ATTENDANCE RECORD

DATE(S)	SPONSORING ORGANIZATION	LOCATION
February 6, 2020 10:00 A.M.	COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT	USFWS Southeast La. Refuges Complex (Big Branch) 61389 Highway 434, Lacombe, LA

PURPOSE **MEETING OF THE REGIONAL PLANNING TEAM REGION I & II**

PARTICIPANT REGISTER

NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER
Eric Wolverton	Coastal Zone Mgr	225-562-2370
Lonnie Fontenot	JESCO (minute-taker)	337-802-7508
Brad Crawford	EPA	214 665 7255
PATRICIA A TAYLOR	EPA	214 665 6403
Blaise Pezold	Mermax Foundation	504-264-8125
BARRY HEBERT	LDWF	225 765 0233
Kevin Roy	USFWS	337-291-3120
Robert Dubois	USFWS	337-291-3127
Kristen Ramsey	CPRA	
Jason Kroll	NOAA	225 757 5411
Gary Shaffer	Southwest Team	985 549 2865
Alex James	USDA NRCS	
Quin Kinler	NRCS	225-271-2403
Craig Bufkin	NRCS	
Roy Ricker	GUEST	985 875 1934
Angela Trahan	NRCS	337 291 3142
Eric Whitney	NRCS	337-291-3069
Jackie Jones	NRCS	337-291-3055
Ila Bourtaus	NRCS	337 291-3067
Dale Garber	ECM, Inc	337-581-9078
JACques Boudreaux	ENGINEER, CPRA	(225) 603-9733
Craig Gothreaux	NOAA	225 380.0078

LMV FORM 583-R
JAN 88

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PARTICIPANT REGISTER

NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER
January Murray	NOAA	225-380-0089
Charles Bassen	LSU	225-578-6375
Patrick Williams	NOAA	225-380-0056
Dawn Davis	NOAA	225 380 0041
Jason Smith	Jefferson Parish	(504) 731-4625
Randal Thwaite	NOAA	225-380-0050
Kacie Wright	CWPPRA Outreach	337-266-8626
Ross Liner	St Tammany Planning & Development	
Michael Batista	Marine Gardens LLC	504 430 8900
DEVIN FAIL	St. John PMSL	(985) 651 5565
Amanda Phillips	Sec. Trea. Edward Wisner Donation	504.210.1152
Jennifer Smith	NOAA	225-954-665
JOHN PETITBON	USACE	504-862-2732
Jay Watson	ST. Tammany Parish Govt	985.898-2552

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JAN 88

Coastal Wetlands Planning Protection & Restoration Act

30th Priority Project List

Region 2

Regional Planning Team Meeting

February 6, 2020
Lacombe, LA

CWPPRA

1. Welcome and Introductions

- RPT Region 2 Leader: Sarah Bradley, USACE

CWPPRA

Announcements

- Copies of the PPL 30 Selection Process & Schedule available at the sign-in table.
- PPL 30 RPT meetings to accept project nominees:
  - Region IV, Port of Lake Charles, Feb. 4, 2019, 10:00 am
  - Region III, Port of Morgan City – Office, Feb. 5, 2019, 9:30 am
  - **Region II, USFWS SE LA Refuges Complex (Big Branch), Feb. 6, 2019, 10:00 am**
  - Region I, USFWS SE LA Refuges Complex, Feb.6, 2019, immediately following Region II
- For parishes that do not have a voting registration form filled out already - Parish representatives must identify themselves during the RPT meetings and **fill out a voting registration form**, including contact information for the primary and secondary voting representatives that will cast votes during the Coastwide Electronic Vote.

CWPPRA

Region 2 Parishes

- Eligible parishes for basins in Region 2 include:
- Barataria Basin
  - **Plaquemines Parish**
  - **Jefferson Parish**
  - **Orleans Parish**
  - **Ascension Parish**
  - **Assumption Parish**
  - **St. James Parish**
  - **St. Charles Parish**
  - **Lafourche Parish**
  - **St. John the Baptist Parish**
- Breton Sound Basin
  - **Plaquemines Parish**
  - **St. Bernard Parish**

CWPPRA

RPT Meetings

- Project proposals should be consistent with the 2017 State Master Plan.
- A project can only be nominated in one basin except for coastwide projects
- Proposals that cross multiple basins, excluding coastwide projects, shall be nominated in one basin only, based on the majority area of project influence.
- If similar projects are proposed within the same area:
  - RPT representatives (CWPPRA agencies and only the parishes located within the project's basin) will determine if those projects are sufficiently different
    - If sufficiently different:
      - Each project will move forward
    - If not sufficiently different:
      - Projects will be combined
      - Federal sponsor will be determined prior to coastwide vote (February 20th).
  - *This decision will be made at the meeting where the projects are proposed*

CWPPRA

RPT Meetings

- Presenters without factsheets **MUST** complete a PPL 30 Nomination Sign-Up Sheet for <u>each</u> project nominee (demo projects too).
- Presenters with factsheets, please give a factsheet each to Alice, Michelle & Lonnie <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 13, 2019.
- Limit comments/questions during meeting to PPL 30 subject proposals and processes.

CWPPRA

Coastwide Projects

- Proposes a technique applicable across the coast (e.g. vegetative planting)
- Nominated at any RPT meeting
- Engineering/Environmental Workgroups will validate that coastwide projects fit CWPPRA Standard Operating Procedures criteria
- All coastal parishes & agencies will vote on selection of coastwide nominee
- Only one coastwide nominee may be selected from the coastwide nominee pool during the Electronic Coastwide Vote on February 20, 2019.
- The Technical Committee may or may not select a coastwide project in April 2019.

CWPPRA

Demonstration Projects

- Demonstrates a technology which can be transferred to other areas in coastal Louisiana
- Engineering/Environmental Workgroups will validate that demos fit CWPPRA Standard Operating Procedures criteria
- The RPTs select up to 6 demos during the February 20th Coastwide Electronic Vote.
- The Technical Committee selects up to 3 demos in April 2019.
- Workgroups may recommend that no demos move forward to candidate stage
- Previous demo candidates must be ***re-nominated*** for PPL 30.

Coastwide Electronic Vote (Feb. 20th) to select:

Projects per Basin
(Determined by loss rates, the highest loss rates have the most projects)

4 Barataria
4 Terrebonne
3 Breton Sound
3 Pontchartrain
2 Mermentau
2 Calcasieu/Sabine
2 Teche/Vermilion
1 Atchafalaya
1 Coastwide
22 Total

& up to 6 demos

CWPPRA

Coastwide Electronic Vote

- Each officially designated parish representative, each Federal agency, and the State (CPRA) will have one vote.
- No additional projects can be nominated after the RPTs.
- No significant changes to projects proposed at the first round of RPT meetings will be allowed (this includes combining projects).
- Public comments will be heard today and written comments must be submitted by February 13, 2019.

CWPPRA

Coastwide Electronic Voting Process

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

- Voters must email their voting sheets to kaitlyn.m.carriere@usace.army.mil

All votes must be received by 10:30 am on February 20, 2019.

CWPPRA

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 30 criteria.

CWPPRA

PPL 30 Candidate Project Selection

Candidates evaluated between May and October

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

CWPPRA

PPL 30 Candidate Project Evaluation & Selection

- **Coastwide Electronic Vote, Feb. 20, 2020**
  - **21 basin-project nominees, 1 coastwide nominee, and 6 demos selected**
- **Technical Committee Mtg, Apr. 2020, New Orleans**
  - **Selection of 10 candidates and up to 3 demos**
- **Technical Committee Mtg, Dec. 2020, New Orleans**
  - **Typically recommend up to 4 projects for Phase 1 funding**
- **Task Force Mtg, Jan. 2021, New Orleans**
  - **Final Selection of projects for Phase 1 funding**

Written Comments

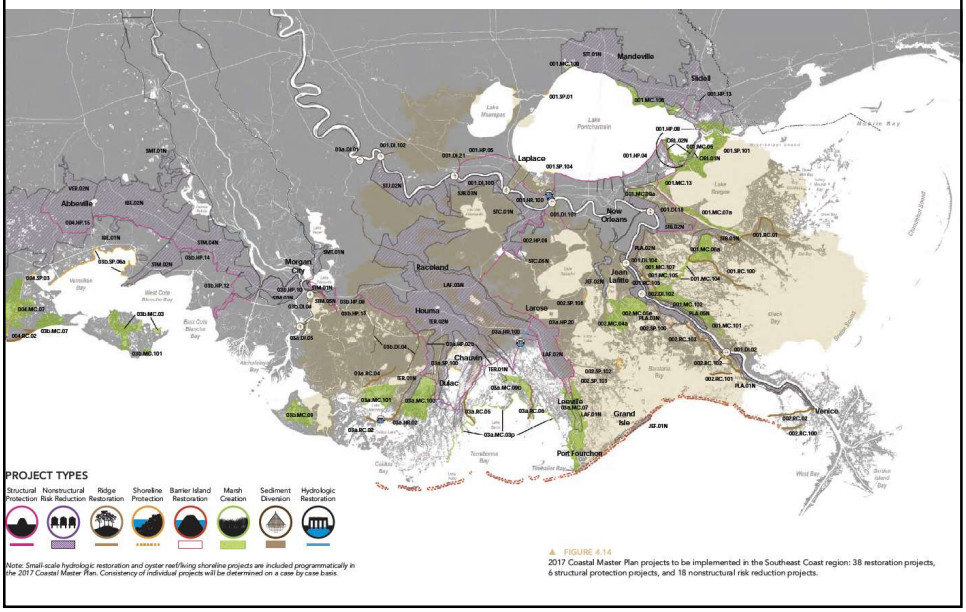
- Send written comments on projects & demos proposed today to the CWPPRA program manager
- **Deadline: February 13, 2019**

Brad Inman
Projects and Restoration Branch Chief
U.S. Army Corps of Engineers
7400 Leake Avenue
New Orleans, Louisiana 70118

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

(this information is on the back of the agenda)

2017 State Master Plan
Southeast Coast Projects



Note: Small-scale hydrologic restoration and oyster reef/living shoreline projects are included programmatically in the 2017 Coastal Master Plan. Consistency of individual projects will be determined on a case by case basis.

FIGURE 4.14
2017 Coastal Master Plan projects to be implemented in the Southeast Coast region: 38 restoration projects, 6 structural protection projects, and 18 nonstructural risk reduction projects.

Southeast Coast Projects

Project Type	Project No.	Project Description	Implementation Period	Project Costs
Hydrologic Restoration	001.HR.100	LaBranche Hydrologic Restoration: Construction of a 750 cfs hybrid pump-siphon structure, intake structure, and an approximately 1 mile long conveyance system to LaBranche wetlands via the Mississippi River to restore the historically fresh to intermediate marshes. Features also include a conveyance channel, roadway, and railroad crossings.	Years 1-10	$80,900,000
Marsh Creation	001.MC.05	New Orleans East Landbridge Restoration: Creation of approximately 11,600 acres of marsh in New Orleans East Landbridge to create new wetland habitat and restore degraded marsh.	Years 1-10	$396,500,000
	001.MC.13	Golden Triangle Marsh Creation: Creation of approximately 3,900 acres of marsh in Golden Triangle Marsh between the MRGO and GIWW to create new wetland habitat and restore degraded marsh.	Years 1-10	$273,700,000
	001.MC.108	Guste Island Marsh Creation: Creation of approximately 700 acres of marsh in St. Tammany Parish along the northwest Lake Pontchartrain shoreline to create new wetland habitat and restore degraded marsh.	Years 1-10	$64,400,000
Ridge Restoration	001.RC.100	Bayou Terre aux Boeufs Ridge Restoration: Restoration of approximately 91,200 feet of historic ridge to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Bayou Terre aux Boeufs.	Years 1-10	$15,200,000
	001.RC.103	Carlisle Ridge Restoration: Restoration of approximately 38,200 feet of historic ridge to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation near Carlisle.	Years 1-10	$9,300,000
	002.RC.101	Adams Bay Ridge Restoration: Restoration of approximately 31,600 feet of historic ridge to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Adams Bay.	Years 1-10	$7,200,000
	002.RC.102	Bayou Eau Noire Ridge Restoration: Restoration of approximately 34,800 feet of historic ridge to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Bayou Eau Noire.	Years 1-10	$9,800,000
	002.RC.103	Grand Bayou Ridge Restoration: Restoration of approximately 48,100 feet of historic ridge to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Grand Bayou.	Years 1-10	$10,300,000
Sediment Diversion	001.DI.02	Lower Breton Diversion: Sediment diversion of 50,000 cfs into Lower Breton Sound to build and maintain land (modeled at 50,000 cfs for river flows at 1,000,000 cfs; variable flows above 200,000 cfs calculated using a linear function up to 1,000,000 cfs; and open with variable flow rate (larger than 50,000 cfs, estimated using linear extrapolation) for river flow above 1,000,000 cfs. No operation below 200,000 cfs).	Years 1-10	$383,200,000
	001.DI.18	Central Wetlands Diversion: Diversion into Central Wetlands near Violet to provide sediment for emergent marsh creation and freshwater to sustain existing wetlands, 5,000 cfs capacity (modeled at a constant flow of 5,000 cfs, independent of the Mississippi River flow).	Years 1-10	$231,000,000
	001.DI.21	East Maurepas Diversion: Diversion into East Maurepas near Angelina to provide sediment for emergent marsh creation and freshwater to sustain existing wetlands, 2,000 cfs capacity (modeled at a constant flow of 2,000 cfs, independent of the Mississippi River flow).	Years 1-10	$184,900,000
Sediment Diversion (continued)	001.DI.100	Manchac Landbridge Diversion: A structure in the existing western spillway guide levee to divert 2,000 cfs thereby increasing freshwater exchange with adjacent wetlands.	Years 1-10	$148,200,000
	001.DI.102	Union Freshwater Diversion: Diversion into West Maurepas swamp near Burnside to provide sediment for emergent marsh creation and freshwater and fine sediment to sustain existing wetlands, 25,000 cfs capacity (modeled at 25,000 cfs when Mississippi River flow equals 400,000 cfs; closed when river flow is below 200,000 cfs or above 600,000 cfs; a variable flow rate calculated using a linear function from 0 to 25,000 cfs for river flow between 200,000 cfs and 400,000 cfs and held constant at 25,000 cfs for river flow between 400,000 cfs and 600,000 cfs).	Years 1-10	$876,700,000
	001.DI.104	Mid-Breton Sound Diversion: Sediment diversion into Mid-Breton Sound in the vicinity of White's Ditch to build and maintain land, 35,000 cfs capacity (modeled at 35,000 cfs when the Mississippi River flow equals 1,000,000 cfs; flow rate calculated using a linear function for river flow from 200,000 cfs to 1,000,000 cfs; flows variable above 1,000,000 cfs; 5,000 cfs minimum flow maintained when Mississippi River flow is below 200,000 cfs).	Years 1-10	$479,100,000
	002.DI.102	Mid-Barataria Diversion: Sediment diversion into Mid-Barataria near Myrtle Grove to build and maintain land, 75,000 cfs capacity (modeled at 5,000 cfs for Mississippi River flows below 200,000 cfs; variable flows to capacity between 200,000 and 1,250,000 cfs calculated using a linear function; diverts exactly 76,000 cfs when flows are at 1,250,000 cfs).	Years 1-10	$998,800,000
Shoreline Protection	001.SP.01	Manchac Landbridge Shoreline Protection: Shoreline protection through rock breakwaters designed to an elevation of 3.5 feet NAVD88 along approximately 5,500 feet of the west side of Lake Pontchartrain north of Pass Manchac near Stinking Bayou to preserve shoreline integrity and reduce wetland degradation from wave erosion.	Years 1-10	$11,600,000
	001.SP.101	Unknown Pass to Rigolets Shoreline Protection: Shoreline protection through rock breakwaters designed to an elevation of 3.5 feet NAVD88 along approximately 2,000 feet of the east side of the New Orleans Landbridge from Unknown Pass to the Rigolets to preserve shoreline integrity and reduce wetland degradation from wave erosion.	Years 1-10	$5,200,000
	001.SP.104	LaBranche Wetlands Shoreline Protection: Shoreline protection through rock breakwaters designed to an elevation of 3.5 feet NAVD88 along approximately 11,100 feet of the southern shore of Lake Pontchartrain near the LaBranche wetlands to preserve shoreline integrity and reduce wetland degradation from wave erosion.	Years 1-10	$23,100,000
	002.SP.100	Lake Hermitage Shoreline Protection: Shoreline protection through rock breakwaters designed to an elevation of 3.5 feet NAVD88 along approximately 6,500 feet around the southern shore of Lake Hermitage to preserve shoreline integrity and reduce wetland degradation from wave erosion.	Years 1-10	$14,500,000
	002.SP.102	East Snail Bay Shoreline Protection: Shoreline protection through rock breakwaters designed to an elevation of 3.5 feet NAVD88 along approximately 7,300 feet of the northeastern shore of Snail Bay south of Little Lake to preserve shoreline integrity and reduce wetland degradation from wave erosion.	Years 1-10	$15,400,000

Southeast Coast Projects – continued

Project Type	Project No.	Project Description	Implementation Period	Project Costs
Shoreline Protection (continued)	002.SP.106	Bayou Perot Shoreline Protection: Shoreline protection through rock breakwaters designed to an elevation of 3.5 feet NAVD88 along approximately 5,900 feet of the western shore of Bayou Perot to preserve shoreline integrity and reduce wetland degradation from wave erosion.	Years 1-10	$13,400,000
Nonstructural Risk Reduction	JEF.01N	Jefferson - Grand Isle Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	$98,200,000
	JEF.02N	Jefferson - Lafitte/Barataria Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	$200,800,000
	LAF.01N	Lafourche - Lower Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	$1,700,000
	LAF.02N	Lafourche - Larose/Golden Meadow Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	$32,600,000
	LAF.03N	Lafourche - Raceland Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	$363,500,000
	ORL.01N	Orleans - Rigolets Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	$18,000,000
	ORL.02N	Orleans - Lake Catherine Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	$135,600,000
	PLA.01N	Plaquemines - West Bank Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	$264,700,000
	PLA.02N	Plaquemines - Braithwaite Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	$56,200,000
Nonstructural Risk Reduction (continued)	PLA.03N	Plaquemines - Grand Bayou Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	$3,000,000
	PLA.05N	Plaquemines - Phoenix/Pointe A La Hache Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	$38,300,000
	STB.01N	St. Bernard - Yscloskey/Delacroix Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	$70,400,000
	STB.02N	St. Bernard Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	$2,400,000
	STC.05N	St. Charles - Salvador Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	$2,300,000
	SJB.03N	St. John the Baptist - Edgard Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	$7,800,000
	STT.01N	St. Tammany Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 1-30	$1,611,300,000
Structural Protection	001.HP.05	West Shore Lake Pontchartrain: Construction of a levee to an elevation between 16 and 19 feet NAVD88 in the Laplace area. Project features approximately 91,000 feet of earthen levee, approximately 5,000 feet of T-wall, (1) 18-foot sluice gate, (1) 25-foot sluice gate, (2) 25-foot swing gates, (1) 150-foot roller gate, and (4) pump stations with a total capacity of 2,150 cfs.	Years 1-30	$730,400,000
	001.HP.08	Lake Pontchartrain Barrier: Construction of closure gates and weirs to an elevation of 2 feet NAVD88 across the passes at Chef Menteur and the Rigolets for storm surge risk reduction within the Lake Pontchartrain Basin. Project features approximately 5,200 feet of earthen levee, 630 feet of a combi-wall weir constructed to 2 feet, a 150-foot closure gate at each pass for navigation, and multiple vertical lift gates to maintain tidal exchange through the passes.	Years 1-30	$2,409,600,000
	001.HP.13	Slidell Ring Levees: Construction of a levee to an elevation of 16 feet NAVD88 for storm surge risk reduction around Slidell. Project features approximately 31,000 feet of earthen levee and 14,500 feet of T-wall.	Years 1-30	$181,300,000

