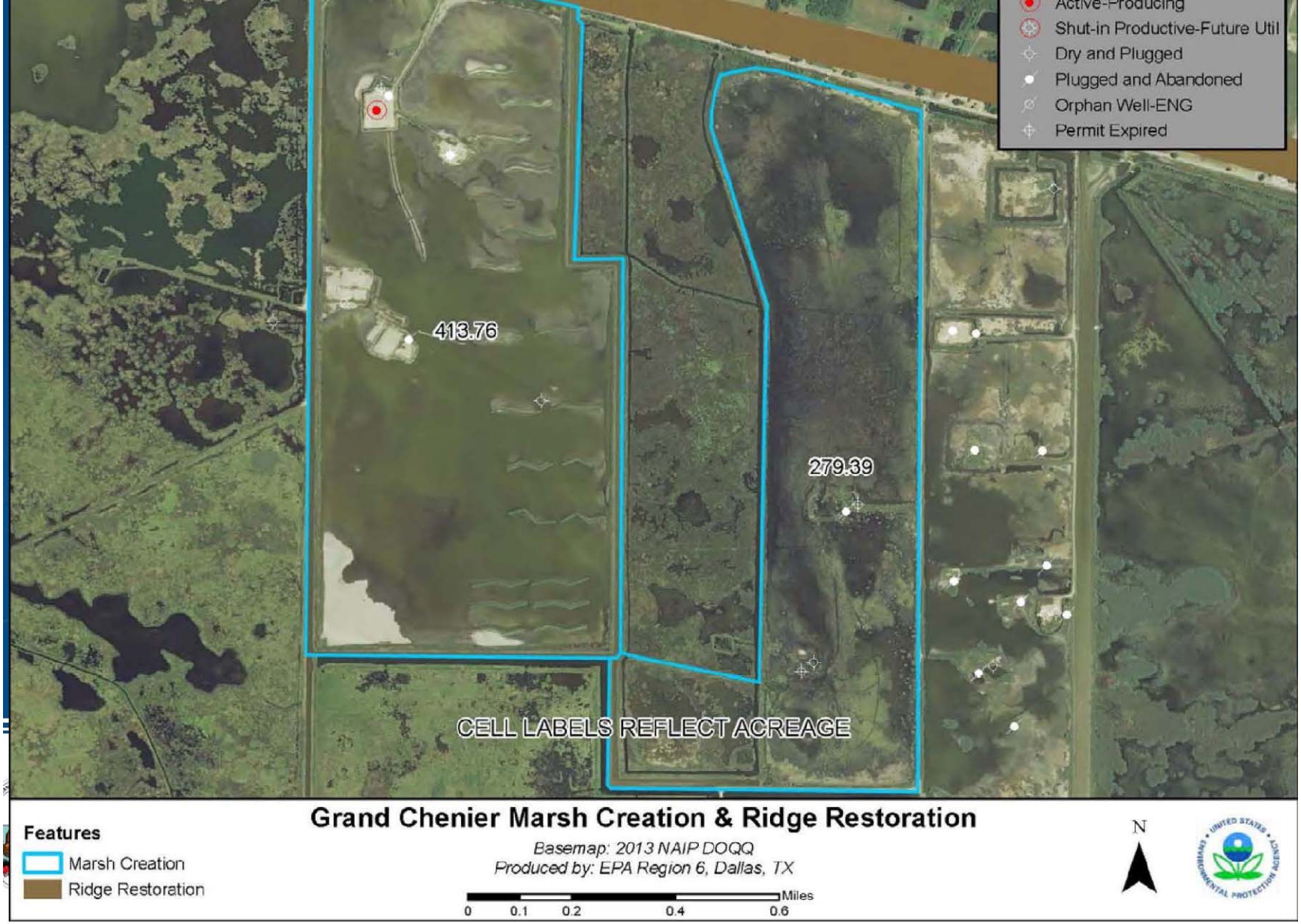
Active-Producing
Shut-in Productive-Future Util
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Plugged and Abandoned
Orphan Well-ENG
Permit Expired
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CELL LABELS REFLECT ACREAGE
Features
Marsh Creation
Ridge Restoration
Grand Chenier Marsh Creation & Ridge Restoration
Basemap: 2013 NAIP DOQQ
Produced by: EPA Region 6, Dallas, TX
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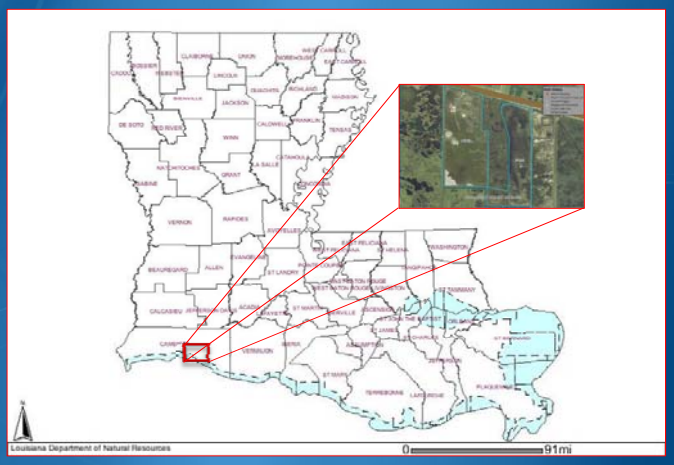
South Grand Chenier Marsh Creation: Increment #2

Location:

- Region 4,
- Cameron Parish
- Mermentau Basin



Coastal Wetlands Planning, Protection and Restoration Act

Problem

- Marshes disconnected from the natural river deltaic processes (sediment, freshwater, nutrients)
- Marsh loss
- Salt water intrusion
- Subsidence and RSLR

Coastal Wetlands Planning, Protection and Restoration Act

Solution

- **Master Plan 2012:** 004.MC.01: South Grand Chenier Marsh Creation: Creation of approximately 7,330 acres of marsh south of Highway LA-82 near Grand Chenier to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Coastal Wetlands Planning, Protection and Restoration Act

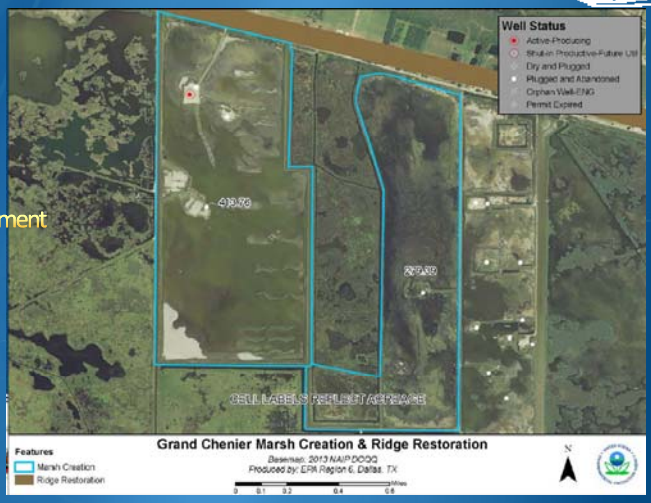
Solution

- Create/Nourish 413 acres of emergent marsh habitat
- Utilize sediment from Gulf of Mexico
- Estimated Cost $20 - $25 million

Coastal Wetlands Planning, Protection and Restoration Act

Project Features

- 413 Acres of Marsh Creation/Marsh Nourishment
- Tidal Creeks
- Containment



Coastal Wetlands Planning, Protection and Restoration Act

Questions?

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Coastal Wetlands Planning, Protection and Restoration Act

R4-ME-05

Sweeney Tract Marsh Creation & Nourishment

R4-ME-05

PPL25 PROJECT NOMINEE FACT SHEET
January 27, 2015

Project Name:
Sweeney Tract Marsh Creation and Nourishment

Louisiana's 2012 Coastal Master Plan
Marsh Creation – 004.MC.01

Project Location:
Region 4, Mermentau Basin, Cameron Parish, within the Hog Bayou Watershed Coast 2050 Mapping Unit. The mapping unit is bordered by Lower Mud Lake to the west, the Gulf of Mexico to the south, Rockefeller Refuge to the east, and Louisiana Highway 82 to the north.

Problem:
Marshes within the Hog Bayou Watershed mapping unit are stressed due to limited freshwater input and seasonal salinity spikes exacerbated by construction of the Mermentau Ship Channel. Other contributors to land loss in the area are subsidence, compaction, and erosion of organic soils. Currently, the project area is characterized as large, open water with degraded areas of wetland vegetation and low organic production. The dredging of the Mermentau Ship Channel increased tidal amplitude and salt water intrusion into the watershed. In addition to these direct losses, significant interior marsh loss has resulted from saltwater intrusion and hydrologic changes associated with storm damage and blocked drainages.

Goals:

(1) Restore coastal marsh habitat through the creation of 400 to 500 acres of saline marsh.

Proposed Solutions:
Sediment would be mined from an offshore disposal area to create between 400 to 500 acres of saline marsh. The project would promote the expansion of emergent marsh and submerged aquatic vegetation throughout the project area. Disposal would be semi-confined and up to half of the created elevations would be planted with smooth cordgrass plugs. Although marsh creation via dedicated dredging of sediment would be the primary technique, opportunities may exist to include some improvement in water conveyance where warranted, but that is not included in the benefit/cost estimates at this time. To help facilitate estuarine fisheries access, constructed retention levees will be degraded and approximately 10,000 linear feet of tidal creeks will be constructed.