Southeast Coast Projects – continued

Project Type	Project No.	Project Description	Implementation Period	Project Costs
Structural Protection (continued)	002.HP.06	Upper Barataria Risk Reduction: Construction of a levee to an elevation between 12.5 and 15 feet NAVD88 along Highway 90 between the West Bank and Larose. Project includes 204,300 feet of earthen levee, 8,200 feet of T-wall, (4) 10-foot sluice gates, (1) 250-foot barge gate, (2) 40-foot swing gates, and (8) pump stations with a total capacity of 6,837 cfs.	Years 1-30	$940,900,000
	03a.HP.20	Larose to Golden Meadow: Improvements to the existing Larose to Golden Meadow levee system, including raising to an elevation between 12 and 21 feet NAVD88. Project features approximately 249,900 feet of earthen levee and approximately 6,700 feet of T-wall.	Years 1-30	$355,500,000
Marsh Creation	001.MC.05	New Orleans East Landbridge Restoration: Creation of approximately 21,800 acres of marsh in New Orleans East Landbridge to create new wetland habitat and restore degraded marsh.	Years 11-30	$1,106,700,000
	001.MC.06a	Breton Marsh Creation - Component A: Creation of approximately 12,000 acres of marsh in the Breton Marsh east of Delacroix Island to create new wetland habitat and restore degraded marsh.	Years 11-30	$982,400,000
	001.MC.07a	Lake Borgne Marsh Creation - Component A: Creation of approximately 5,900 acres of marsh along the south shoreline of Lake Borgne near Proctors Point to create new wetland habitat and restore degraded marsh.	Years 11-30	$271,700,000
	001.MC.08a	Central Wetlands Marsh Creation - Component A: Creation of approximately 2,800 acres of marsh in Central Wetlands near Bayou Bienvenue to create new wetland habitat and restore degraded marsh.	Years 11-30	$122,300,000
	001.MC.102	Pointe a la Hache Marsh Creation: Creation of approximately 13,700 acres of marsh on the east bank of Plaquemines Parish near Pointe a la Hache to create new wetland habitat and restore degraded marsh.	Years 11-30	$641,800,000
	001.MC.104	East Bank Land Bridge Marsh Creation: Creation of approximately 2,300 acres of marsh in Plaquemines Parish between Grand Lake and Lake Lery to create new wetland habitat and restore degraded marsh.	Years 11-30	$154,200,000
	001.MC.105	Spanish Lake Marsh Creation: Creation of approximately 800 acres of marsh in Plaquemines Parish along the eastern shore of Spanish Lake to create new wetland habitat and restore degraded marsh.	Years 11-30	$59,900,000
	001.MC.106	St. Tammany Marsh Creation: Creation of approximately 6,700 acres of marsh in St. Tammany Parish along the northern shore of Lake Pontchartrain to create new wetland habitat and restore degraded marsh.	Years 11-30	$199,300,000
	001.MC.107	Tiger Ridge/Maple Knoll Marsh Creation: Creation of approximately 4,700 acres of marsh in Plaquemines Parish near Tiger Ridge to create new wetland habitat and restore degraded marsh.	Years 11-30	$214,600,000
	002.MC.05e	Large-Scale Barataria Marsh Creation - Component E: Creation of approximately 12,900 acres of marsh in the Barataria Basin south of the Pen to the Barataria Landbridge to create new wetland habitat and restore degraded marsh.	Years 11-30	$674,500,000
Ridge Restoration	001.RC.01	Bayou LaLoutre Ridge Restoration: Restoration of approximately 108,900 feet of historic ridge to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Bayou LaLoutre.	Years 11-30	$20,200,000
	002.RC.02	Spanish Pass Ridge Restoration: Restoration of approximately 46,300 feet of historic ridge to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation west of Venice along the banks of Spanish Pass.	Years 11-30	$11,600,000

Project Type	Project No.	Project Description	Implementation Period	Project Costs
Ridge Restoration (continued)	002.RC.100	Red Pass Ridge Restoration: Restoration of approximately 23,000 feet of historic ridge southwest of Venice to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along the banks of Red Pass.	Years 11-30	$3,500,000
Sediment Diversion	001.DI.101	Ama Diversion: Sediment diversion into Upper Barataria near Ama to provide sediment for emergent marsh creation and freshwater to sustain existing wetlands, 50,000 cfs capacity (modeled at 50,000 cfs when the Mississippi River flow equals 1,000,000 cfs, open with a variable flow rate calculated using a linear function from 0 to 50,000 cfs for river flow between 200,000 cfs and 1,000,000 cfs, diverts exactly 50,000 cfs when the Mississippi River flow is 1,000,000 cfs; and open with a variable flow rate [larger than 50,000 cfs, estimated using linear extrapolation] for river flow above 1,000,000 cfs. No operation below 200,000 cfs).	Years 11-30	$882,400,000
Shoreline Protection	002.SP.103	West Snail Bay Shoreline Protection: Shoreline protection through rock breakwaters designed to an elevation of 3.5 feet NAVD88 along approximately 16,600 feet of the western shoreline of Snail Bay south of Little Lake to preserve shoreline integrity and reduce wetland degradation from wave erosion.	Years 11-30	$30,000,000
Nonstructural Risk Reduction	STC.01N	St. Charles - Hahnville/Luling Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 31-50	$829,500,000
	STJ.02N	St. James - Vacherie Nonstructural Risk Reduction: Project includes floodproofing non-residential properties where 100-year flood depths are 1-3 feet, elevating residential properties where 100-year flood depths are 3-14 feet, and acquiring residential properties where 100-year flood depths are greater than 14 feet.	Years 31-50	$3,900,000
Structural Protection	001.HP.04	Greater New Orleans High Level: Improvements of existing Hurricane and Storm Damage Risk Reduction System levees surrounding the East Bank of Greater New Orleans to elevations between 19 and 35 feet NAVD88. Project features approximately 202,000 feet of earthen levee and approximately 242,100 feet of T-wall.	Years 31-50	$2,222,700,000
Marsh Creation	001.MC.101	Uhlan Bay Marsh Creation: Creation of approximately 700 acres of marsh on the east bank of Plaquemines Parish around Uhlan Bay to create new wetland habitat and restore degraded marsh.	Years 31-50	$29,000,000
	001.MC.102	Pointe a la Hache Marsh Creation: Creation of approximately 5,400 acres of marsh on the east bank of Plaquemines Parish near Pointe a la Hache to create new wetland habitat and restore degraded marsh.	Years 31-50	$353,700,000
	002.MC.04a	Lower Barataria Marsh Creation - Component A: Creation of approximately 7,400 acres of marsh in Jefferson Parish on the east shore of Little Lake and Turtle Bay to create new wetland habitat and restore degraded marsh.	Years 31-50	$709,500,000

Region 2-

Barataria Basin

R2 BA-01

PPL30 PROJECT FACT SHEET
February 6, 2020

Project Name
Three Bayou Bay Marsh Creation

Master Plan Strategy
Lower Barataria Marsh Creation-Component A (2017 Master Plan 002.MC.04a): Creation of approximately 7,400 acres of marsh in Jefferson Parish on the east shore of Little Lake and Turtle Bay to create new wetland habitat and restore degraded marsh.

Project Location
Region 2, Barataria Basin, Jefferson Parish

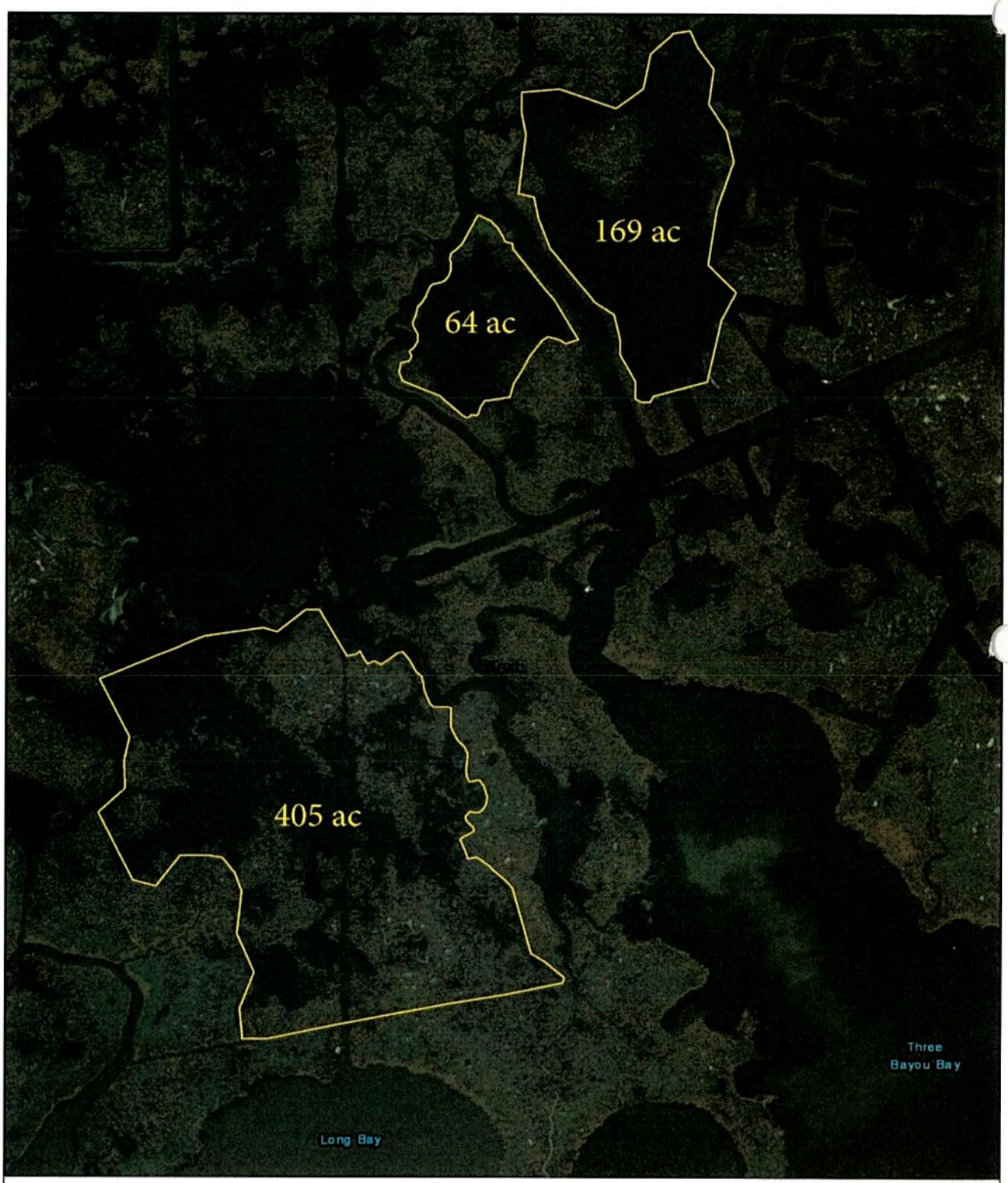
Problem
The project area is a semi-open water body near Three Bayou Bay. Wetland loss has occurred in the project area and are not able to maintain viable elevations due to ongoing subsidence. In addition, oil and gas canals disrupted hydrology and facilitated saltwater intrusion further degrading the marsh.

Proposed Solution
The proposed project would create/nourish approximately 638 acres (382 acres created, and 256 acres nourished) of marsh using sediment dredged from the Little Lake. The dredged material would be fully contained. Containment dikes would be degraded as necessary to reestablish hydrologic connectivity with adjacent wetlands. The created marsh would be planted.

Project Benefits
Create/nourish approximately 638 acres of marsh using sediment dredged from the Little Lake.

Project Costs
The estimated construction cost including 25% contingency is $30M - $35M.

Preparer(s) of Fact Sheet:
Sharon L. Osowski, Ph.D.; EPA; (214) 665-7506; osowski.sharon@epa.gov



Three Bayou Bay Marsh Creation

Basemap: Bing Areal Imagery 2018

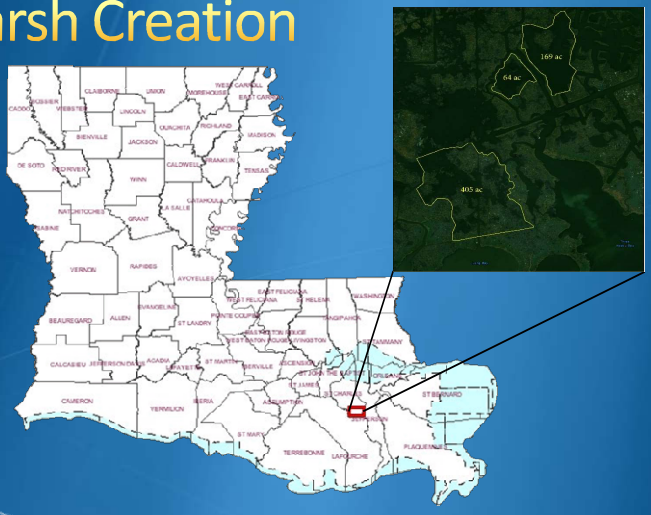
N
W E
S

0 0.15 0.3 0.45 0.6
Miles

Marsh Creation Cells

Dallas, TX
February 4, 2019

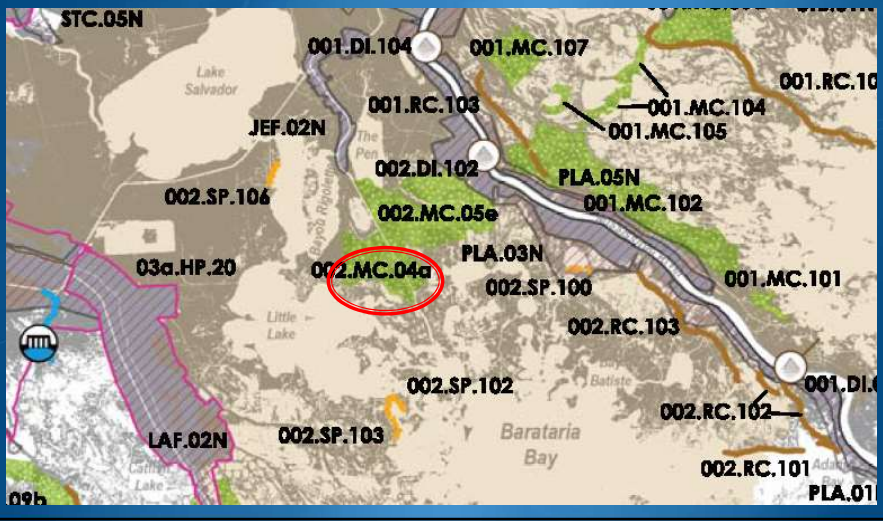
Three Bayou Bay Marsh Creation



Coastal Wetlands Planning, Protection and Restoration Act

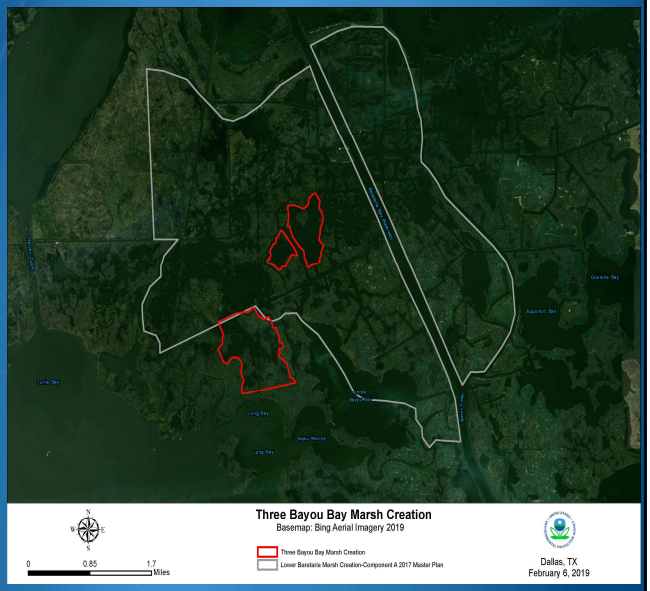
2017 Master Plan Solution

002.MC.04a Lower Barataria Marsh Creation-Component A: Creation of approximately 7,400 acres of marsh in Jefferson Parish on the east shore of Little Lake and Turtle Bay to create new wetland habitat and restore degraded marsh.



2017 Master Plan Consistency

- 002.MC.04a Lower Barataria Marsh Creation-Component A

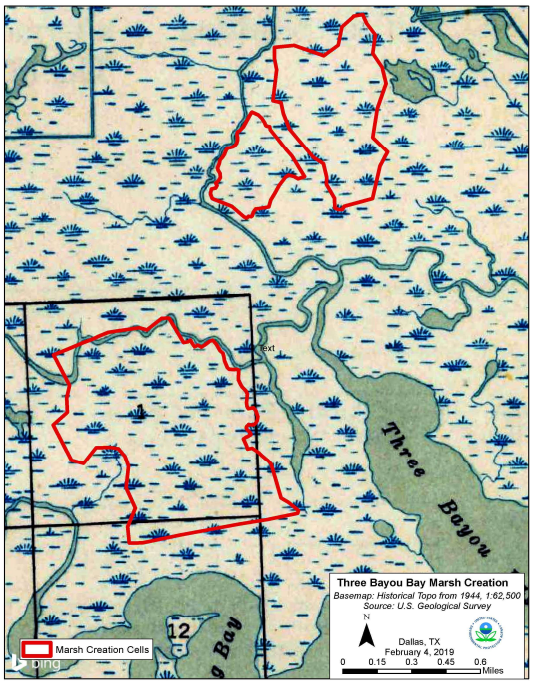


Problems

- Subsidence
- Oil & gas canals disrupted hydrology
- Saltwater intrusion
- Decreased sediment input
- Jefferson Parish could lose an additional 42% of its land area over the next 50 years and face severe storm surge flood risk (2017 MP).

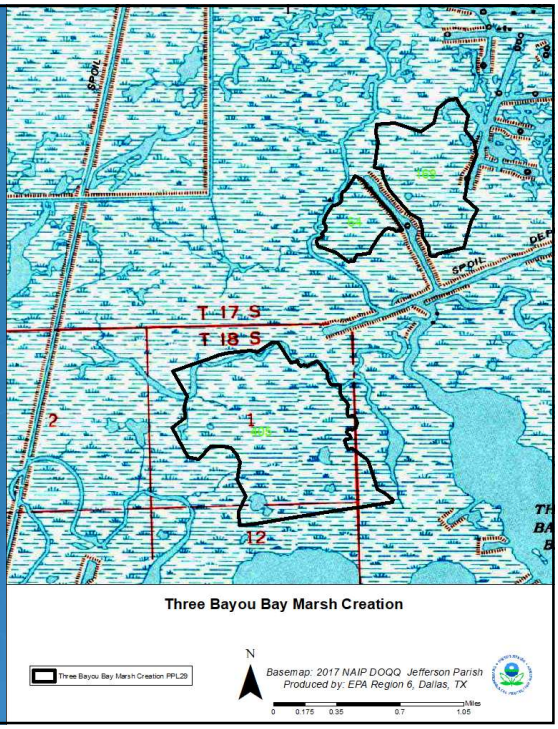
Historical Reference

- Historical topo from 1944
- Predominantly solid marsh



Historical Reference

- Historical topo from 1962
- Predominantly solid marsh



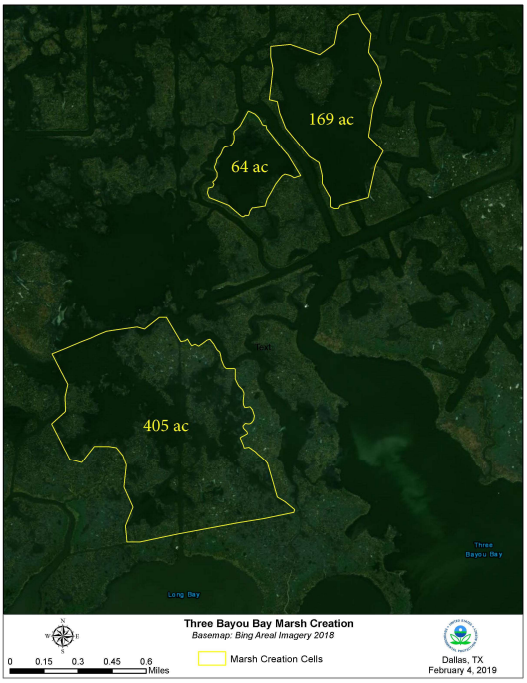
Project Features

Create/nourish 638 acres of emergent marsh with sediment from the Little Lake

Restore degraded wetland habitat

Provide increased protection from storm surge and flooding

Construction plus 25% contingency = $30M-35M



R2 BA-02

PPL30 PROJECT FACT SHEET
February 6, 2020

Project Name
Bayou eau Noire Ridge Restoration and Marsh Creation

Master Plan Strategy
Bayou Eau Noire Ridge Restoration (2017 Master Plan 002.RC.102): Restoration of approximately 34,800 feet of historic ridge to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Bayou Eau Noire.

Project Location
Region 2, Barataria Basin, Plaquemines Parish

Problem
The project area is a broken marsh area immediately adjacent to the west bank of the Mississippi River levee just east of Bay de la Chenier. The historic ridge has degraded over time and marshes have become fragmented and converted to open water due to ongoing subsidence and storm events. In addition, oil and gas canals disrupted hydrology and further degraded the marsh. The land loss rate for the area is -0.95% per year.

Proposed Solution
The proposed project would restore approximately 25,862 linear feet of historic ridge and create/nourish approximately 428 acres of marsh using sediment dredged from the Mississippi River as additional support for the ridge feature.

Project Benefits
Restore 25,862 linear feet of historic ridge and create/nourish approximately 428 acres (create 240 acres and nourish 188 acres) of marsh.

Project Costs
The estimated construction cost including 25% contingency is $25M - $30M.