Preliminary Construction Costs:
The cost plus 20% contingency is about $26 million (450 acres). The fully-funded cost range is $30M-$35M.

Preparer(s) of Fact Sheet:
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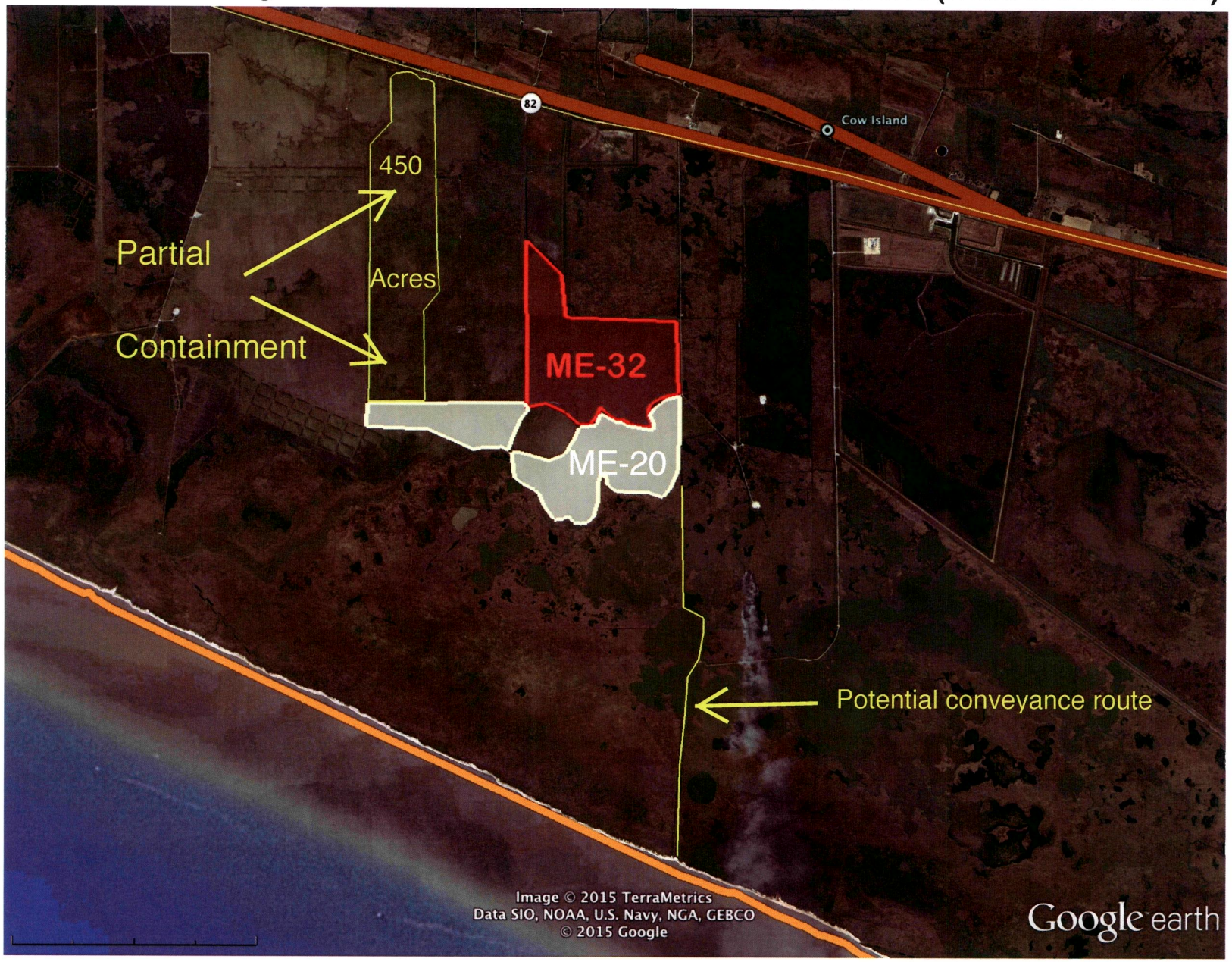
PPL 25 Sweeney Tract Marsh Creation and Nourishment (Cameron Parish)



Google Earth Pro

miles 4
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Science, Service, Stewardship

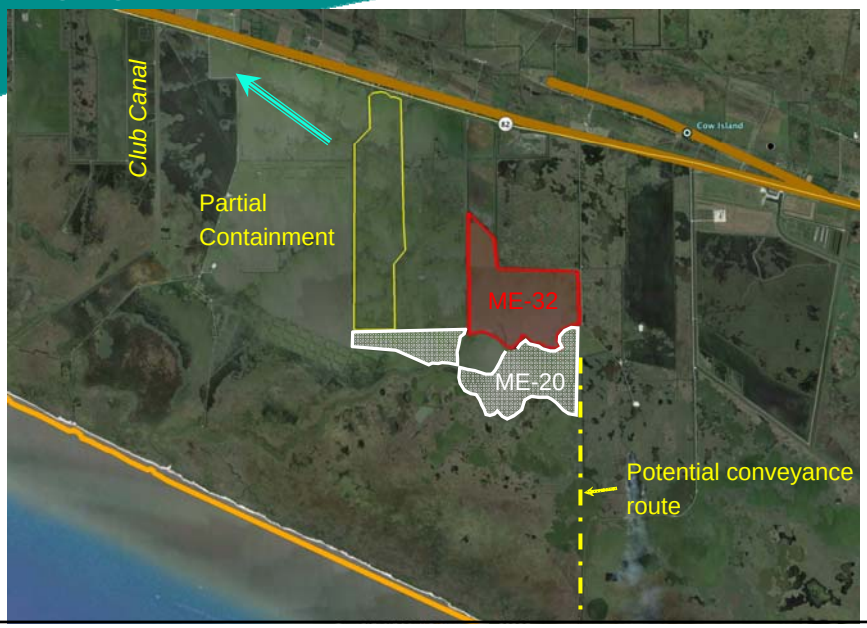
Sweeney Tract Marsh Creation and Nourishment (Cameron Parish)

Region IV – Mermentau Basin

NOAA FISHERIES SERVICE

January 27, 2015

NOAA FISHERIES SERVICE



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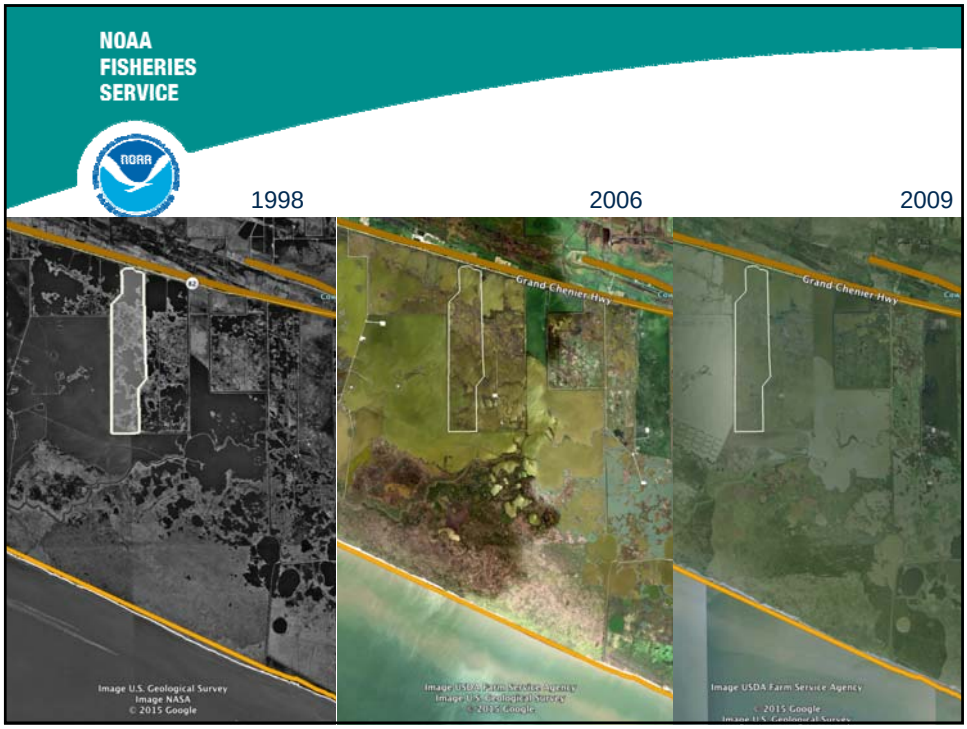
NOAA
FISHERIES
SERVICE
1998
2006
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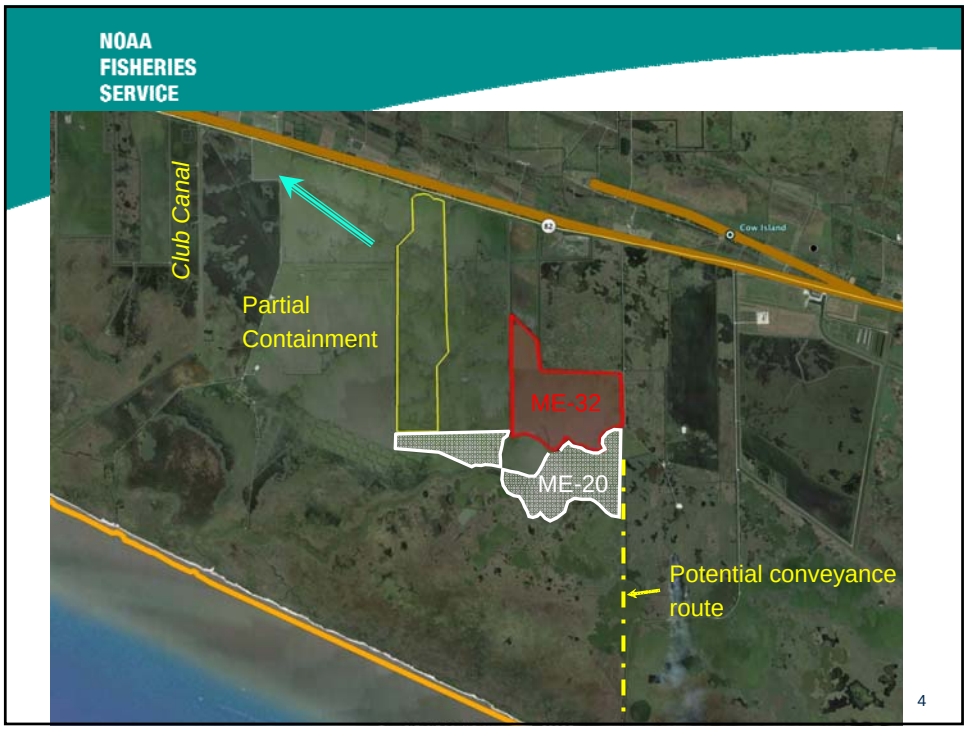
Grand Chenier Hwy
Image U.S. Geological Survey
Image NASA
© 2015 Google
Image USDA Farm Service Agency
© 2015 Google