Preparer(s) of Fact Sheet:
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Brad Crawford, P. E., EPA; (214) 665-7255; crawford.brad@epa.gov

Bayou eau Noire Ridge Restoration & Marsh Creation

Marsh Creation Feature 428 ac
Ridge Restoration Feature 258621 ft

N

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

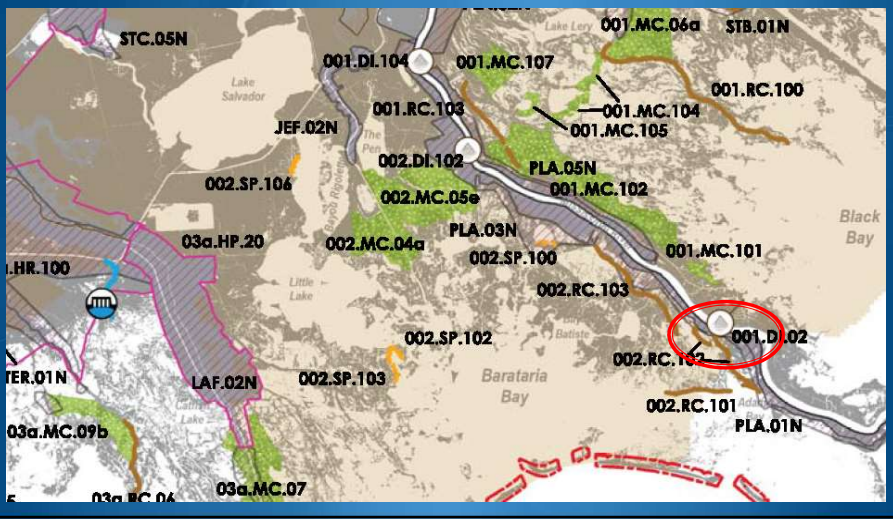
0 0.25 0.5 1 1.5 Miles

Bayou eau Noire
Ridge Restoration & Marsh Creation

Coastal Wetlands Planning, Protection and Restoration Act

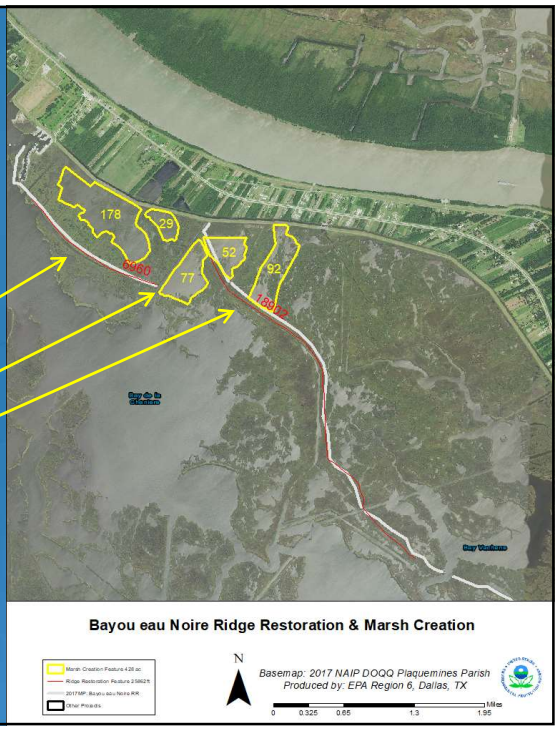
2017 Master Plan Solution

002.RC.102 Bayou Eau Noire Ridge Restoration: Restoration of approximately 34,800 feet of historic ridge to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Bayou Eau Noire.



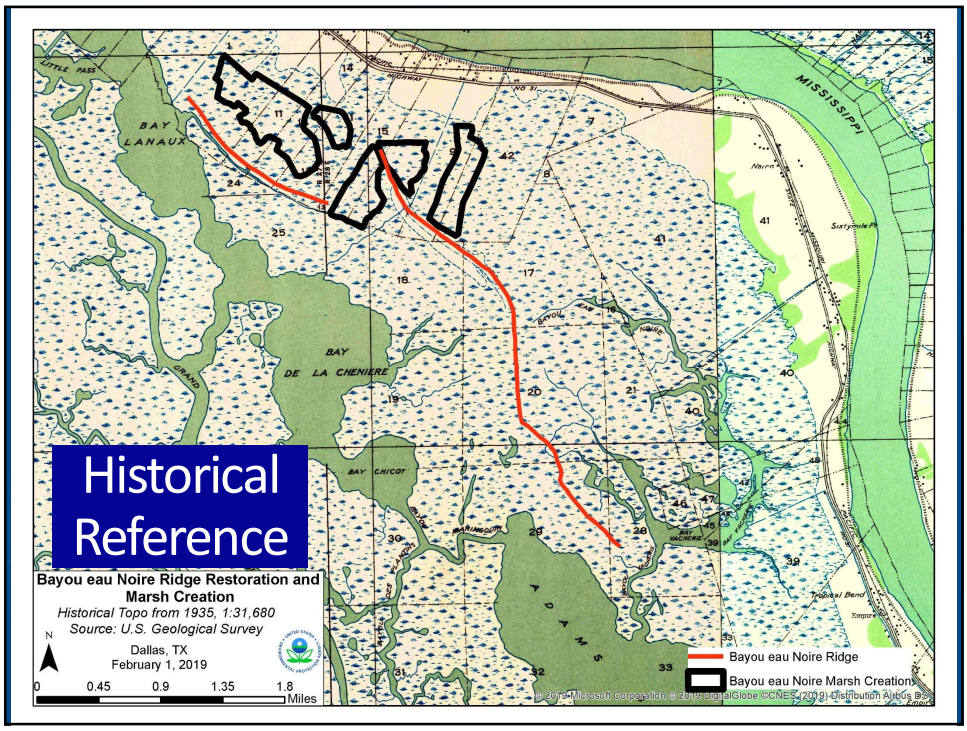
2017 Master Plan Consistency & Project Synergy

Marsh cells support the restored ridge feature

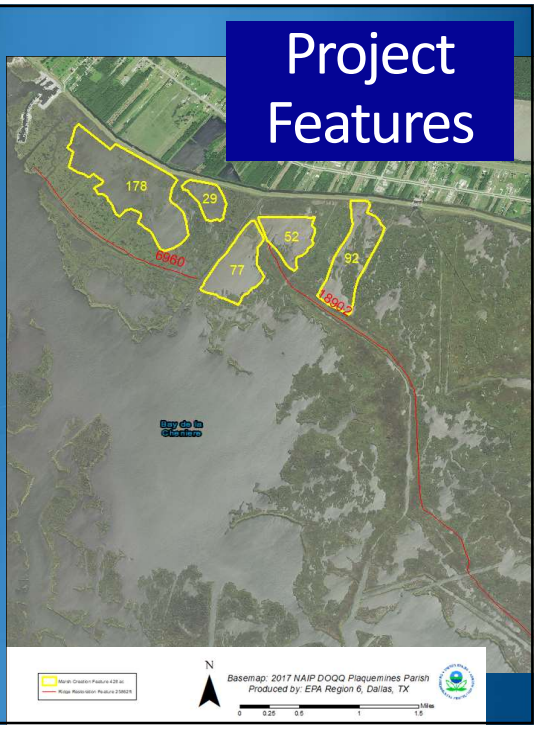


Problems

- Historic ridge feature has degraded over time
- Marsh has degraded and converted to open water over time due to multiple stressors
- Subsidence & storm events
- Plaquemines Parish could lose an additional 55% of its land area over the next 50 years & faces extensive wetland loss & severe storm surge flood risk (2017 MP).



- Restore 25,862 linear feet of historic ridge
- Create/nourish 428 acres (create 240 acres and nourish 188 acres) of emergent marsh using sediment from the Mississippi River as additional support for the ridge feature
- Address Plaquemines Parish Phase 1 (construct wetlands adjacent to levees protecting fastlands) and Phase 2 (enhance wetlands in identified areas) priorities
- Restore wetland habitat & provide increased protection from storm surge and flooding
- Construction cost + 25% contingency is $25M - $30M



R2 BA-03

PPL30 NOMINEE FACT SHEET
February 6, 2020

Project Name
Northeast Turtle Bay Marsh Creation Extension

Project Location
Region 2, Barataria Basin, Jefferson Parish, northeast of Turtle Bay

Problem
Historic wetland loss in the Perot/Rigolettes mapping unit of the Barataria Basin has been caused by subsidence, sediment deprivation, and construction of access and pipeline canals. The Barataria Waterway has also allowed salt water and higher tidal energies to enter the area causing marsh loss. Interior ponds have expanded and coalesced as a result of subsidence and increased tidal energies. As ponds expand increased wave fetch exacerbates interior shoreline erosion. Based on analysis conducted by USGS, loss rates in the project extended boundary are estimated to be -0.76% per year for the period 1984 to 2019.

Goals
The goal of the project is to create approximately 541 acres of marsh and nourish approximately 68 acres of marsh (609 acres total) with dredged material from Turtle Bay.

Proposed Solution
The proposed project would create approximately 541 acres and nourish approximately 68 acres of marsh using sediment dredged from Turtle Bay. At this time, it is expected that area will be fully contained. Containment dikes will be degraded as necessary to reestablish hydrologic connectivity with adjacent wetlands. In case the area does not re-vegetate on its own, the maintenance cost estimate includes funds to plant 25% of the created marsh at Year 3.

Preliminary Project Benefits
1) *What is the total acreage benefited both directly and indirectly*? 609 directly benefitted.

2) *How many acres of wetlands will be protected/created over the project life*? The total net acres protected/created over the project life is approximately 500-550 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 interior loss rate reduction throughout the area of direct benefit is estimated to be 50%.

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.* Yes. This project would contribute to protection of the Central Barataria Basin Landbridge.

5) *What is the net impact of the project on critical and non-critical infrastructure*? The communities of Lafitte and Barataria lie to the north of this important landmass which serves to buffer the effect of tropical weather events. Numerous pipelines would benefit from reducing land loss in the area.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects*? This project would work in sync with BA-2, BA-27, BA-20, BA-23, BA-03a, BA-26, BA-36 (and associated CIAP project), BA-125, BA-206, and BA-41, contributing to protection of the Central Barataria Basin Landbridge.

Considerations
There are active pipelines running near and through the project area. Turtle Bay is part of an oyster seed ground. No other issues known at this time.

Preliminary Cost
The estimated construction cost including 25% contingency is $30-35M.

Preparer of Fact Sheet
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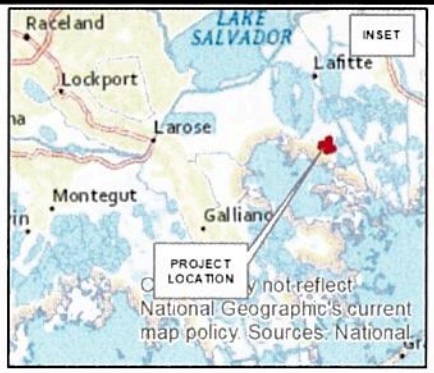
Angela Trahan, USDA-NRCS, 337-291-3142, **angela .trahan@usda.gov**
Eric Whitney, USDA-NRCS, 337-291-3069, **eric.whitney@usda.gov**

USDA

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

Data Source: NAIP 2019

Map Date: JANUARY 16, 2020



PPL 30
NORTH EAST TURTLE BAY
MARSH CREATION EXTENSION
JEFFERSON PARISH, LA

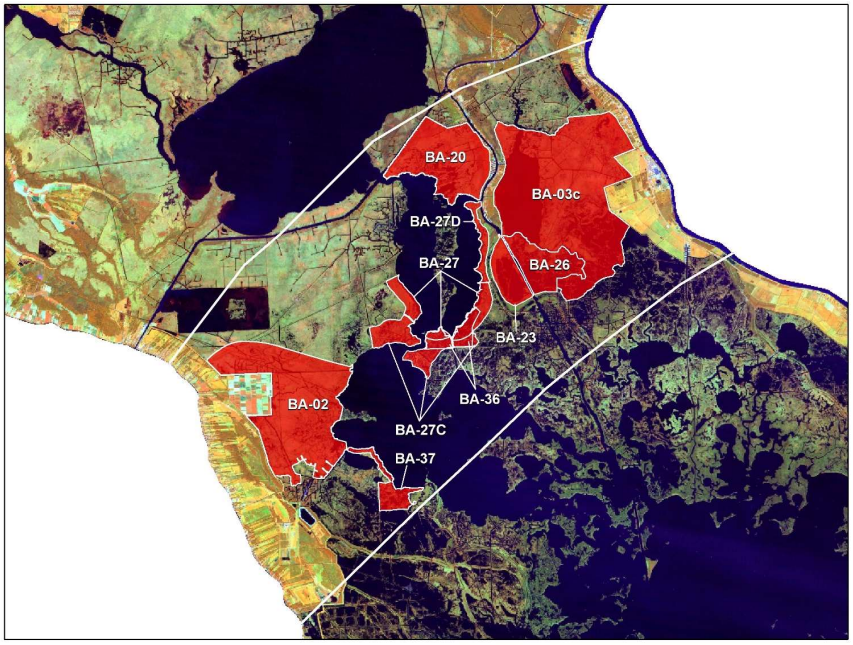
Legend

- MARSH_CREATION_AND_NOURISHMENT
- BORROW_AREA

PPL30
Northeast Turtle Bay Marsh Creation - Extension
Region 2, Barataria Basin

Angela Trahan
Angela_Trahan@usda.gov

PPL30- Northeast Turtle Bay Marsh Creation Extension



PPL30- Northeast Turtle Bay Marsh Creation Extension

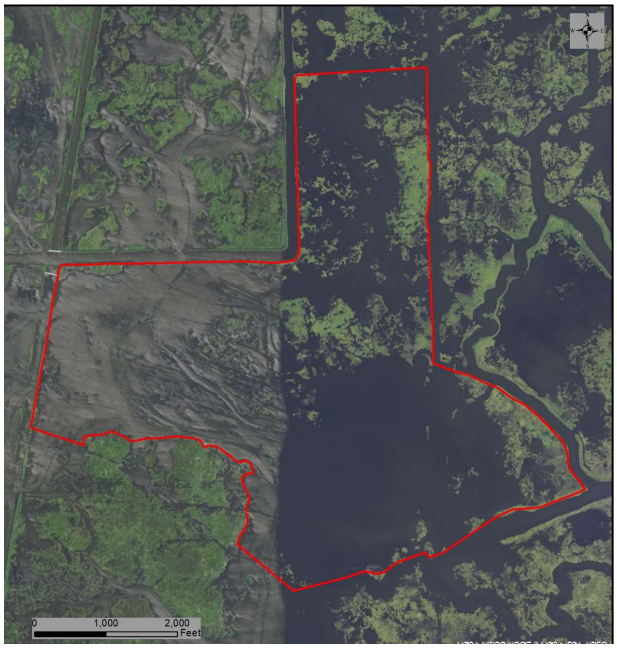
Problem:

Subsidence, sediment deprivation, pipeline canals

Barataria Waterway – conduit for saltwater intrusion, increased tidal prism

Increased wave fetch as a result of coalescence of interior ponds

PPL30- Northeast Turtle Bay Marsh Creation Extension



Goal:

- Borrow Area – Turtle Bay
- 541 acres Marsh Creation
- 68 acres Marsh Nourishment
- 609 acres direct benefits
- 506 net acres
- Indirect Benefits: Facilitate the restoration of the natural hydrology of the Barataria Land Bridge

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

~~R2 BA-044~~ Withdrawn

PPL30 PROJECT NOMINEE FACT SHEET
February 7th, 2020

Project Name
Magnolia Marsh Creation Project

Project Location
Region 2, Barataria Basin, Plaquemines Parish, adjacent to West Pointe a La Hache

Problem

Historically, this area was nourished by the freshwater delivered by the Mississippi River until the creation of the levees along the lower river. The major cause of wetland loss has been from storm activity (i.e. Hurricane Betsy and Katrina), causing both storm-induced scouring and salt water intrusion. The wetland loss rate in the area is -2.13%/year based on CRMS0258 data from 2008 to 2019.

Goals
The project goals are to create and/or nourish 450 acres of brackish marsh.

Proposed Solution

Sediments from the Mississippi River will be hydraulically dredged and pumped via pipeline to create/nourish 450 acres of marshes and bank lines east of Grand Bayou. Containment dikes will be constructed around each marsh creation cell. Where practicable, material will be borrowed from perimeter lakes and bayous. Containment dikes will be gapped at the end of construction or by TY3.

Preliminary Project Benefits
1) *What is the total acreage benefited both directly and indirectly*? Approximately 350 acres would be benefited directly and indirectly. Direct benefits include 430 acres of marsh creation and 20 acres of marsh nourishment. Indirect benefits could occur to surrounding marsh and open water areas.

2) *How many acres of wetlands will be protected/created over the project life*? The total net acres protected/created over the project life is approximately 250-300 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 interior loss rate reduction throughout the area of direct benefit is estimated to be 50% to 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 help to maintain the banks of Grand Bayou.

5) *What is the net impact of the project on critical and non-critical infrastructure*? The project would help to protect the flood protection levees east of the project area along Hwy 23.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects*? The project would provide a synergistic effect with the Bayou Grand Cheniere Marsh and Ridge Restoration Project (BA-173), the Lake Hermitage Marsh Creation Project (BA-042), and the West Pointe a La Hache Siphons.

Considerations

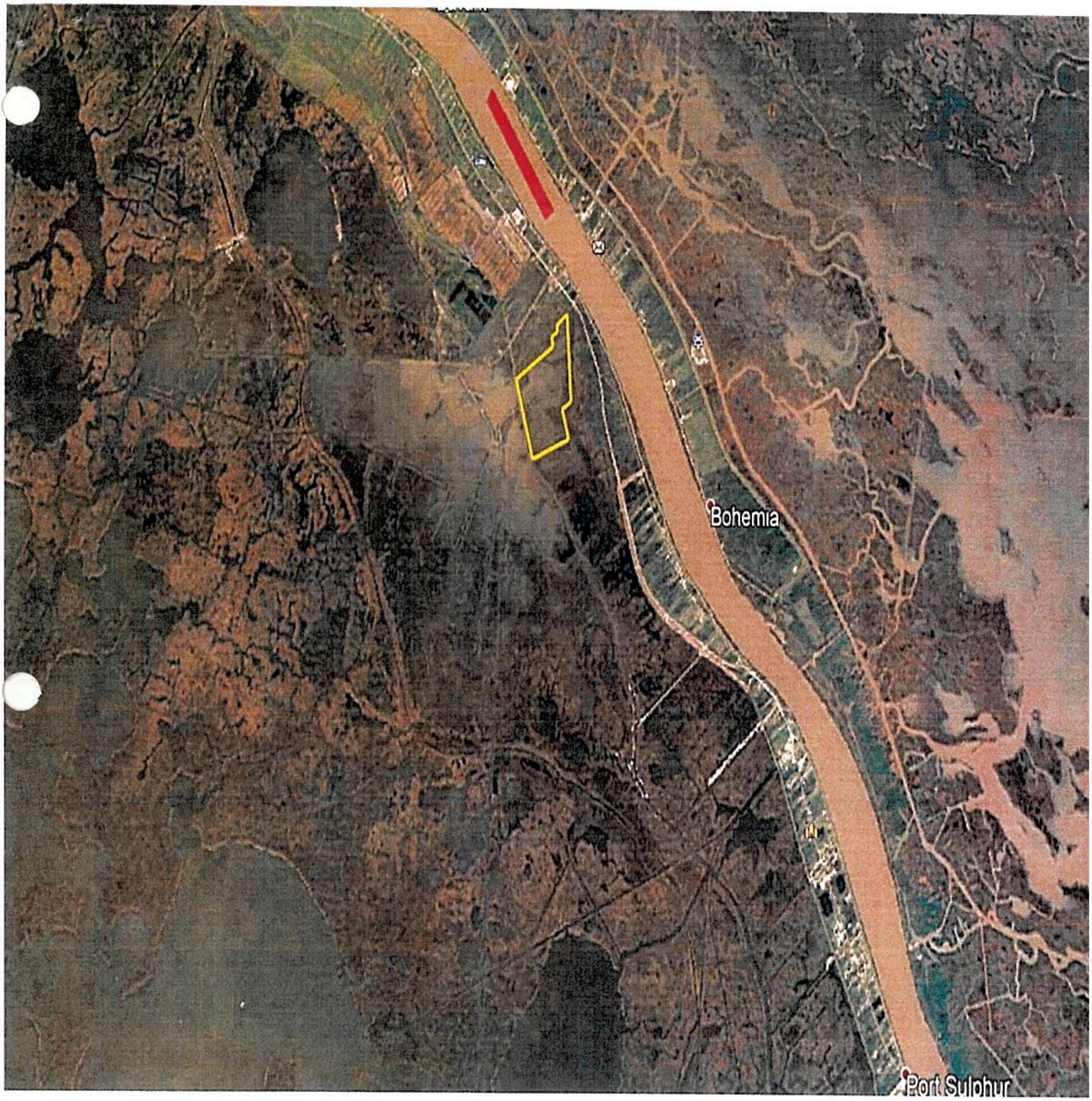
Considerations for this project include pipelines/landrights.