NOAA
FISHERIES
SERVICE
Club Canal
Partial
Containment
ME-32
ME-20
Potential conveyance
route
Cow Island
4

NOAA
FISHERIES
SERVICE

Project Features

- Total Acres = 450 acres
- Approximately 9,000 LF of tidal channels
- Utilizes material from Gulf of Mexico
- Project is ***expandable***
- Re-establishes marsh platform with ponds/tidal channels between LA Highway 82 and the Gulf of Mexico
- Synergy with ME-20 & ME-32
- Consistent with State Master Plan
- Provides protection to Grand Chenier
- Construction Cost with 25% contingency = $26 million

5

R4-ME-06

North Big Marsh Restoration

RY-ME-06

PPL24 PROJECT NOMINEE FACT SHEET
January 27, 2015

North Big Marsh Restoration Project

State Master Plan Consistency
This project is located within and consistent with the State Master Plan "East Pecan Island Marsh Creation" project (No. 004.MC.16) which consists of marsh creation between Pecan Island and Freshwater Bayou Canal.

Project Location
Region 4, Vermilion Parish, Northeast Pecan Island, west of Freshwater Bayou Canal.

Problem

The Big Marsh unit lost a total of 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. That canal caused wake erosion, altered hydrology and increased loses due to storm activity. Although the Coast 2050 study predicted an additional 10% loss (3,000 acres) by 2050, that loss has accelerated due to Hurricanes Rita (2005) and Ike (2008). A large approximately 4,700-acre shallow open water area has developed in the center of Big Marsh mostly due to those hurricanes. The 36,000-acre Big Marsh unit consisted of 57% (21,360 acres) fresh, 25% (9,330 acres) intermediate, 3% (1,180 acres) brackish marshes, and 10% open water in 1998 (Coast 2050 Report).

Goals
1) Restore and nourish 450 acres of fresh and intermediate marsh in the northern portion of Big Marsh; 2) Introduce freshwater from White Lake.

Proposed Project Features
Restore and nourish over 450 acres of fresh to intermediate marsh in Big Marsh west of Freshwater Bayou Canal with dredged material from the Gulf of Mexico. Introduce freshwater (~100 cfs) via 3, 48-inch-diameter culverts at Hwy 82 from White Lake. Marsh creation area water depths range from 1.5 to 2.0 feet. Retention dikes will be gapped or degraded and tidal creeks constructed post-construction to restore area hydrology and allow fisheries access and improve wetland productivity.

Preliminary Project Benefits
1) The total net marsh acreage benefited directly over the 20-year project life would be approximately 433 acres assuming an erosion rate of 0.18 %/year. 2) The project would restore the northern portion of Big Marsh and provide protection to marshes to the north and west. 3) The project would restore intermediate marsh habitat for the Black Rail and the Louisiana eyed silk moth candidate species, glossy ibis at-risk species, and Mottled duck other waterfowl, King rail, wood stork, Little Blue Heron, seaside sparrow, Lesser Snow Goose, Greater White-fronted Goose, and Canada Goose Joint Venture species of concern.

Identification of Potential Issues
No significant issues have been identified for this project.

Preliminary Construction Costs
The estimated construction cost is $17 M to $20 M.