Preliminary Cost

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

Preparer of Fact Sheet

Jennifer Smith, NOAA, (225) 757-5230, jennifer.smith@noaa.gov



PPL30 Magnolia Marsh Creation

430
~~450~~ Acres Marsh Creation
20 Acres Marsh Nourishment

Federal Sponsor: NOAA Fisheries
2016 Aerial Imagery
Map Date 01-31-2020

Legend

Marsh Creation

Borrow Area

Magnolia Marsh Creation Project

NOAA FISHERIES

REGION 2 – Barataria Basin

Presenter: Jennifer Smith, Project Manager, NOAA

Special Thanks:
Plaquemines Parish
NOAA Project Team

PPL30 CWPPRA Regional Planning Team Meeting
Lacombe, Louisiana
February 6, 2020

Project Location

1998

2016 (Wetland Loss -2.13 cm/y)

Project Area Problem

- Wetland degradation (-2.13 cm/y)
  - Sea Level Rise
  - Subsidence
  - Hurricane impacts
  - Conversion of marsh to open water

Project Goals

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

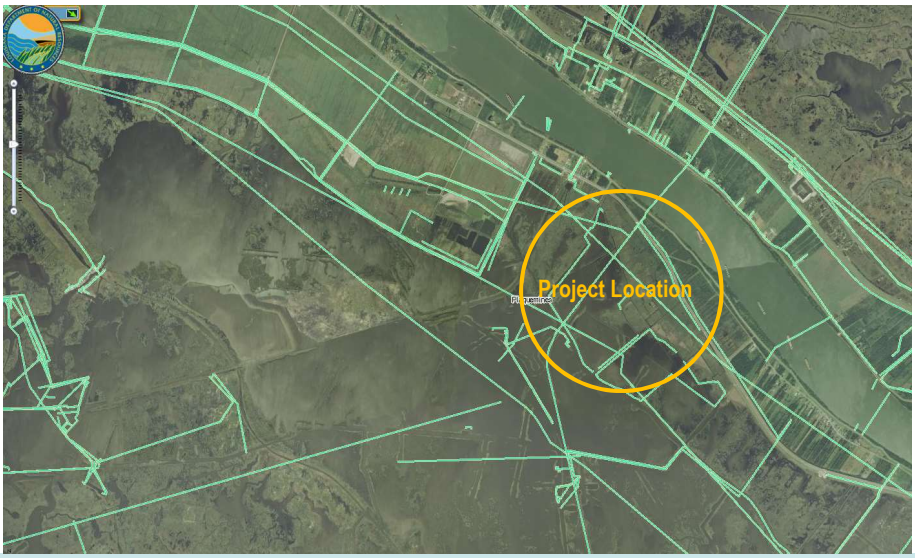
Restoration Solution

- 450 Acres of Marsh Creation/Nourishment
  - 430 Acres of Marsh Creation & 20 Acres of Marsh Nourishment.
  - Hydraulically dredge material from the Mississippi River.
  - Contained Fill areas with dike gapping after construction.
  - Short pump distance – 2 miles

Project Map

- 2017 State Master Plan Polygon 002.RC.103
- Mississippi River Borrow Area
- 450 Acres TOTAL of Marsh Creation/Nourishment
- Approximately 430 acres Creation and 20 acres Nourishment

Pipelines



Summary of Features, Cost, and Benefits

- 450 Acres Total
  - 430 acres Marsh Creation
  - 20 acres Nourishment
- Construction Cost + 25% Contingency $30M - $35M
- Net Benefits: 250-300 acres

Contact information:
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R2 BA-05

PPL30 PROJECT NOMINEE FACT SHEET
February 6, 2020

Project Name
Fifi Island Marsh Creation

Project Location
Region 2, Barataria Basin, Jefferson Parish

Problem
Fifi Island has undergone significant land loss from storms, subsidence, and wave erosion due to its northern exposure to Bay Des Ilettes. Since the early 2000s, several restoration efforts have taken place on the island. The island has experienced periods of land gain due to the deposition of dredged material from the maintenance dredging of Bayou Rigaud. The latest dredging event was in 2010. The Grand Isle Independent Levee District has also been instrumental in several island restoration projects. A rock dike now provides protection to wave energy along the northern island shoreline. Additional rock dikes have also been constructed along the southern shoreline adjacent to Bayou Rigaud. Based on the hyper-temporal analysis conducted by USGS for the PPL29 candidate, the land loss rate in the project area is -1.21% per year for the period 1984 to 2019.

Goals
The primary goals of the project are: 1) restore marsh habitat on Fifi Island via marsh creation and 2) provide backbarrier marsh habitat in the vicinity of Grand Isle. The specific goals of this project are; 1) create 160 acres of marsh and 2) nourish 14 acres of marsh.

Service goals include restoration/protection of habitat for threatened and endangered species and other at-risk species. This project would restore habitat potentially utilized by the black rail, which is proposed for listing as a threatened species. The project could also benefit other species of concern including the saltmarsh topminnow and seaside sparrow.

Proposed Solution
Sediments from Caminada Bay will be hydraulically dredged and pumped via pipeline to create/nourish 174 acres of marsh (Figure 1). Dewatering and compaction of dredged sediments should produce elevations conducive to the establishment of emergent marsh and within the intertidal range. Containment dikes will be constructed around each marsh creation cell. Containment dikes will be gapped at the end of construction or by TY3.

Preliminary Project Benefits
1) What is the total acreage benefited both directly and indirectly?
Approximately 174 acres would be directly benefitted. Indirect benefits would occur to surrounding marshes.

2) How many acres of wetlands will be protected/created over the project life?
Approximately 143 net acres would be protected/created over the project life.

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

4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.?
Marsh created on Fifi Island would help to maintain and afford some protection to Grand Isle, a barrier island.

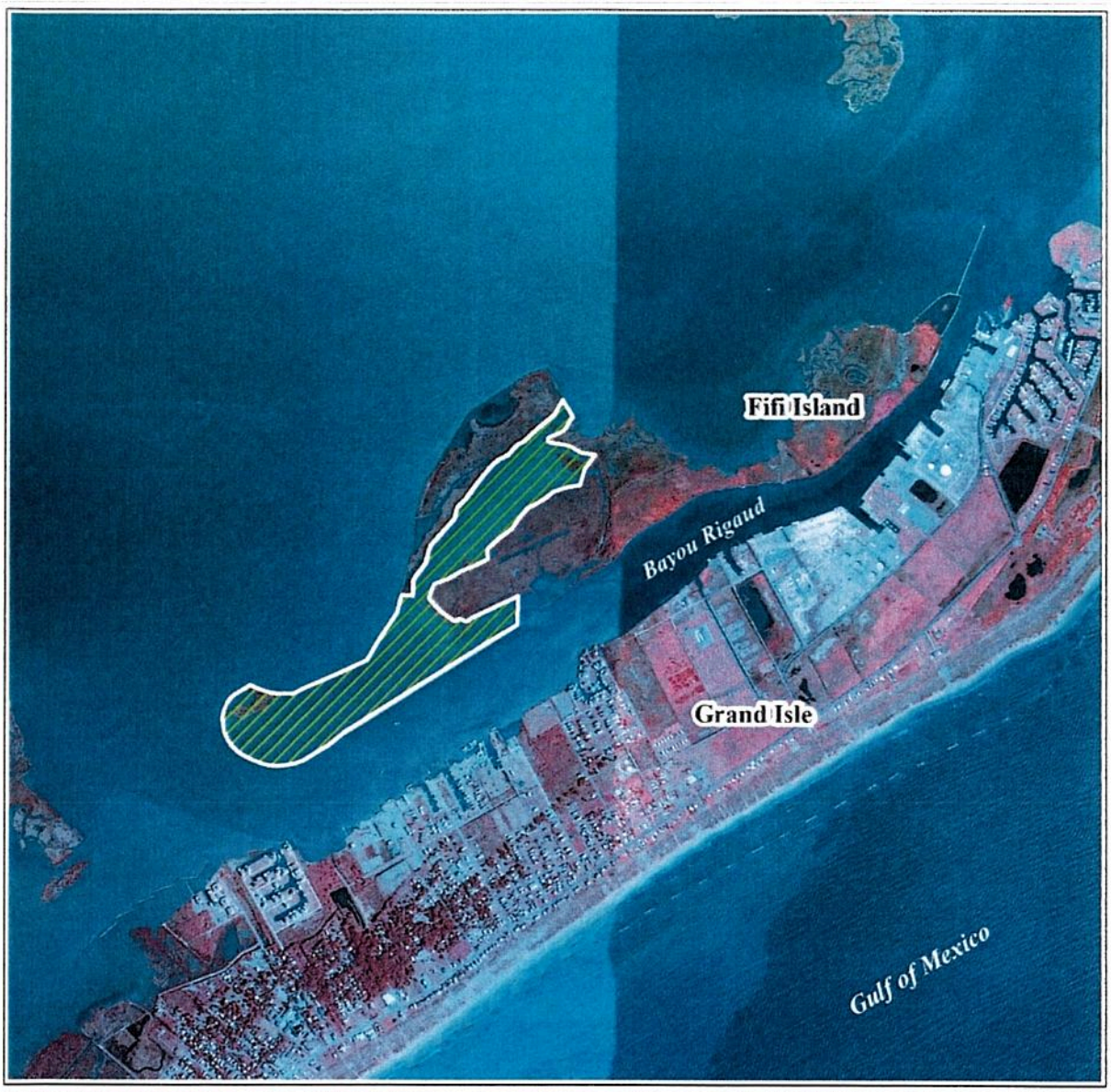
5) What is the net impact of the project on critical and non-critical infrastructure? The project would result in no impacts to infrastructure.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? This project will have a synergistic effect with the efforts of the Grand Isle Independent Levee District to construct approximately 6,075 linear feet of rock dike along the southern side of Fifi Island. The Grand Isle Independent Levee District is also proposing to refurbish 1,400 linear feet of an existing rock dike.

Considerations
There are pipelines running near and through the project footprint. Oyster leases may be a consideration depending on the borrow site selected.

Preliminary Cost
The estimated construction cost plus 25% contingency is $10M - $15M.

Preparer of Fact Sheet
Kevin Roy, USFWS, (337) 291-3120, kevin_roy@fws.gov



Fifi Island Marsh Creation (PPL29 Candidate)

USGS
science for a changing world

Marsh Creation *

Project Boundary

* denotes proposed features

0.25 0 0.25 0.5 Kilometers

0.25 0 0.25 0.5 Miles

Scale: 1:30,000

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

Image Source:
2017 NAIP

Map ID: 2019-11-0026
Map Date: July 25, 2019

REGION II

REGIONAL PLANNING TEAM MEETING

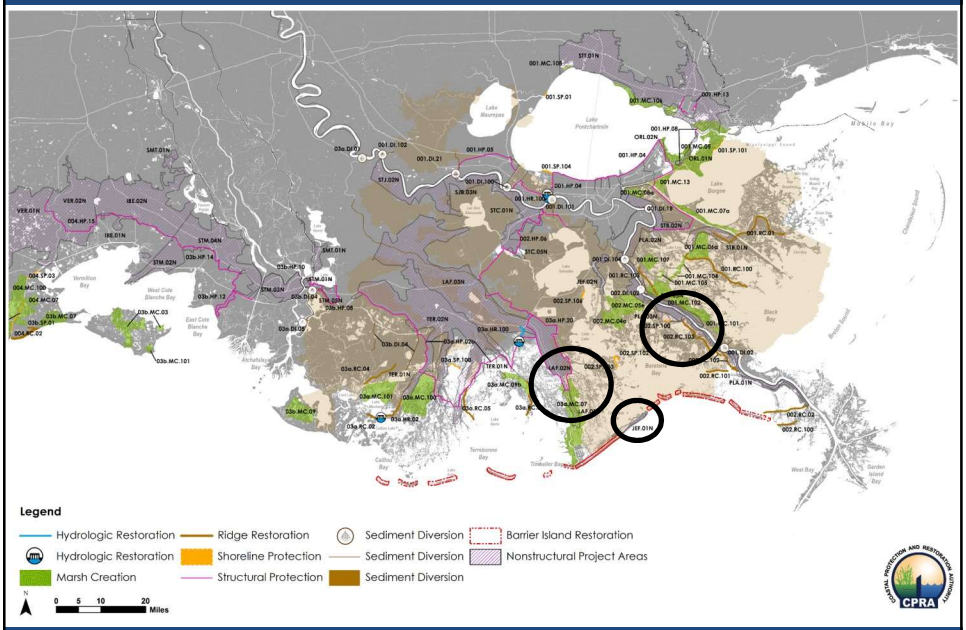
BARATARIA BASIN

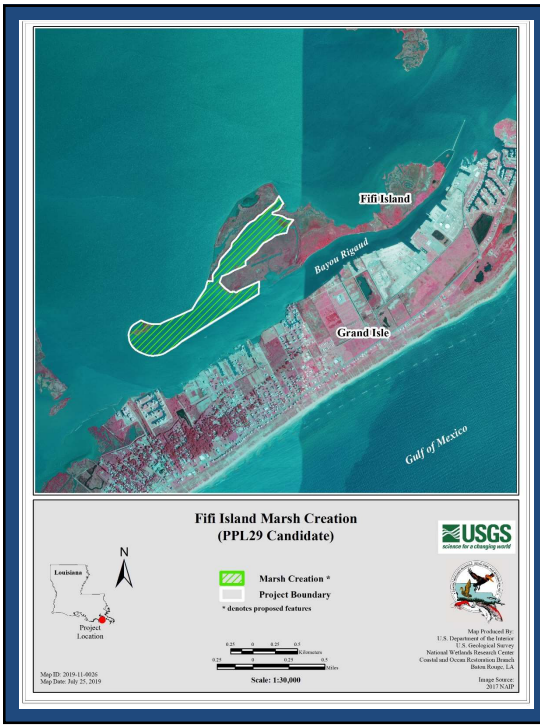
Lacombe, LA

February 6, 2020

Kevin Roy
Lafayette, LA

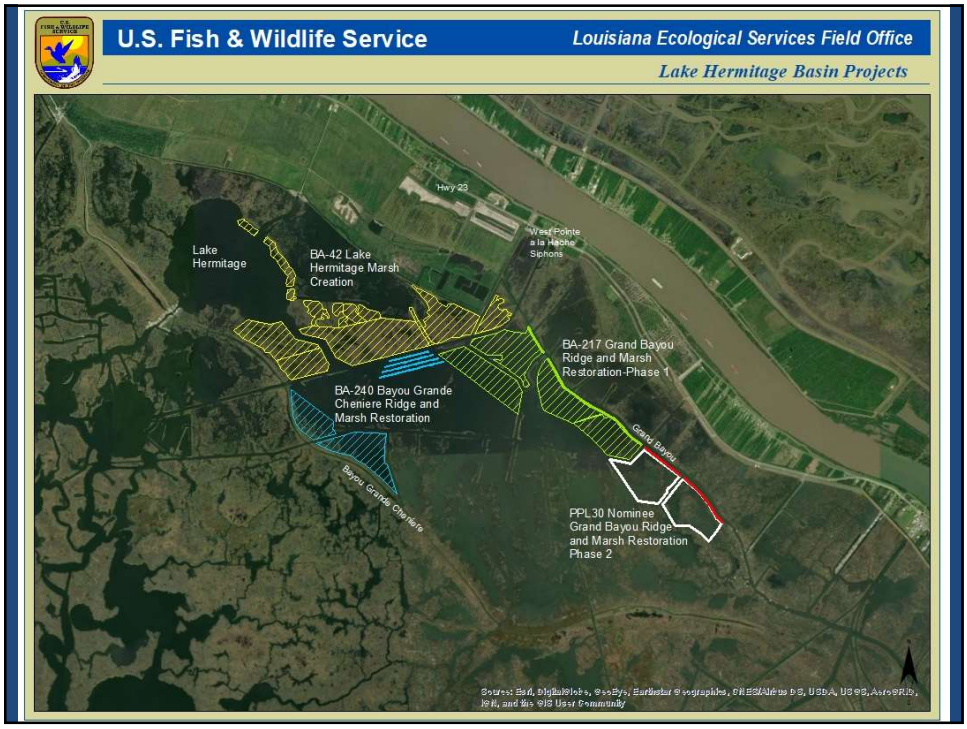
2017 State Master Plan

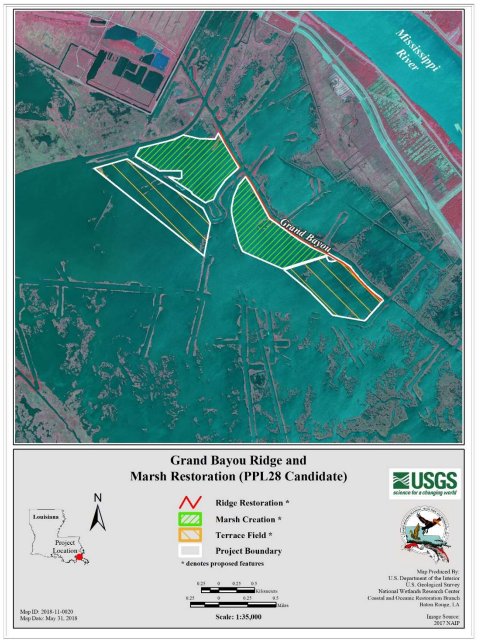




Fifi Island Marsh Creation

- 160 acres of marsh creation
- 14 acres of marsh nourishment
- Caminada Bay borrow site
- Existing rock protection
- 143 net acres
- $10M - $15M construction plus 25% contingency





PPL28 Grand Bayou Ridge and Marsh Restoration – Phase 1 (BA-217)

- 344 acres of marsh creation
- 12 acres of marsh nourishment
- Mississippi River borrow site
- 25,000 feet of terraces
- 13 acres of forested ridge


U.S. Fish & Wildlife Service
Louisiana Ecological Services Field Office
Grand Bayou Ridge & Marsh Restoration - Phase 2
PPL28 (BA-217) Grand Bayou Ridge and Marsh Restoration Phase 1
Hwy 23
Grand Bayou
Phase 2
Ridge - 6,900 ft (8 acres)
Marsh Creation - 385 acres

R2 BA-06

PPL30 PROJECT NOMINEE FACT SHEET
February 6, 2020

Project Name
Grand Bayou Ridge and Marsh Restoration – Phase 2

Project Location
Region 2, Barataria Basin, Plaquemines Parish, Grand Bayou

Problem
Within the Lake Hermitage basin, between Bayou Grande Cheniere and the Mississippi River, significant marsh loss has occurred with the construction of oil/gas canals, subsidence, and sediment deprivation. From examination of aerial photography, it appears that the majority of this loss occurred during the 1960s and 1970s when numerous oil/gas canals were dredged in the area. Based on the hyper-temporal analysis (1984-2018) conducted by USGS for the PPL28 Grand Bayou Ridge and Marsh Restoration-Phase 1 project, loss rates in the area are estimated to be -1.12% per year.

Goals
The primary goals of this project are; 1) restore marsh habitat in the open water areas via marsh creation and terracing and 2) restore forested ridge habitat along Grand Bayou.

Specific goals of the project are: 1) create approximately 385 acres (approximately 285 acres of creation and 100 acres of nourishment) of marsh with dredged material from the Mississippi River and 2) create 6,900 linear feet (8 acres) of forested ridge.

Service goals include restoration/protection of habitat for threatened and endangered species and other at-risk species. This project would restore habitat potentially utilized by the black rail, saltmarsh topminnow, and Louisiana eyed silkmoth, which are petitioned for listing as threatened/endangered species. The project could also benefit other species of concern including the seaside sparrow and neotropical migrants.

Proposed Solution
Sediments from the Mississippi River will be hydraulically dredged and pumped via pipeline to create/nourish approximately 385 acres of marsh. Dewatering and compaction of dredged sediments should produce elevations conducive to the establishment of emergent marsh and within the intertidal range. Containment dikes will be gapped at the end of construction.

Approximately 6,900 linear feet (8 acres) of forested ridge will be created along the western bank of Grand Bayou using material from the bayou or the Mississippi River. The ridge will be constructed to a crown elevation of +4.0 feet NAVD88, 25 feet wide, and will be planted on the crown and slopes.

Preliminary Project Benefits
1) *What is the total acreage benefited both directly and indirectly*? Approximately 393 acres would be benefited directly and indirectly. Direct benefits include 8 acres of forested, coastal

ridge habitat and 385 acres of marsh creation/nourishment. Indirect benefits would occur to surrounding marshes and marsh within the terrace field.

2) *How many acres of wetlands will be protected/created over the project life?* The total net acres protected/created over the project life is approximately 250-300 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 50%.

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.* Yes. Forested coastal ridge habitat would be restored.

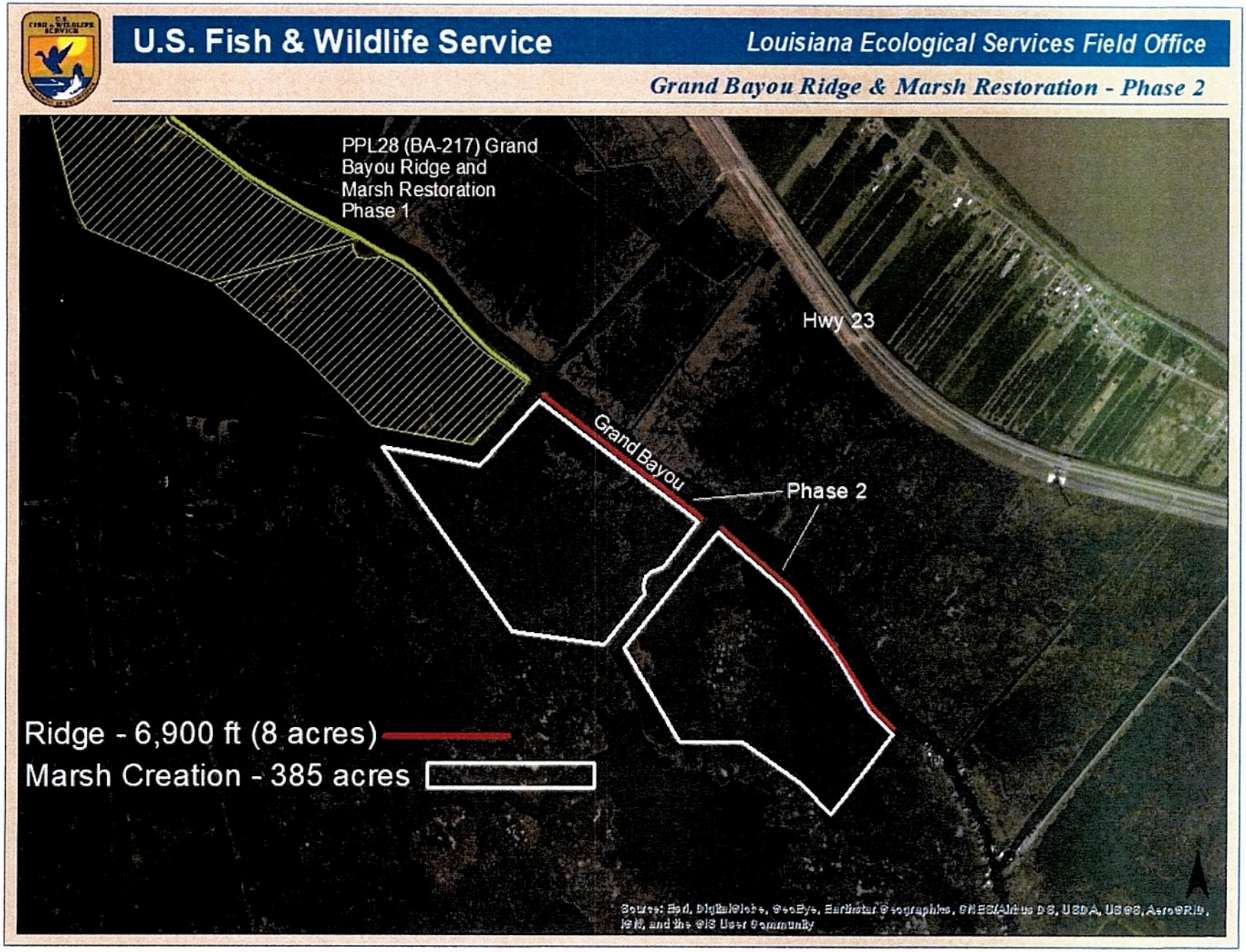
5) *What is the net impact of the project on critical and non-critical infrastructure?* The project would afford some protection to flood protection levees east of the project area along Hwy. 23.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?* The project would provide a synergistic effect with BA-217 Grand Bayou Ridge and Marsh Restoration (PPL28-Phase 1), BA-240 Bayou Grande Cheniere Ridge and Marsh Restoration (State-only), the BA-42 Lake Hermitage Marsh Creation Project (PPL15) and the West Pointe a la Hache Siphons.

Considerations
Oil and gas infrastructure will need to be considered in project design.

Preliminary Cost
The construction cost plus 25% contingency is $25M - $30M.

Preparer of Fact Sheet
Kevin Roy, USFWS, (337) 291-3120, kevin_roy@fws.gov


U.S. Fish & Wildlife Service
Louisiana Ecological Services Field Office
Grand Bayou Ridge & Marsh Restoration - Phase 2
PPL28 (BA-217) Grand Bayou Ridge and Marsh Restoration Phase 1
Hwy 23
Grand Bayou
Phase 2
Ridge - 6,900 ft (8 acres)
Marsh Creation - 385 acres
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

REGION II

REGIONAL PLANNING TEAM MEETING

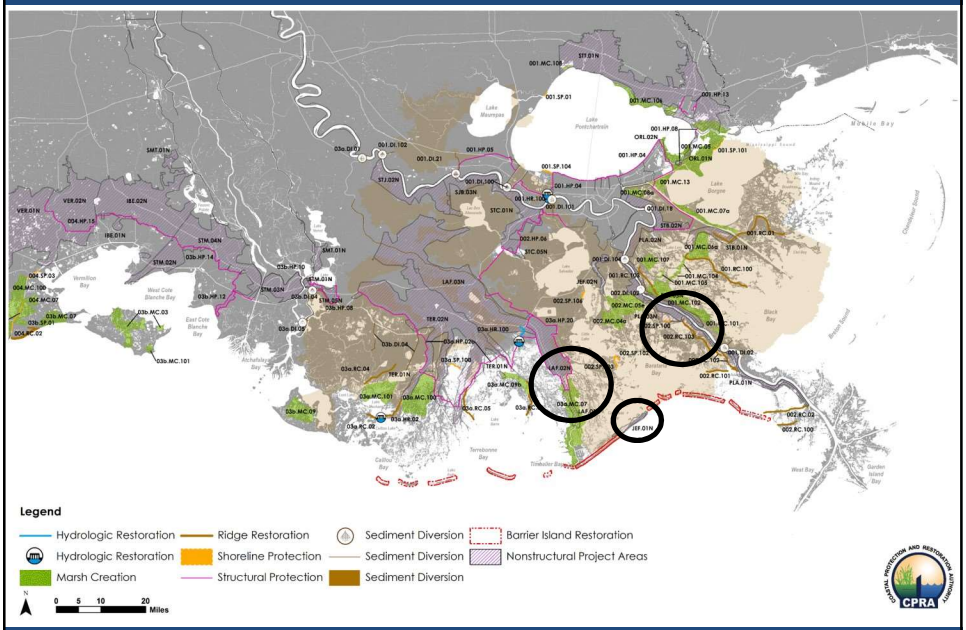
BARATARIA BASIN

Lacombe, LA

February 6, 2020

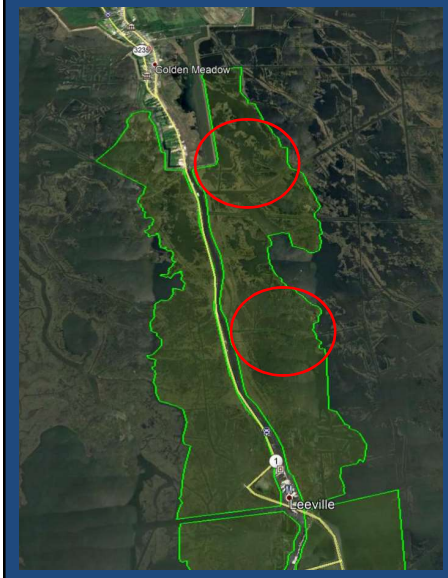
Kevin Roy
Lafayette, LA

2017 State Master Plan



Grand Bayou Ridge and Marsh Restoration – Phase 2

- Mississippi River borrow site
- 6,900 LF (8 acres) of ridge restoration
- 385 acres of marsh creation/nourishment
- Net acres = 250-300
- Construction plus contingency = $25M - $30M
- Project synergy - BA-42, BA-217, BA-240, West Pointe a la Hache Siphons
- Infrastructure nearby



State Master Plan – 03a.MC.07
Belle Pass-Golden Meadow
Marsh Creation

- Lafourche Parish invested RESTORE Act funds to investigate marsh and ridge restoration options within the Barataria Basin
- T. Baker Smith was selected to perform E&D services in 2017
- As part of that effort, a marsh creation area along the South Lafourche levee was investigated as the Bayou Lafourche Marsh Creation Project
- TBS planned to submit an expanded Bayou Lafourche Marsh Creation Project under the CPRA Outcome Based Performance Contracting Project
- The project was withdrawn from OBPC consideration

R2 BA-07

PPL30 PROJECT NOMINEE FACT SHEET
February 6, 2020

Project Name
Southeast Golden Meadow Marsh Creation

Project Location
Region 2, Barataria Basin, Lafourche Parish, southeast of Golden Meadow

Problem
The project area has experienced extensive loss of emergent wetlands from subsidence, storms, canal dredging, and altered hydrology. Wetland loss has increased the vulnerability of the South Lafourche Hurricane Protection Levee to damage from tropical storms. Based on the land-water analysis conducted by USGS for the nearby West LA Hwy 1 Marsh Creation Project (PPL29 candidate), the loss rate is estimated at -0.86% per year for the period 1984 to 2019.

Goals
The primary goal of this project is to restore marsh southeast of Golden Meadow near the alignment of the hurricane protection levee. The specific goal of the project is to create approximately 377 acres (334 acres of marsh creation and 43 acres of marsh nourishment) of marsh with dredged material.

Service goals include restoration/protection of habitat for threatened and endangered species and other at-risk species. This project would restore habitat potentially utilized by the black rail (proposed to be listed as a threatened species), seaside sparrow, and saltmarsh topminnow.

Proposed Solution
Sediments from Bayou Lafourche will be hydraulically dredged and pumped via pipeline to create/nourish approximately 377 acres of marsh. Dewatering and compaction of dredged sediments should produce elevations conducive to the establishment of marsh within the intertidal range. Perimeter containment dikes will be constructed where necessary. Containment dikes will be gapped at the end of construction or by target year 3.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
   Approximately 377 acres would be benefited directly. Direct benefits include 334 acres of marsh creation and 43 acres of marsh nourishment. Indirect benefits would occur to marsh surrounding the project area.

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

3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (e.g., 50% reduction in the background loss rate)?*
   The anticipated loss rate reduction throughout the area of direct benefit is estimated to be 50%.

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*
No.

5) *What is the net impact of the project on critical and non-critical infrastructure?*
Protection would be afforded to the South Lafourche Hurricane Protection System surrounding Golden Meadow.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
None at this time.

Considerations
Oil and gas infrastructure and navigation in Bayou Lafourche are some of the items that would have to be considered in project design.

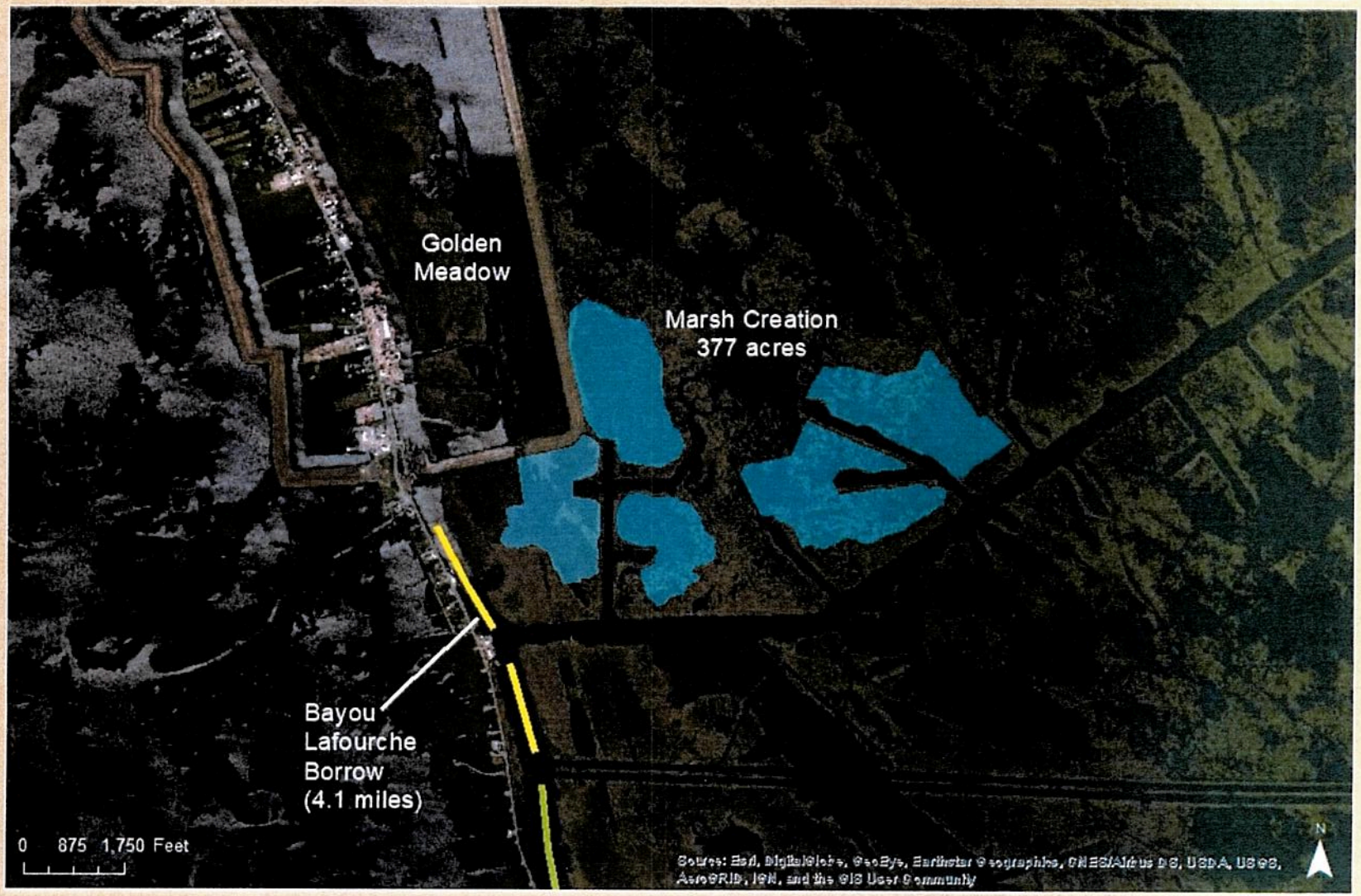
Preliminary Cost
The construction cost plus 25% contingency is $25M - $30M.

Preparer of Fact Sheet
Kevin Roy, USFWS, (337) 291-3120, kevin_roy@fws.gov

U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

Southeast Golden Meadow Marsh Creation



REGION II

REGIONAL PLANNING TEAM MEETING

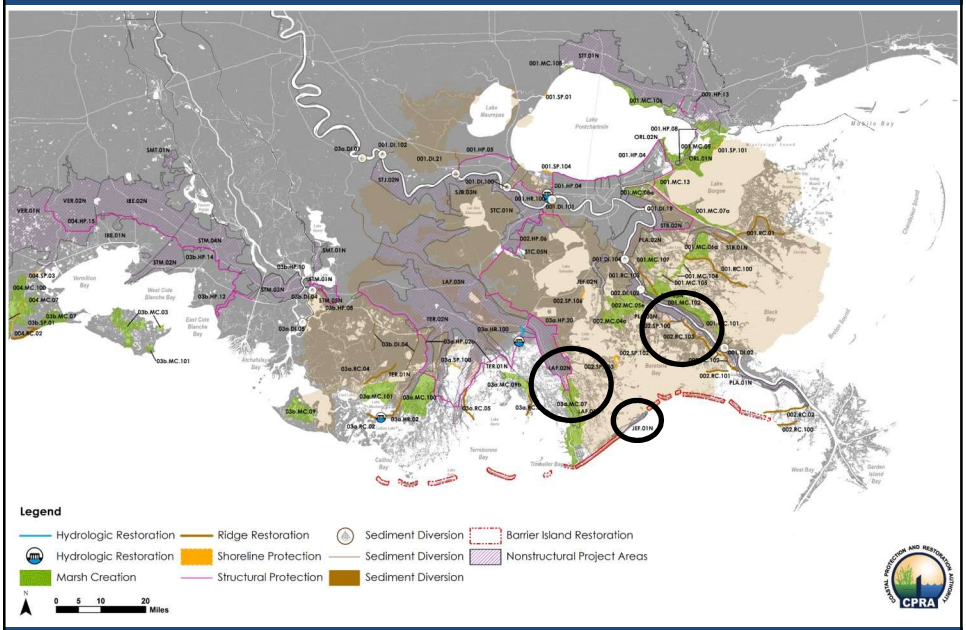
BARATARIA BASIN

Lacombe, LA

February 6, 2020

Kevin Roy
Lafayette, LA

2017 State Master Plan




U.S. Fish & Wildlife Service
Louisiana Ecological Services Field Office
Southeast Golden Meadow Marsh Creation
Golden Meadow
Marsh Creation 377 acres
Bayou Lafourche Borrow (4.1 miles)
0 3,000 6,000 Feet
N


U.S. Fish & Wildlife Service
Louisiana Ecological Services Field Office
Southeast Golden Meadow Marsh Creation
Golden Meadow
Marsh Creation 377 acres
Bayou Lafourche Borrow (4.1 miles)
0 875 1,750 Feet
N

Southeast Golden Meadow Marsh Creation

- 377 acres of marsh creation/nourishment
- Net acres = 300-350
- Bayou Lafourche borrow site (4.1 miles)
- Construction plus 25% contingency = $25M-$30M
- Affords protection to nearby infrastructure – South Lafourche Hurricane Protection Levee
- 30% design level for a portion of the project
  - Surveys, geotech, magnetometer surveys, slope stability analyses, cost estimate

PPL30 PROJECT NOMINEE FACT SHEET

February 7, 2020

Project Name
East Leeville Marsh Creation Increment 2

Louisiana's 2017 Coastal Master Plan
Marsh Creation – 03a.MC.07

Project Location
Region 2, Barataria Basin, Lafourche Parish

Problem
There is widespread historic and continued rapid land loss within the project and surrounding areas resulting from oil and gas exploration, subsidence, wind erosion, storms, and altered hydrology. The limits of natural lakes and Southwestern Louisiana Canal are eroding and coalescing into growing water bodies. Lake Jesse has coalesced with Southwestern Louisiana Canal, South Lake and adjacent areas creating a massive growing water body exposing the navigation channel, Leeville, Louisiana Highway 1 and adjacent mashes to increasing amounts of wave fetch and storm surge. Natural tidal flow and drainage patterns which once existed are currently circumvented by the increasing area of open water. The wetland loss rate for the project area is -1.56%/year based on USGS data from 1985 to 2016 from the Lake Palourde mapping unit and -1.53%/yr from 1984 to 2015 for the East Leeville Marsh Creation and Nourishment Project (BA-194) extended project boundary. Data suggests that from 1932 to 1990, the basin lost over 245,000 ac of marsh, and from 1978 to 1990, Barataria Basin experienced the highest rate of wetland loss along the entire coast. Additionally, the Leeville Oil and Gas Field is one of the older fields in the Louisiana Coastal Zone and therefore contains numerous relic and active pipelines and wells making restoration challenging.

Proposed Solution
A configuration of marsh creation cells was selected to continue plans of re-establishing an arc of wetlands east of Leeville. Marsh creation cells selected include using design level data already acquired for BA-194 to restore the structural framework of North Lake and South Lake and a landbridge westward to Louisiana Highway 1 to provide habitat and protection for the Southwestern Canal and Leeville from southeasterly winds and tides. The proposed features consist of hydraulically mining sediment from a borrow source in Caminada Bay adjacent to the BA-194 borrow area and utilizing the designed pipeline conveyance corridor for BA-194 along Southwestern Canal pumping material to create and nourish marsh east of Leeville. The disposal areas would be fully contained during construction and gapped no later than three years post construction to establish tidal connection and function. The cost is sufficiently robust to minimize design and construction risk of dike reaches exposed to large amounts of wave fetch by including construction measures and/or temporary features until the placed material consolidates and vegetates. Additionally, terraces, living shoreline, or alternative restoration techniques may be evaluated to address deep areas in the landbridge alignment, but are not included at this time.

Goals
The project goal is to create approximately 199 acres and nourish 87 acres of saline marsh east of Leeville by continuing plans to restore the structural framework of North Lake, South Lake, and adjacent historic marshes in an arc or landbridge configuration by creating tidal marsh as early as possible and lasting as long as possible during the 20-year period of analysis.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
This total project area is approximately 286 acres.

2) *How many acres of wetlands will be protected/created over the project life?*
Assuming a 50% reduction in the background loss rate of -1.56%/year, the marsh creation and nourishment would result in a range of 150 to 200 net acres after 20 years.

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%)?*
A 50% loss rate reduction is assumed for the marsh creation, and marsh nourishment.

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 restore the bank line of North Lake and South Lake, marsh south of Lake Jesse, and areas adjacent to a Louisiana Highway 1 mitigation area.

5) *What is the net impact of the project on critical and non-critical infrastructure?*
Minor oil and gas facilities and pipelines in the area would benefit from an increase in marsh acreage. Substantial infrastructure along Bayou Lafourche in Leeville (North and South of the Leeville Bridge) and Louisiana Highway 1 could benefit from marsh creation along Bayou Lafourche, Southwestern Louisiana Canal, North Lake, and South Lake.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
This project would have synergy with the planned BA-194 and a constructed Louisiana Highway 1 marsh creation mitigation project. It also may have synergy with restoration plans under consideration by Ducks Unlimited or the Wisner Donation Trust.

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

Preliminary Construction Costs
The estimated construction plus 25% contingency cost range is $20M - $25M.