Preparers of Fact Sheet
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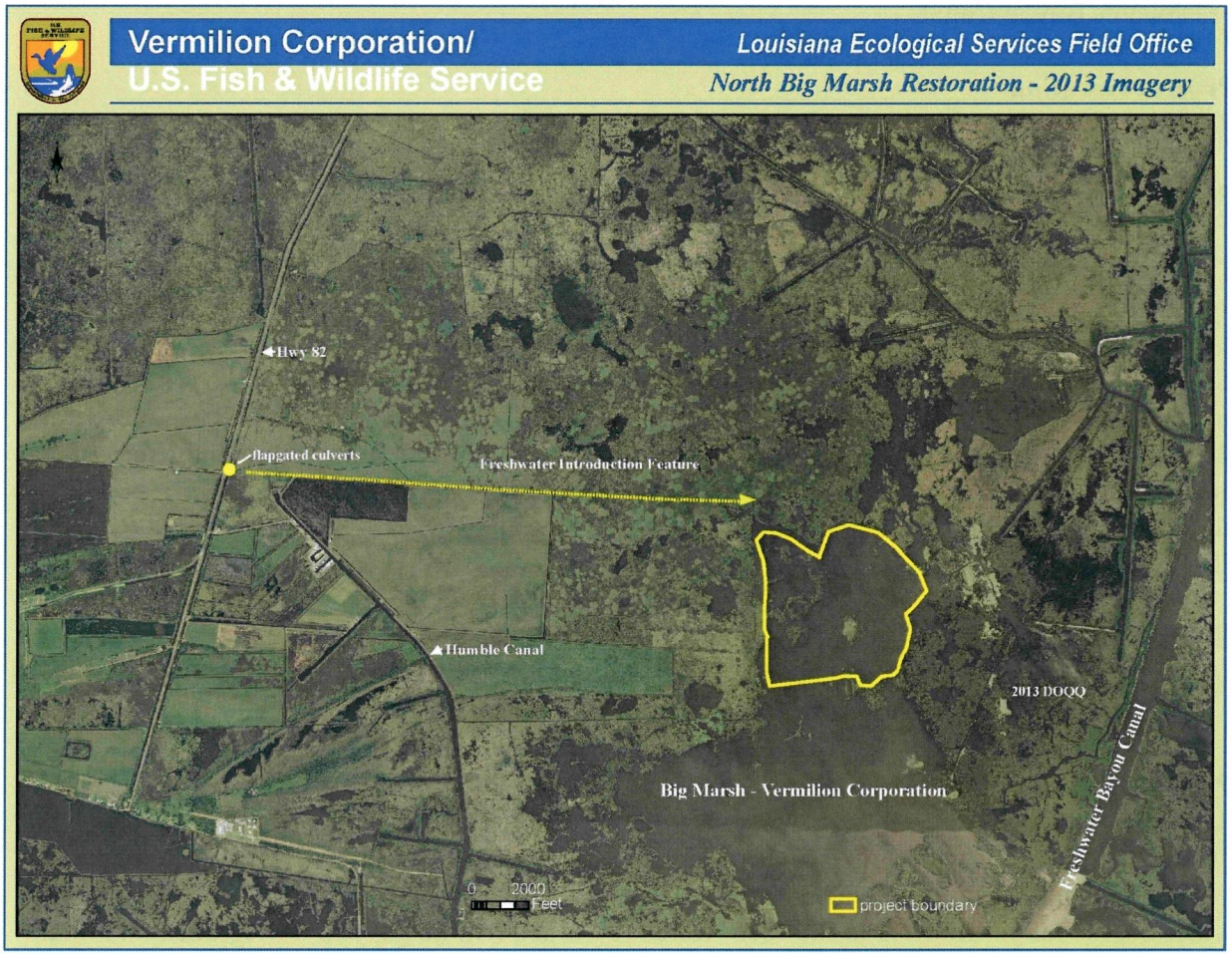