Preparer(s) of Fact Sheet:
Patrick Williams, NOAA Fisheries, 225-380-0058, patrick.williams@noaa.gov

PPL30 East Leeville Marsh Creation Increment 2

199 Acres Marsh Creation
87 Acres Marsh Nourishment

Federal Sponsor: NOAA Fisheries
2015 Aerial Imagery
Map Date 2-5-2020

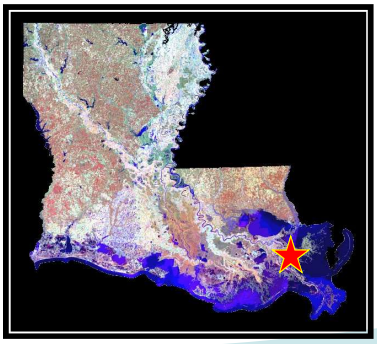
Legend

Marsh Creation/Nourishment

Borrow Area

NOAA FISHERIES

Habitat Conservation Division



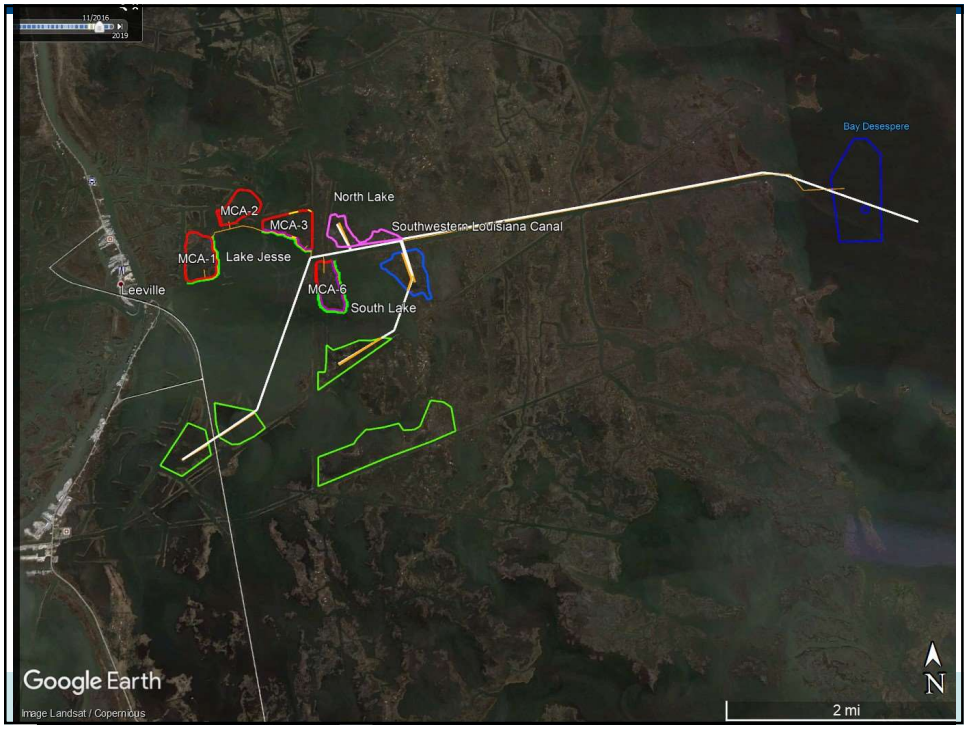
East Leeville Marsh Creation Increment 2

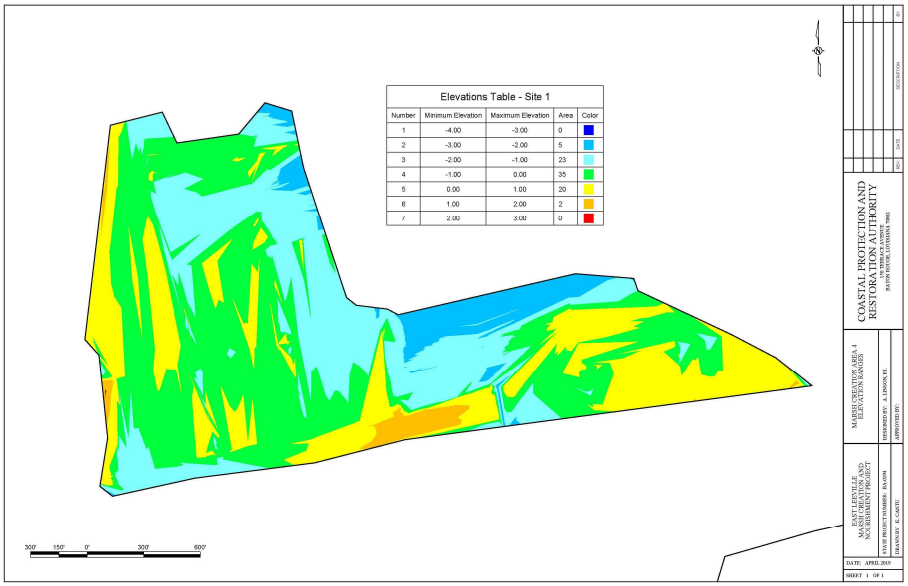
REGION 2 – Barataria Basin

Presenter: Patrick Williams, NOAA or
Jason Kroll, NOAA

Special Thanks
Adam Linson and Jessica Diez, CPRA
Amanda Phillips, Wisner
Amanda Voisin, Lafourche Parish Government

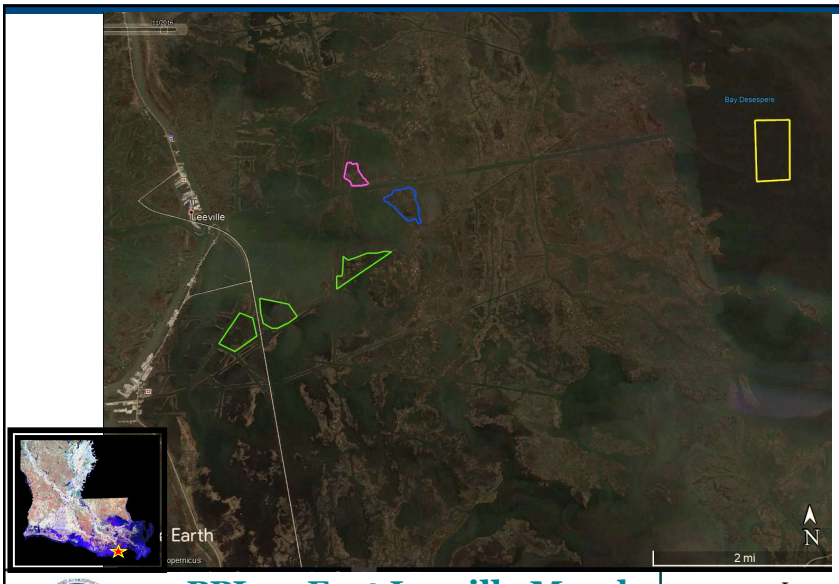
PPL30 CWPPRA Regional Planning Team Meeting
Lacombe, Louisiana
February 6, 2020





NOAA FISHERIES

3



PPL30 East Leeville Marsh Creation Increment 2

199 Acres Marsh Creation
87 Acres Marsh Nourishment

Federal Sponsor: NOAA Fisheries
2015 Aerial Imagery
Map Date 2-5-2020

Legend

Marsh Creation/Nourishment

Borrow Area

Summary

Marsh Creation: 199 ac

Marsh Nourishment: 87

Net acres: 150 - 200 ac

Construction Cost + 25% Contingency: $20 M - $25M

Contact information:
Patrick Williams, 225-380-0058
patrick.williams@noaa.gov

CWPPRA PPL 30 Nomination Sign-Up Sheet

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

Name of Project: Bayou Chevreuil Hydrologic Restoration & Vegetative Plantings

Is this a demonstration project? Yes (No)

If not, please provide the below information.

Region: *(Circle one)*	1	(2)	3	4	Coastwide
Basin: *(Circle one)*	Pontchartrain	(Barataria)	Terrebonne	Calcasieu-Sabine	
		Breton Sound	Atchafalaya	Mermentau	
			Teche-Vermilion		

Did you provide a factsheet? Yes (No)

Contact Information:

Name: DEVIN A. FOIL

Phone Number: (504) 579-6103 cell (985) 651-5505 office

Email: d.foil@stjohn-la.gov

BA-09 K.L.

Bayou Chevreuil Hydrologic Restoration and Vegetative Planting

Project Location:
Region 2, Barataria Basin, St. John the Baptist Parish, Bayou Chevreuil, Lac Des Allemands Swamp

Problem:
The Lac Des Allemands River Basin Initiative identified the following problems within the watershed: drainage impairments, water quality impairments, impoundment, subsidence, and inadequate accretion of sediment and organic matter. These problems combined have caused stress in areas of the swamp, resulting in the conversion of swamp to floating aquatic plants, and open water. Future levee construction in St. Charles Parish will completely enclose the basin, compounding existing issues.

Goals:
The goals of this project are to 1) restore natural hydrology on Bayou Chevreuil 2) reduce impoundment 3) increase swamp longevity and productivity 4) protect neighboring developed areas from flooding hazards through hydrologic management

Proposed Solution:
The proposed project involves 1) construction of gaps on the northern bank of Bayou Chevreuil 2) creation of conveyance channels that originate from the gaps and extend inward into the swamp 3) construction of disposal berms that allow hydrologic exchange between conveyance channels and swamp 4) vegetative plantings of cypress and tupelo saplings.

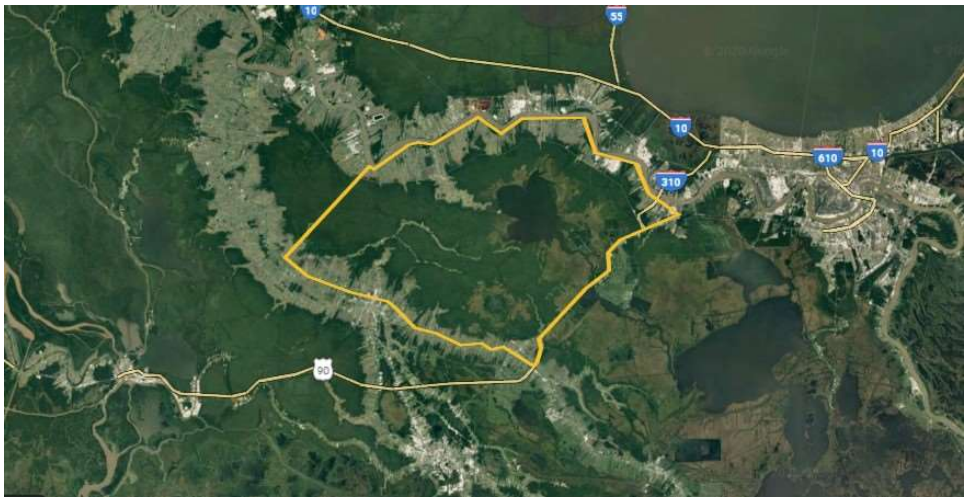
Project Benefits:
The proposed project will benefit approximately 6,841 acres of the Lac Des Allemands Swamp.

Project Estimated Costs: $10M

Preparer of Fact Sheet:
Wesley Gillen, St. John Parish, w.gillen@stjohn-la.gov, 985.651.5565

Bayou Chevreuil Hydrologic Restoration and Vegetative Planting

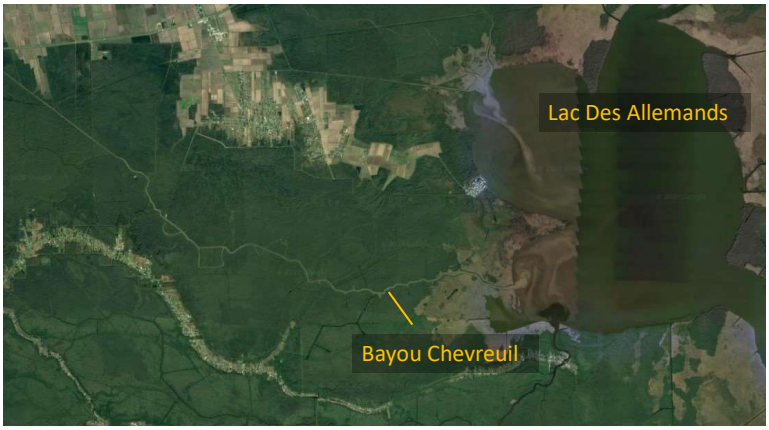
Overview of Project Area, Features and Intent, and Projected benefits



Location and Current Conditions

Current Conditions

- Bayou Chevreuil has levees on its north and south banks.
- Levees have isolated the area from fresh river water causing loss of nutrient and sediment input, impoundment, and subsidence
- Future levee construction in St. Charles Parish will completely enclose the basin Bayou Chevreuil is located in, intensifying impoundment and subsidence of the region.
- Without intervention the area will be converted to floating marsh or open water.



Goals and Project Features

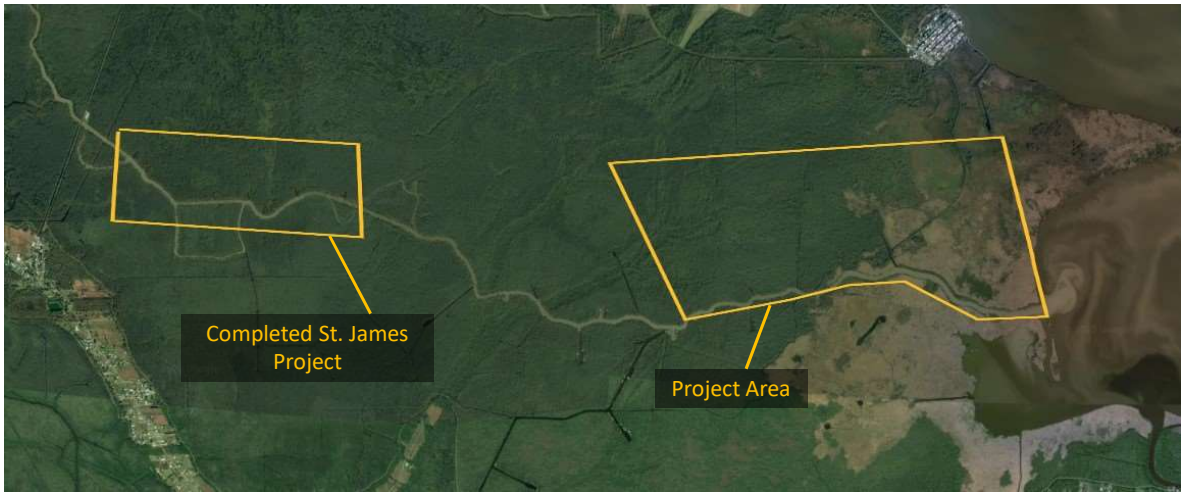
Goals:

- Restore natural hydrology of Bayou Chevreuil in order to counteract impoundment caused by levees.
- Hydrologic management protects neighboring developed areas from flooding hazards while optimizing aquatic production and swamp longevity.

Features:

- This project mimics a hydrologic restoration project on Bayou Chevreuil in St. James Parish, roughly 3 miles away from the project area.
- Creation of gaps, using low impact development best practices,will serve as starting point for a conveyance channel that will extend into the swamp to increase hydrologic exchange.
- Dredged material disposal berms will be located on each side of gap and will allow hydrologic exchange.
- Cypress and tupelo saplings will be planted once hydrologic connectivity and environmental conditions have been restored.

Project Area



Region 2-

Breton Sound Basin

R2 BS-01

PPL30 PROJECT FACT SHEET
February 6, 2020

Project Name
Bayou Terre aux Boeufs North Ridge Restoration and Marsh Creation

Master Plan Strategy
Bayou Terre aux Boeufs Ridge Restoration (2017 Master Plan 001.RC.100): Restoration of approximately 91,200 feet of historic ridge to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Bayou Terre aux Boeufs. Breton Marsh Creation- Component A (2017 Master Plan 001.MC.06a): Creation of approximately 12,000 acres of marsh in the Breton Marsh east of Delacroix Island to create new wetland habitat and restore degraded marsh.

Project Location
Region 2, Breton Sound Basin, Plaquemines & St. Bernard Parishes

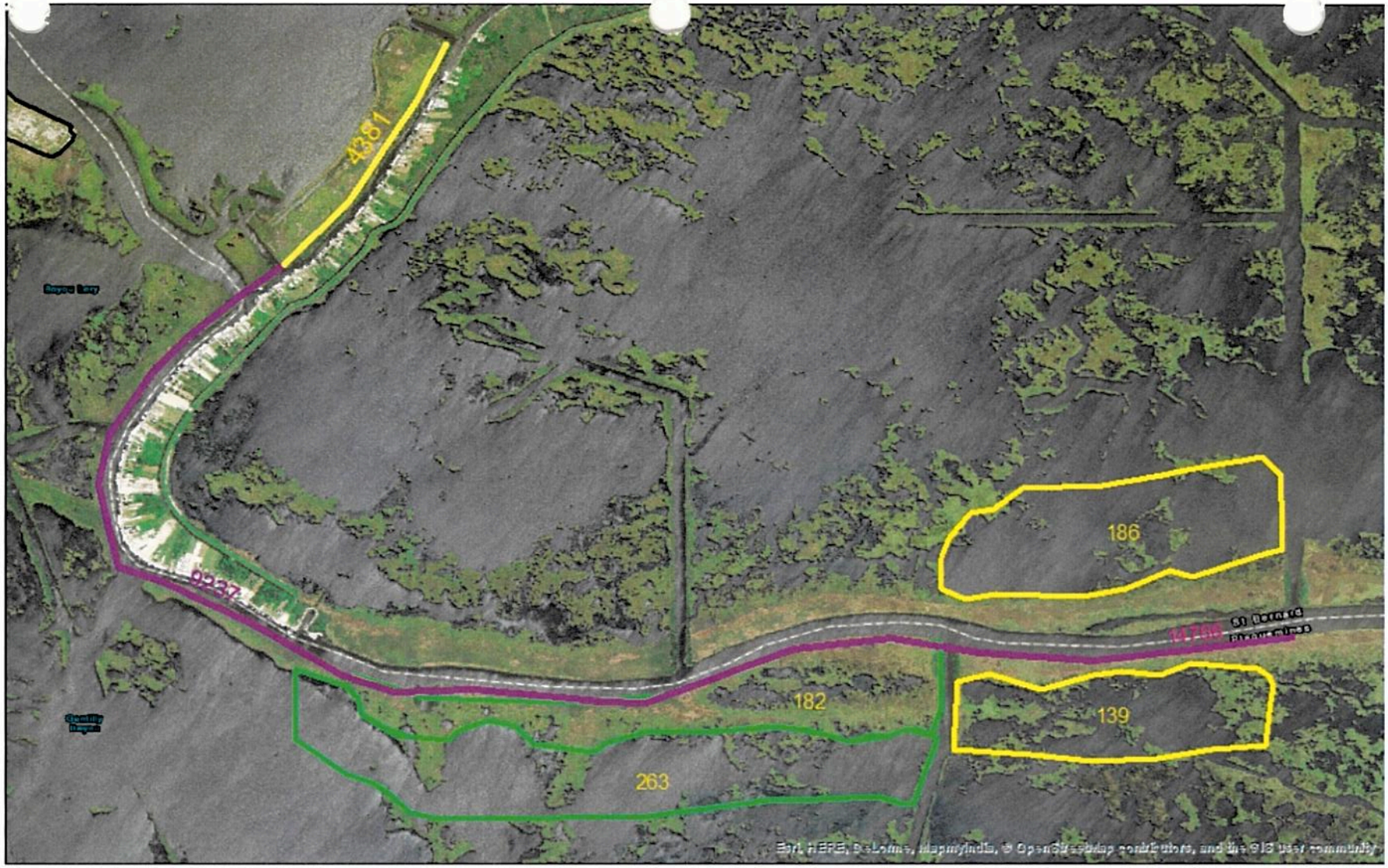
Problem
As a result of storm events, subsidence, and sea level rise, among other factors, the ridge has degraded in this area. As the ridge continues to degrade the water bodies on each side merge creating a much larger open water area, bringing increased wave fetch, storm surge, and conversion of the remaining fragmented wetlands into open water areas. The area remains vulnerable to future hurricane damage and subsidence and is a Tier 1 Priority Project area for St. Bernard Parish (St. Bernard Priority Coastal Projects 2016).

Proposed Solution
Create 28,384 linear feet of ridge along Bayou Terre aux Boeufs to provide coastal upland habitat, restore natural hydrology, provide storm surge attenuation, and improve local community resilience. Create/nourish 770 acres emergent marsh with sediment from the Lake Lery.

Project Benefits
Create 28,384 linear feet of ridge along Bayou Terre aux Boeufs and create/nourish 770 acres (create 533 acres and nourish 237 acres) emergent marsh.

Project Costs
The estimated construction cost including 25% contingency is $40M - $45M. Cost savings, construction efficiencies, and project synergy could be realized if nearby project concepts (e.g. NRCS project concept) are designed and constructed together.

Preparer(s) of Fact Sheet:
Sharon L. Osowski, Ph.D.; EPA; (214) 665-7506; osowski.sharon@epa.gov



Bayou Terre aux Boeufs North Ridge Restoration & Marsh Creation

- Ridge Extension
- Ridge Features
- Marsh Creation PPL29 325ac
- Marsh Creation PPL30 445ac

N

Basemap: 2017 NAIP DOQQ
St Bernard Parish & Plaquemines Parish
Produced by: EPA Region 6, Dallas, TX

0 0.175 0.35 0.7 1.05 1.4
Miles

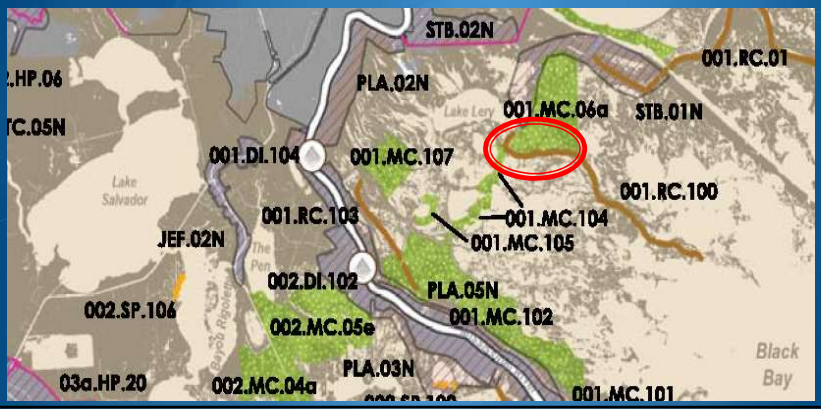
Bayou Terre aux Boeufs North Ridge Restoration & Marsh Creation

Coastal Wetlands Planning, Protection and Restoration Act

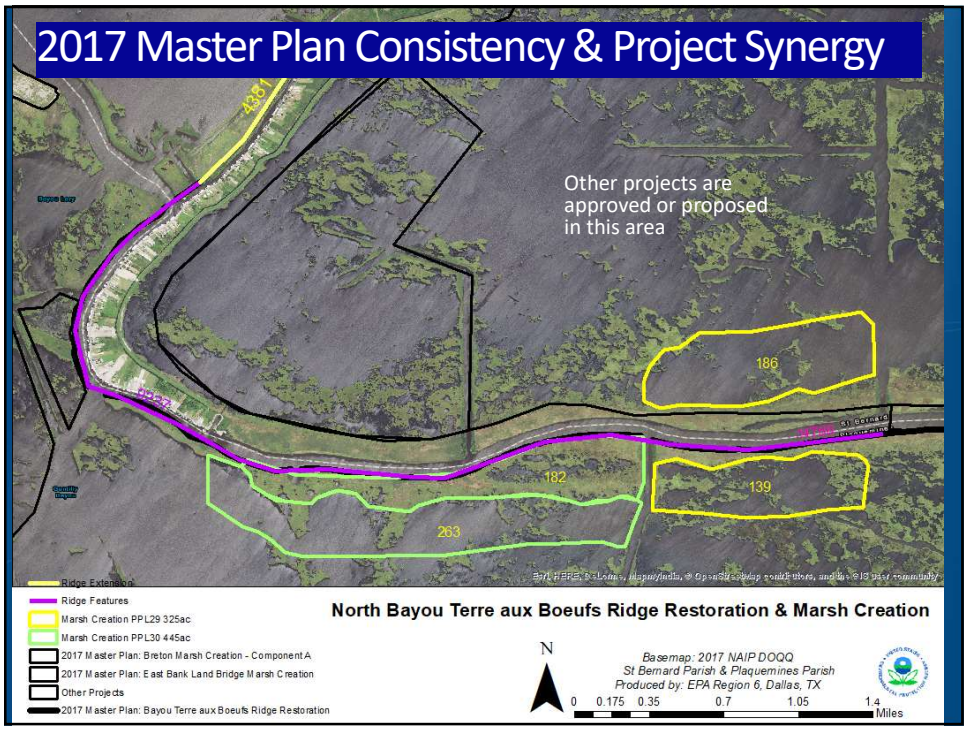
2017 Master Plan Solution

001.RC.100 Bayou Terre aux Boeufs Ridge Restoration: Restoration of approximately 91,200 feet of historic ridge to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation along Bayou Terre aux Boeufs.

001.MC.06a Breton Marsh Creation- Component A: Creation of approximately 12,000 acres of marsh in the Breton Marsh east of Delacroix Island to create new wetland habitat and restore degraded marsh.



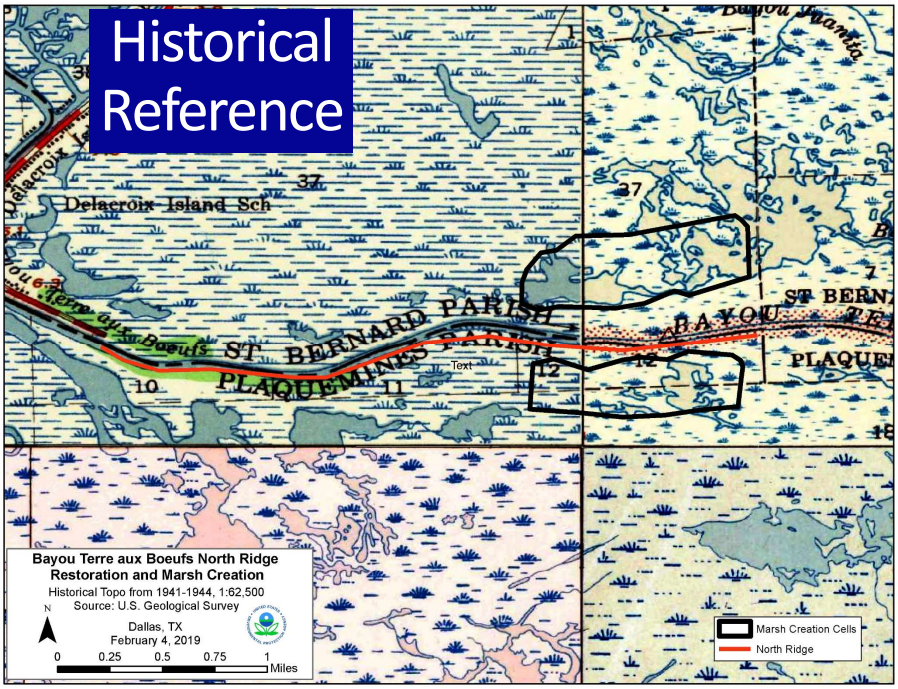
2017 Master Plan Consistency & Project Synergy



Problems

- Historic ridge is degrading between the water bodies on both sides which may cause them to merge creating additional impacts
- Subsidence
- Storm events
- Fragmenting wetlands supporting the ridge
- Both Plaquemines (55%) and St. Bernard (72%) Parishes could lose extensive land area over the next 50 years and experience severe storm surge flood risk (2017 MP). (Addresses St. Bernard Parish Priority Project Tier 1)

Historical Reference



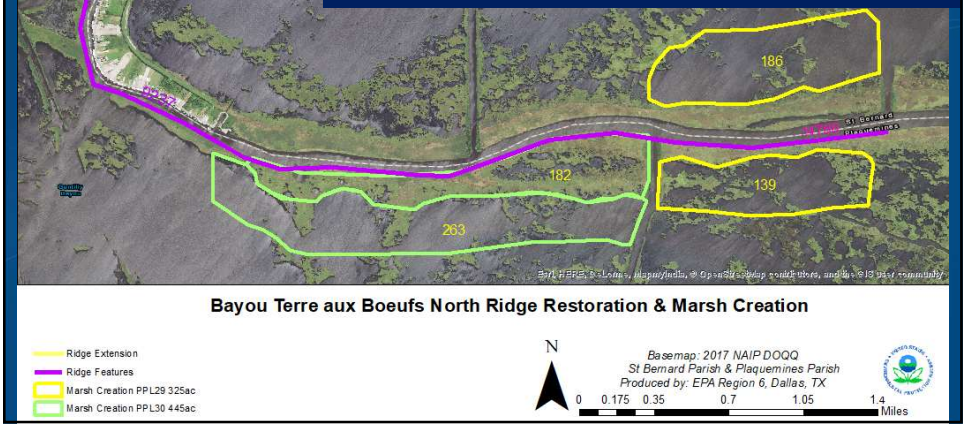
Project Features

Restore up to 28387 CHECK linear feet of historical ridge

Create 533 acres & nourish 237 acres of emergent marsh as additional support for the ridge feature with sediment from Lake Lery (770 acres total)

Synergistic with NOAA E Delacroix project and others in Breton Sound and proposed projects on Bayou Terre au Boeufs

Construction + Contingency = $40M - $45M



Bayou Terre aux Boeufs North Ridge Restoration & Marsh Creation

Ridge Extension
Ridge Features
Marsh Creation PPL29 325ac
Marsh Creation PPL30 445ac

N

Basemap: 2017 NAIP DOQQ
St Bernard Parish & Plaquemines Parish
Produced by: EPA Region 6, Dallas, TX

0 0.175 0.35 0.7 1.05 1.4 Miles

R2 BS-02

PPL30 PROJECT NOMINEE FACT SHEET
February 6, 2020

Project Name
Bayou Grosbec Marsh Creation

Project Location
Region 2, Breton Basin, St. Bernard Parish

Problem
Hurricanes Katrina and Rita caused the majority of wetland loss in the project area. Wind erosion and saltwater intrusion have resulted in loss of marsh vegetation and wetland soils. Marsh loss has increased exposure of Delacroix to flooding from the east/southeast. The USGS expanded project boundary loss rate from the nearby PPL28 East Delacroix Marsh Creation and Terracing (BS-37) project is -1.58%/yr from 1984 to 2018 for the extended project boundary area.

Goals
The project goal is to create and nourish approximately 410 acres (ac) of tidal emergent marsh.

Proposed Solution
The project goal is to create and nourish approximately 410 ac of marsh (369 ac creation 41 ac nourishment) utilizing a layout to help protect the community of Delacroix and provide synergy with BS-37 and North Delacroix Marsh Creation and Terracing (N Delacroix) (PPL29) projects which are both currently in Phase I Engineering and Design. Sediment would be mined from Cochon Bay and placed via pipeline. The borrow area would be designed to avoid adverse impacts to the existing shorelines of Cochon Bay. During both Phase 0 and Phase 1, opportunities would be explored to increase the amount of marsh creation.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
   This total project area is 410 ac.

2) *How many acres of wetlands will be protected/created over the project life?*
   Approximately 300 – 350 ac of marsh will be protected/created over the project life.

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

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*
   The project will help protect the Bayou Terre aux Boeuf Ridge.

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

The project would have moderate net positive impact to critical infrastructure which consists of Delacroix Highway, a hurricane evacuation route, and residences of Delacroix. Net positive impact would result from providing synergistic flood protection with the back levee and help protect the highway.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
The project will have a synergistic effect with the CIAP project constructed west of Delacroix helping to protecting Delacroix from wave fetch, BS-37, and the N Delacroix project.

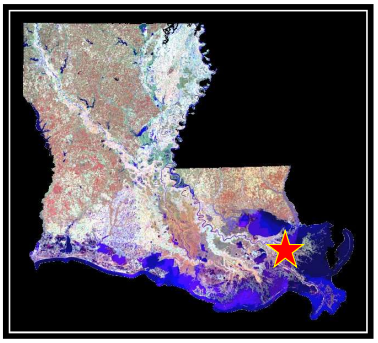
Considerations
The proposed project has potential utility/pipeline considerations.

Preliminary Construction Costs
The estimated construction cost plus 25% contingency is $25M - $30M.

Preparer(s) of Fact Sheet:
Brandon Howard, NOAA Fisheries, 225-380-0050, brandon.howard@noaa.gov
Jason Kroll, NOAA Restoration Center, 225-757-5411, jason.kroll@noaa.gov

Bayou Grosbec Marsh Creation

NOAA FISHERIES

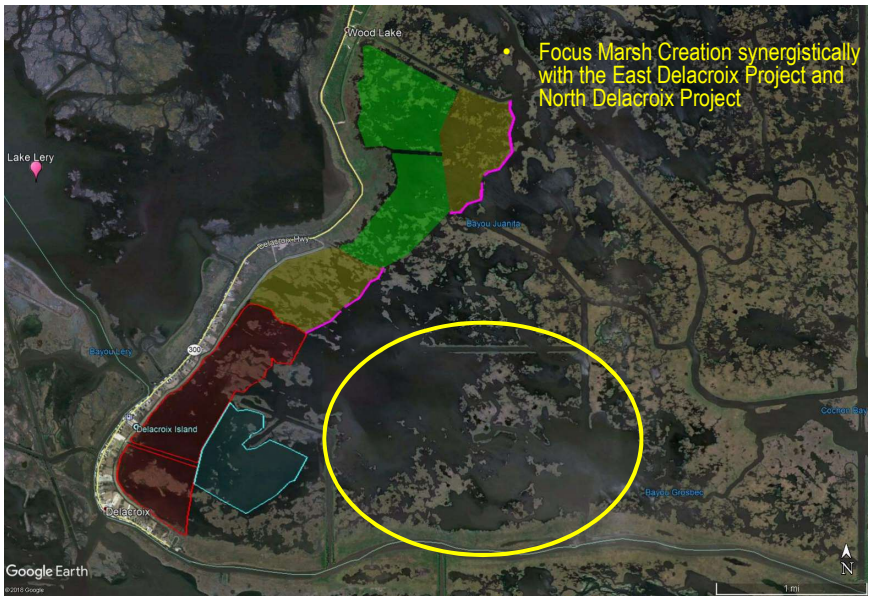


REGION 2 – Breton Basin

Presenter: Brandon Howard, Fishery Biologist, NOAA

Special Thanks
Jerry Graves, Jr.
John Lane
George Ricks
St. Bernard Parish

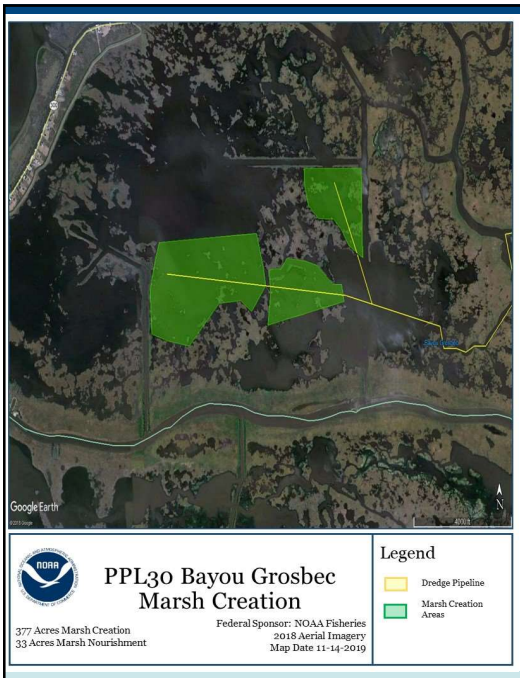
PPL30 CWPPRA Regional Planning Team Meeting
Lacombe, Louisiana
February 6, 2020



- Focus Marsh Creation synergistically with the East Delacroix Project and North Delacroix Project

Restoration Solution

- 410 Acres of Marsh Creation/Nourishment
  - 369 acres of marsh creation & 41 acres of marsh nourishment
  - Hydraulically dredge material from Cochon Bay
  - Contained fill areas with dike gapping after construction



Project Map

- 2017 State Master Plan Polygon 001.MC.06a
- Cochon Bay Borrow Area
- 410 Acres TOTAL of Marsh Creation/Nourishment
- Approximately 369 acres Creation and 41 acres Nourishment

Summary of Features, Cost, and Benefits

- **410 Acres Total**
  - 369 acres Marsh Creation
  - 41 acres Nourishment
- **Construction Cost + 25% Contingency $20M - $25M**
- **Net Benefits: 300 - 350 acres**

Contact information:
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R2 BS-03

PPL30 PROJECT NOMINEE FACT SHEET
February 6, 2020

Project Name
Spanish Lake-Grand Lake Marsh Creation

Project Location
Region 2, Breton Basin, Plaquemines Parish, west of Grand Lake and east of Spanish Lake.

Problem
From 1932 to 1990, the Caernarvon Mapping Unit lost 14,240 acres of its marsh. Prior to Hurricane Katrina, the greatest lost documented occurred between 1956 and 1974 and coincided with Hurricane Betsy and extensive canal building. Hurricane Katrina in 2005 devastated the area resulting in substantial marsh loss. According to USGS Open File Report (2006-1274), approximately 39 square miles of marsh around the upper and central portions of Breton Sound were converted to open water by mechanical removal of the marsh or by marsh submergence. Based on the hyper-temporal analysis conducted by USGS from 1984-2016, the loss rate in the project area is estimated to be –1.39 %/year.

Goals
The goal of this project is to halt the coalescence of Grand Lake and Spanish Lake by restoring the broken marshes west of the Grand Lake shoreline to a more typical and healthy intertidal marsh.

Specific goals: 1) Create approximately 450 acres and nourish approximately 250 acres of intermediate to low salinity brackish marsh west of the western shoreline of Grand Lake.

Proposed Features
1. Hydraulically dredge material from Grand Lake to create/nourish 700 acres of marsh.

Preliminary Project Benefits

1) What is the total acreage benefited both directly and indirectly?
This total project area is 700 ac.

2) How many acres of wetlands will be protected/created over the project life?
Approximately 420 net acres would result after the 20-year project life.

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

4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?
This project would restore the marshes directly west of the Grand Lake giving that shoreline a platform to roll back on during future shoreline erosion.

5) *What is the net impact of the project on critical and non-critical infrastructure?*
This project would protect small several camps.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
This project would work synergistically with the constructed BS-16, BS-32 and BS-38 (Phase I), BS-24 (Phase II) and the newly selected Phoenix Marsh Creation and Ridge projects.

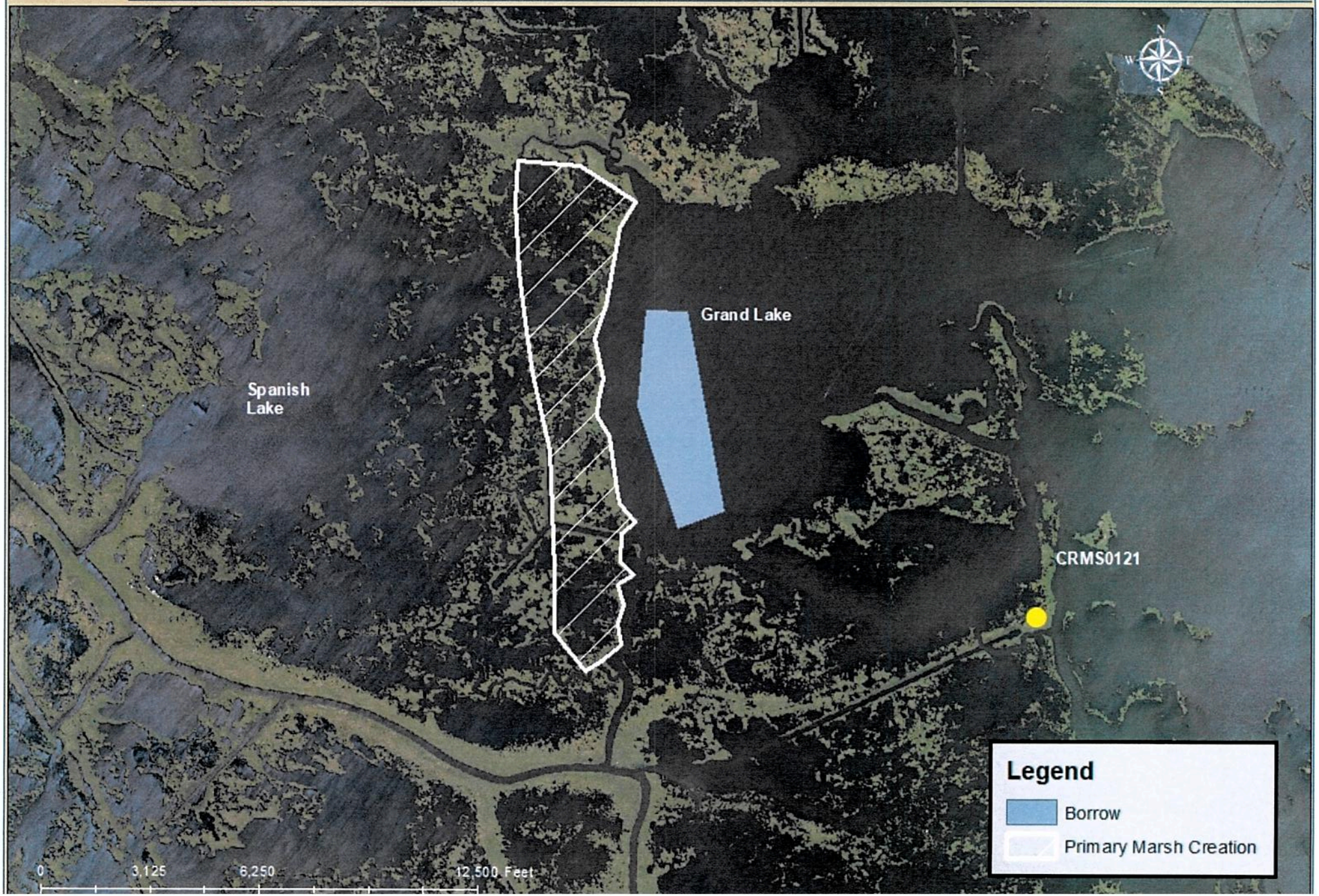
Preliminary Cost
The construction cost range plus 25% contingency is estimated to be $20 to 25M.

Preparer(s) of Fact Sheet:
Robert Dubois, Fish and Wildlife Service, 337-291-3127 Robert_Dubois@fws.gov

U.S. Fish & Wildlife Service

Louisiana Ecological Services

PPL 30 Spanish Lake Grand Lake Marsh Creation



SPANISH LAKE
GRAND LAKE
MARSH CREATION

Location Slide

SPANISH LAKE - GRAND LAKE MARSH CREATION

Problem:

- **Hurricane Katrina destroyed thousands of acres of marsh**
- **Estimated over 40 sq. miles of marsh were converted to open water from Hurricane Katrina**
- **Because of increased open water, wave fetch induced erosion is now a problem**
- **Emergent marsh is being/has been lost west of the Grand Lake shoreline. Grand Lake shoreline is not seem to be eroding at significantly high rates (<6 ft./yr.).**


Spanish
Lake
Grand Lake


Grand Lake


Grand Lake


U.S. Fish & Wildlife Service
Louisiana Ecological Services
PPL 30 Spanish Lake Grand Lake Marsh Creation
Grand Lake
Spanish Lake
CRMS0121
Legend
Borrow
Primary Marsh Creation
0
3,125
6,250
12,500 Feet

SPANISH LAKE – GRAND LAKE MARSH CREATION

Goals:

- Create/nourish 700 acres of broken marsh west of Grand Lake with material dredged from Grand Lake.
- Stop the coalescing of Grand Lake and Spanish Lake

Net Acres:

- Total net acres = 488 acres

Preliminary Construction Costs

- The estimated construction cost range plus 25% contingency $20-25M

Species of Concern and Rare Species

- Least Bittern
- Black Rail
- Mottled Duck
- King Rail

R2 BS-04

PPL30 PROJECT NOMINEE FACT SHEET
February 6th, 2020

Project Name
Orange Bayou Marsh Creation Project

Project Location
Region 2, Brenton Sound Basin, Plaquemines Parish, west of Grand Lake

Problem

Historically, this area was nourished by the freshwater delivered by the Mississippi River until the creation of the levees along the lower river. The major cause of wetland loss has been from storm activity (i.e. Hurricane Betsy and Katrina), causing both storm-induced scouring and salt water intrusion. One of the areas most severely impacted was the Breton Sound Basin where it is estimated that 40.9 square miles of marsh were converted to open water. Without some other restoration, this region will continue to see the coalescence of water bodies such as Grand Lake. The wetland loss rate in the area is -1.46%/year based on CRMS0121 data from 2007 to 2019.

Goals
The project goals are to create and/or nourish 350 acres of brackish marsh.

Proposed Solution

Sediments from the Mississippi River will be hydraulically dredged and pumped via pipeline to create/nourish 350 acres of marshes and bank lines west of Grand Lake. Containment dikes will be constructed around each marsh creation cell. Where practicable, material will be borrowed from perimeter lakes and bayous. Containment dikes will be gapped at the end of construction or by TY3.