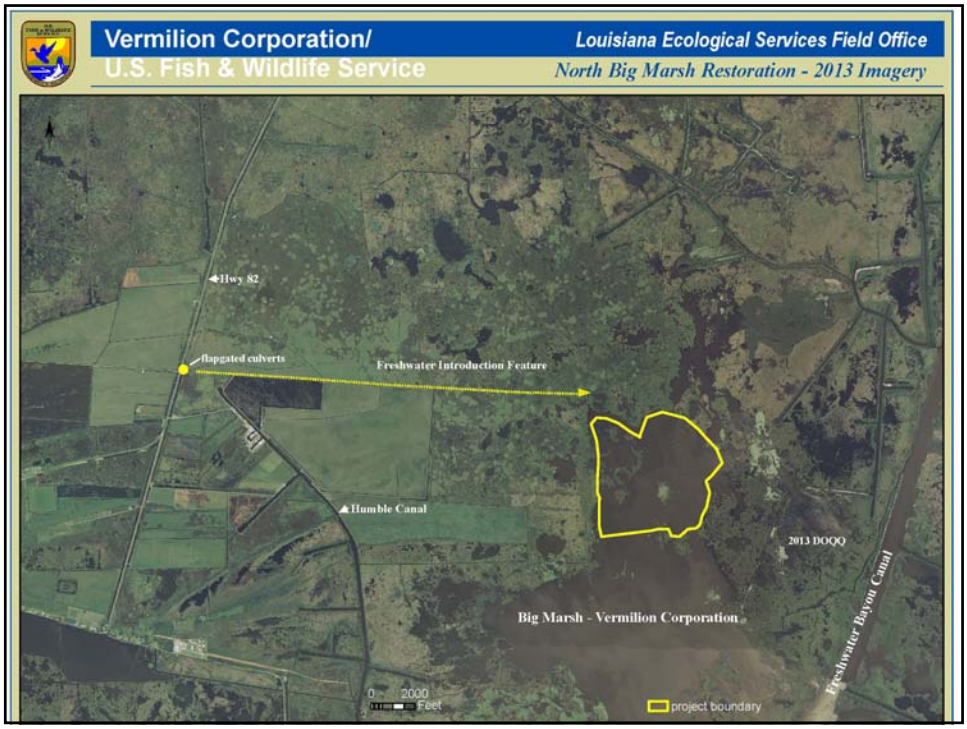
North Big Marsh Restoration Project PPL 25 Nominee

Problem

- Big Marsh unit lost 11% marsh (-3,810 acres) (1932 to 1990). Greatest loss after FW Bayou Canal dredging (1956-1979).
- Coast 2050 Study predicted another 10% loss to 2050 (3,000 acres), recent loss has accelerated due to hurricanes.
- A large 4,700-acre shallow open water area developed mostly due to Hurricanes Rita (2005) & Ike (2008).

Goals

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



Features – 1) Restore & nourish over 450 acres of fresh to intermediate marsh in Big Marsh west of Freshwater Bayou Canal with dredged material from 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 433 acres at the current erosion rate of 0.18 %/year.
- 2) The project would restore the northern portion of Big Marsh & provide protection to adjacent marshes.
- **Cost** - Estimated construction cost is $17 to $20 M.

R4-ME-07

South Pecan Island Marsh Creation

RY-ME-07

PPL25 PROJECT NOMINEE FACT SHEET
January 27, 2015

South Pecan Island Marsh Creation Project

State Master Plan Consistency
This project is partially located within and consistent with the State Master Plan "East Pecan Island Marsh Creation" project (No. 004.MC.16) which consists of marsh creation southeast of Pecan Island and Freshwater Bayou Canal.

Project Location
Region 4, Vermilion Parish, South Pecan Island, west of Freshwater Bayou Canal.

Problem

Project area wetland loss has been caused by impoundments, saltwater intrusion and storm events (Coast 2050). Twenty-five percent (25%) of the 46,370 acres of marshes south of Pecan Island, from Freshwater Bayou Canal to Rollover Bayou, in the Mermentau Basin have converted to open water from 1932 to 1990 (11,520 acres) (Coast 2050). Another 20% (6,980 acres) of the 34,850 acres of marsh present in 1990 is predicted to be lost by 2050. Land loss has decreased to 1,650 acres from 1983 and 1990, which may have resulted from increased wetland management. Area subsidence is estimated at 0 to 1 foot/century. The 49,257-acre area includes 61% brackish marsh (29,990 acres), 5% intermediate marsh (2,590 acres), 2% saline marsh (1,720 acres), fresh marsh (550 acres), and 26% open water (12,807 acres) (Coast 2050).

Goals
Restore and nourish approximately 630 acres of intermediate to brackish marshes South of Pecan Island.

Proposed Project Features
Restore about 450 acres and nourish 180 acres of intermediate to brackish marsh for a total of over 630 acres south of Pecan Island west of Freshwater Bayou Canal with dredged material from the Gulf of Mexico. Marsh creation area water depths range from 1.0 to 1.5 feet. Retention dikes will be gapped or degraded and tidal creeks constructed post-construction to restore area hydrology and allow fisheries access and improve wetland productivity.

Preliminary Project Benefits
1) The total net marsh acreage benefited directly over the 20-year project life would be approximately 445 acres assuming an erosion rate of 0.18 %/year. 2) The project would restore marshes south of Pecan Island and provide protection to marshes and the community of Pecan Island to the north. 3) The project would restore intermediate marsh habitat for the Black Rail and the Louisiana eyed silk moth candidate species, glossy ibis at-risk species, and Mottled duck other waterfowl, King rail, wood stork, Little Blue Heron, seaside sparrow, Lesser Snow Goose, Greater White-fronted Goose, and Canada Goose Joint Venture species of concern.

Identification of Potential Issues
No significant issues have been identified for this project.

Preliminary Construction Costs
The estimated construction cost is $18 M to $20 M.

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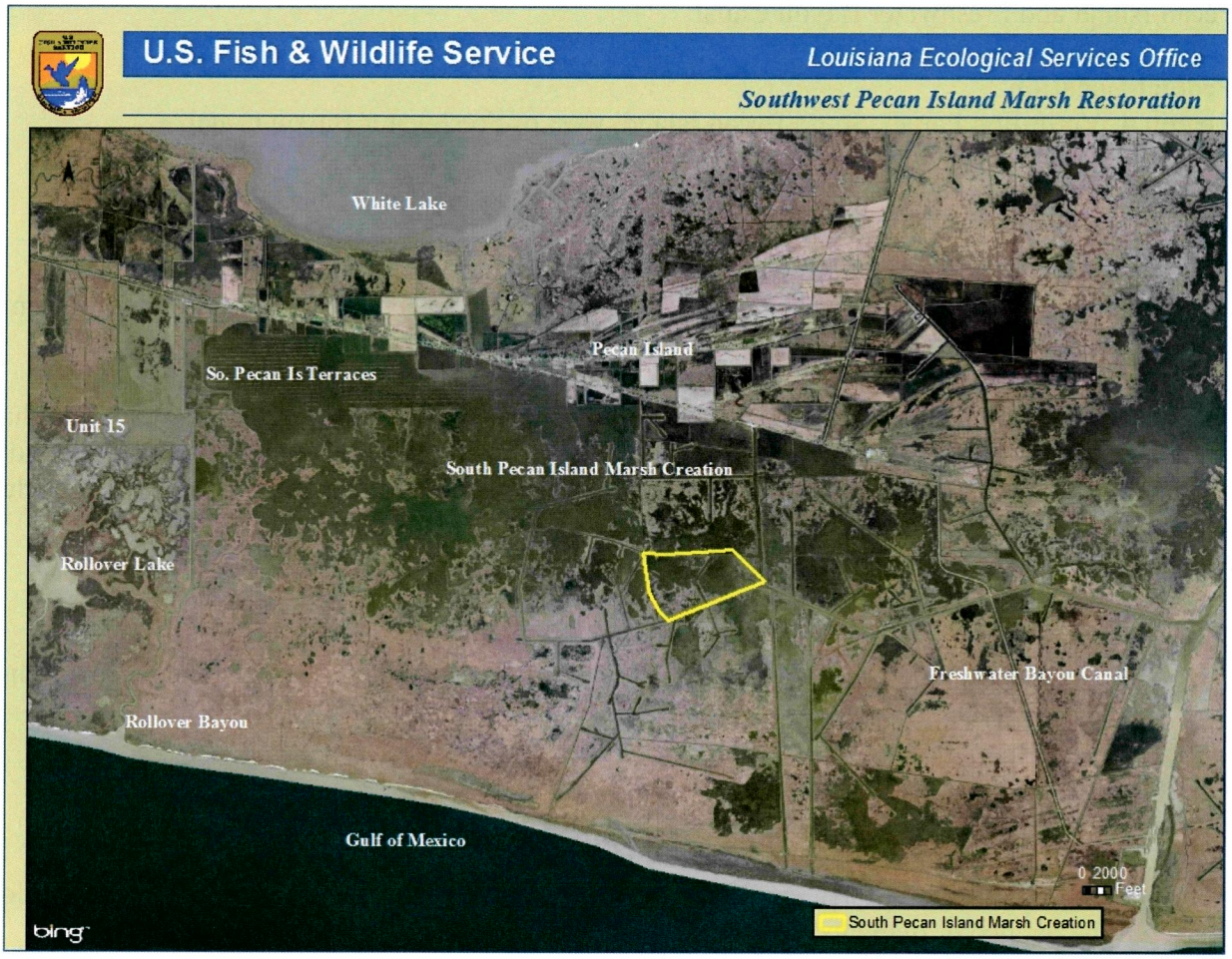
Darryl Clark, U.S. Fish and Wildlife Service, 337-291-3111 Darryl_Clark@fws.gov



South Pecan Island Marsh Creation Project PPL 25 Nominee

Problem

- Wetland loss has been caused by impoundments, saltwater intrusion and storm events
- 25% of the 46,370 acres of marshes south of Pecan Island converted to open water from 1932 to 1990 (11,520 acres).
- Another 20% (6,980 acres) of the 34,850 acres of marsh present in 1990 is predicted to be lost by 2050.

Goals

- 1) Restore & nourish 630 acres of intermediate & brackish marsh in South of Pecan Island from Gulf borrow.