Preliminary Project Benefits
1) *What is the total acreage benefited both directly and indirectly*? Approximately 350 acres would be benefited directly and indirectly. Direct benefits include 300 acres of marsh creation and 50 acres of marsh nourishment. Indirect benefits could occur to surrounding marsh and open water areas.

2) *How many acres of wetlands will be protected/created over the project life*? The total net acres protected/created over the project life is approximately 250-300 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 interior loss rate reduction throughout the area of direct benefit is estimated to be 50% to 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 help to maintain portions of the Orange Bayou and Grand Lake shoreline.

5) *What is the net impact of the project on critical and non-critical infrastructure*? The project would help complete the Brenton Sound Landbridge concept.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects*? The project would work synergistically with three projects currently in engineering and design: West Brenton Landbridge Marsh Creation Project (BS-38), Mid Breton Landbridge Marsh Creation and Terracing (BS-32), and Phoenix Marsh and Ridge Restoration Project.

Considerations

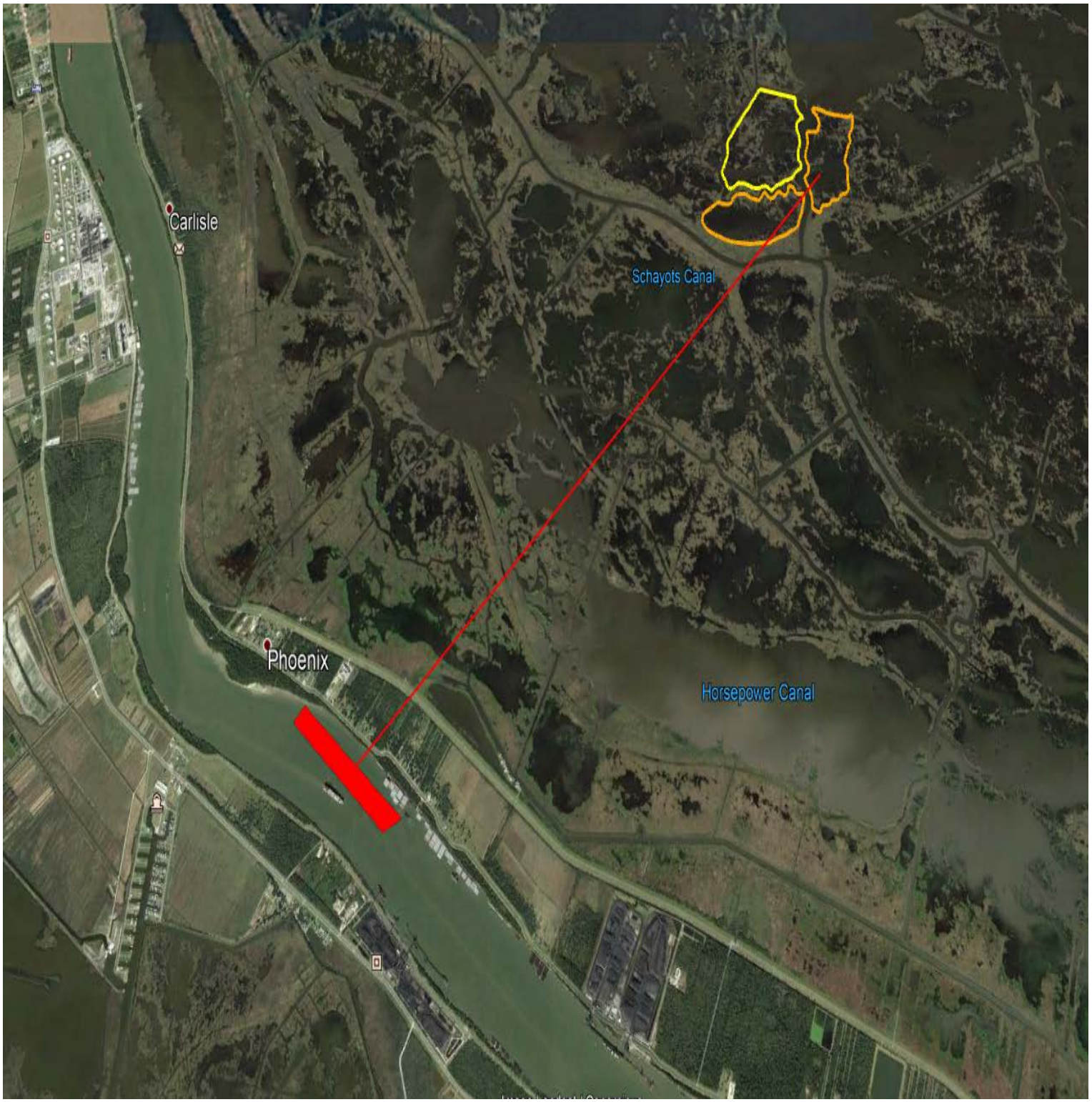
Considerations for this project include pipelines/utilities.

Preliminary Cost

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

Preparer of Fact Sheet

Jennifer Smith, NOAA, (225) 757-5230, jennifer.smith@noaa.gov



PPL30 Orange Bayou Marsh Creation

300 Acres Marsh Creation
50 Acres Marsh Nourishment

Federal Sponsor: NOAA Fisheries
2016 Aerial Imagery
Map Date 01-31-2020

Legend

- Alternative Marsh Creation 290 acres
- Marsh Creation 350 acres
- Borrow Area

Orange Bayou Marsh Creation Project

NOAA FISHERIES

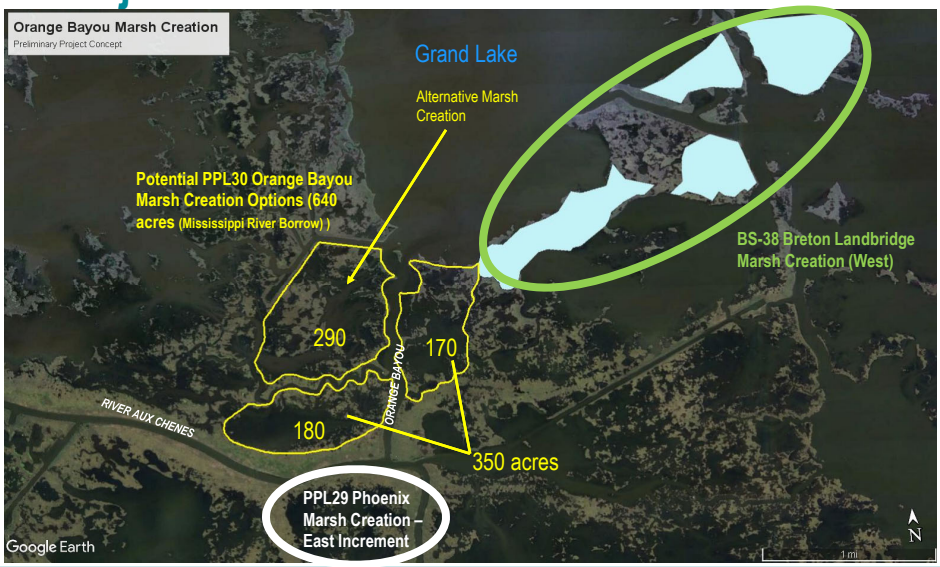
REGION 2 – Brenton Sound Basin

Presenter: Jennifer Smith, Project Manager, NOAA

Special Thanks:
Delacroix Corporation
Plaquemines Parish
NOAA Project Team

PPL30 CWPPRA Regional Planning Team Meeting
Lacombe, Louisiana
February 6, 2020

Project Location



Project Area Problem

- Wetland degradation (-1.46 cm/y)
  - Sea Level Rise
  - Subsidence
  - Hurricane impacts
  - Conversion of marsh to open water
  - Nutria foraging

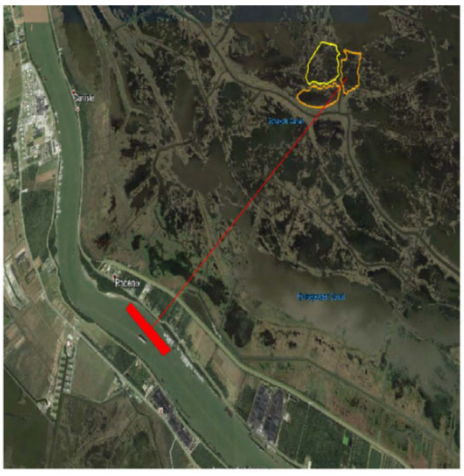
Project Goals

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

Orange Bayou Marsh Creation Project

Restoration Solution

- 350 Acres of Marsh Creation/Nourishment
  - 300 Acres of Marsh Creation & 50 Acres of Marsh Nourishment.
  - Hydraulically dredge material from the Mississippi River at Myrtle Grove.
  - Contained Fill areas with dike gapping after construction.



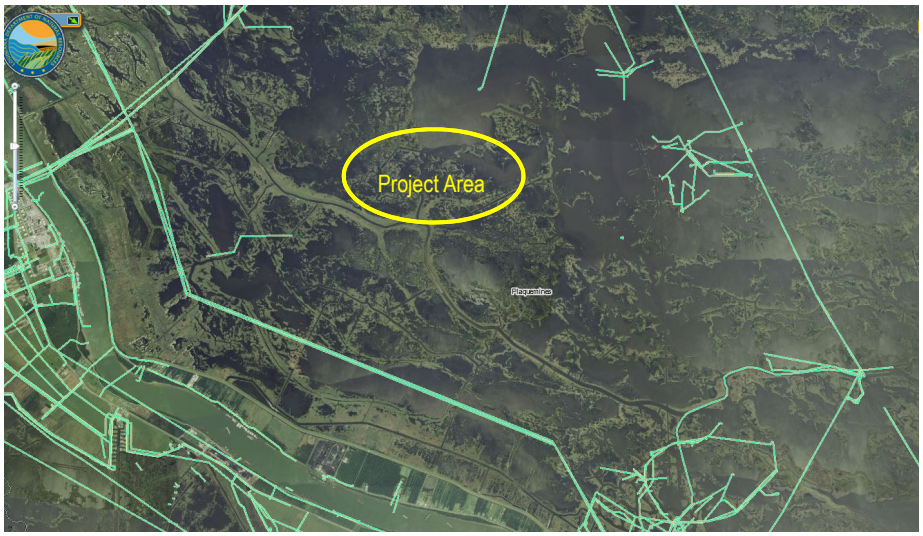
Orange Bayou Marsh Creation Project

Project Map

- 2017 State Master Plan Polygon 001.MC.102
- Mississippi River Borrow Area
- 350 Acres TOTAL of Marsh Creation/Nourishment
- Approximately 300 acres Creation and 50 acres Nourishment
- Approximately 290 acres of Alternative Marsh Creation

Orange Bayou Marsh Creation Project

Pipelines



Orange Bayou Marsh Creation Project

Summary of Features, Cost, and Benefits

- 350 Acres Total
  - 300 acres Marsh Creation
  - 50 acres Nourishment
- Construction Cost + 25% Contingency $30M - $35M
- Net Benefits: 250-300 acres

Contact information:
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R2 BS-05

PPL30 PROJECT NOMINEE FACT SHEET
February 6, 2020

Project Name
Spanish Lake Shoreline Restoration (Shoreline Berm/Marsh Creation)

Project Location
Region 2, Breton Basin, Plaquemines Parish, west of Grand Lake and east of Spanish Lake.

Problem
From 1932 to 1990, the Caernarvon Mapping Unit lost 14,240 acres of its marsh. Prior to Hurricane Katrina, the greatest lost documented occurred between 1956 and 1974 and coincided with Hurricane Betsy and extensive canal building. Hurricane Katrina in 2005 devastated the area resulting in substantial marsh loss. According to USGS Open File Report (2006-1274), approximately 39 square miles of marsh around the upper and central portions of Breton Sound were converted to open water by mechanical removal of the marsh or by marsh submergence. Based on the hyper-temporal analysis conducted by USGS for the extended project boundary, the loss rate in the project area is estimated to be –1.99 %/year for the period 1984 to 2016.

Goals
The goal of this project is to restore the eastern shoreline of Spanish Lake with a more robust marsh (slightly higher than typical CWPPRA marshes) and create more typical intertidal marsh in the open water and fragmented marshes east of that restored shoreline.

Specific goals: 1) Create approximately 207 acres and nourish approximately 25 acres of intermediate to low salinity brackish marsh around the perimeter of Spanish Lake. 2) Restore approximately 18,000 linear feet of Spanish Lake's eastern shoreline.

Proposed Features
1. Hydraulically dredge material from the Mississippi River (Alliance or Alliance South Anchorage) to create/nourish 230 acres of marsh.
2. Approximately 18,000 linear feet of shoreline would be restored with material dredged from Mississippi River.
3. Material would be shaped from a higher elevation near the newly created Spanish Lake shoreline to a lower elevation east of that shoreline.
4. Because river material will be used, earthen containment would not be necessary.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
This total project area is 600 ac.

2) *How many acres of wetlands will be protected/created over the project life?*
Approximately 181 net acres would result after the 20-year project life.

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

The anticipated land loss rate reduction throughout the area of direct benefits is approximately 50% to 74% over the project life.

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*
This project would restore the eastern shoreline of Spanish Lake.

5) *What is the net impact of the project on critical and non-critical infrastructure?*
This project would help protect small camps around the Spanish Lake area.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
This project would work synergistically with the constructed BS-16 project, the BS-24, BS-32, BS-38 and the newly selected Phoenix Marsh Creation-East Increment project which currently in Phase I (engineering and design).

Preliminary Cost
The construction cost plus 25% contingency is estimated to be $30M with the fully funded range between $40-$45M.

Preparer(s) of Fact Sheet:
Robert Dubois, Fish and Wildlife Service, 337-291-3127 Robert_Dubois@fws.gov

U.S. Fish & Wildlife Service

Louisiana Ecological Services

PPL 30 Spanish Lake Shoreline Restoration and Marsh Creation

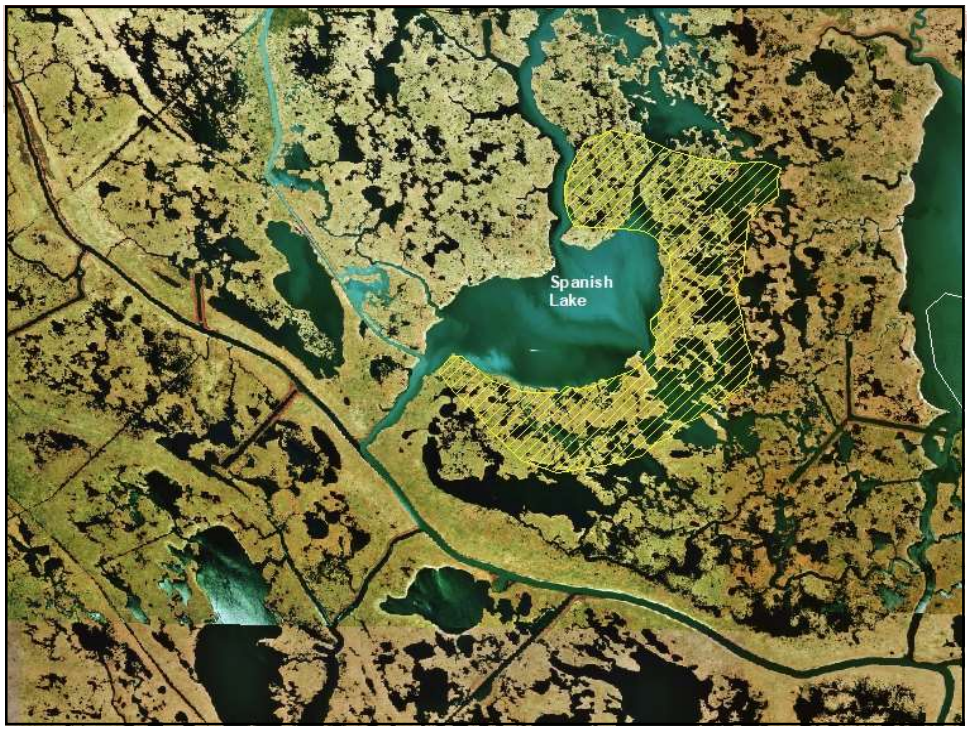
SPANISH LAKE SHORELINE RESTORATION AND MARSH CREATION

Location Slide

SPANISH LAKE SHORELINE RESTORATION AND MARSH CREATION

Problem:

- **Hurricane Katrina destroyed thousands of acres of marsh**
- **Estimated over 40 sq. miles of marsh were converted to open water from Hurricane Katrina**
- **Because of increased open water, wave fetch induced erosion is now a problem**



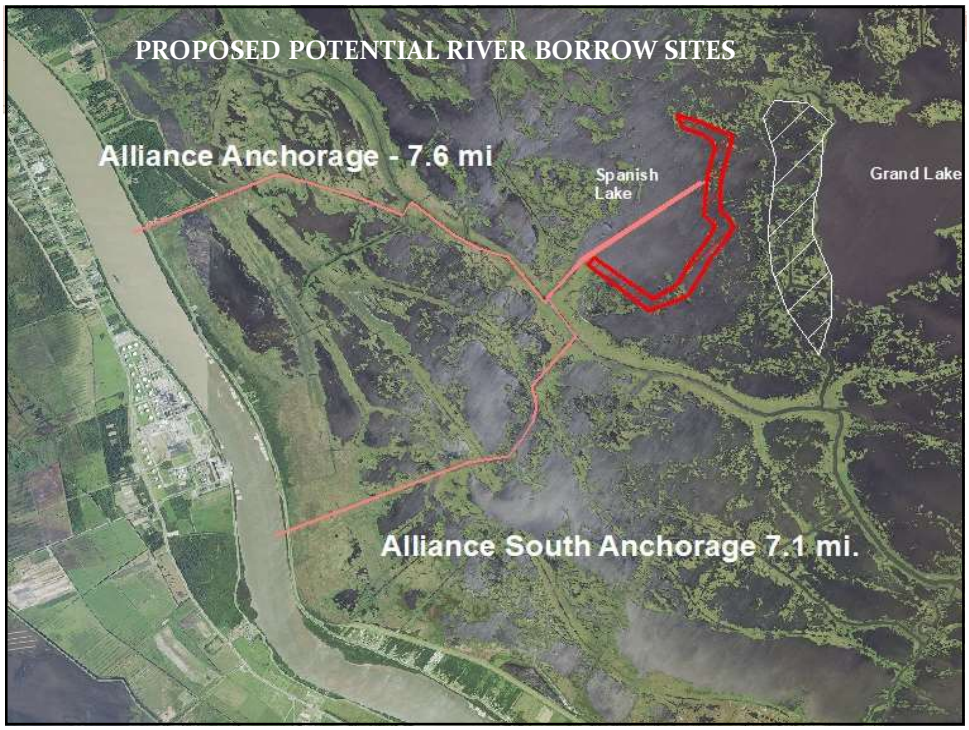

Grand Lake
Spanish
Lake


SPANISH LAKE SHORELINE
RESTORATION AND MARSH CREATION
Grand Lake
Spanish
Lake

SPANISH LAKE SHORELINE RESTORATION AND MARSH CREATION

Solution:

- **Hydraulically dredge material from the Mississippi River to restore the eastern shoreline of Spanish Lake (270 acres marsh creation and 30 acres marsh nourishment).**
- **Because this is proposed with river material, no containment dikes are being proposed at this time.**



SPANISH LAKE SHORELINE RESTORATION AND MARSH CREATION

Goals:

- Restore approximately 17,000 ft. of the eastern Spanish Lake shoreline with material dredged from the Mississippi River .
- Create/nourish 300 acres of enhanced (slightly higher) intertidal marsh between Spanish and Grand Lakes with material dredged from the Mississippi River.

Net Acres:

- Total net acres = 235 acres (not including hydraulic components)

Preliminary Construction Costs

- The estimated construction cost range plus 25% contingency $25-$30M.

Species of Concern and Rare Species

- Least Bittern
- Black Rail
- Mottled Duck
- King Rail

R2 BS-06

PPL30 PROJECT NOMINEE FACT SHEET
February 6, 2020

Project Name
Spanish Lake Marsh Creation, South Shoreline

Project Location
Region 2, Breton Basin, Plaquemines Parish

Problem
Wetland loss in Breton Sound Basin from subsidence, saltwater intrusion, erosion of wetlands, river levee and oil/gas construction has caused large impacts to this region in recent decades. After Hurricane Katrina in 2005, a major wetland loss event occurred in this area due to both storm-induced scour and salt water intrusion into the lower salinity marshes. The altered hydrology and oil/gas development have exacerbated this storm-related loss. Spanish Lake continues to increase in size due to coalescence with marsh lost to water and increased wave fetch. High subsidence rates range from 4.4-6.5 mm/year. The 1984 to 2016 USGS land loss rate for this area is -1.76%/yr (adjacent Breton Landbridge Marsh Creation West project (BS-38)).

Goals
The project goal is to create and nourish approximately 322 acres of intermediate marsh along the southern bank of Spanish Lake.

Proposed Solution
The proposed solution would be to create approximately 302 acres and nourish 20 acres to restore the northern and eastern portion of the Spanish Lake shoreline. Sediment will be hydraulically pumped from the Myrtle Grove borrow source in the Mississippi River near Phoenix, LA. Temporary containment dikes will be constructed and gapped within three years of construction to allow greater tidal exchange and estuarine organism access. This marsh creation project is envisioned as part of a larger restoration effort of continuing to restore the southern shoreline of Spanish Lake with an additional phase of marsh creation.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
   The total project area is approximately 322 acres.

2) *How many acres of wetlands will be protected/created over the project life?*
   The net acre benefit range is 250-300 acres after 20 years.

3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (e.g., 50% reduction in the background loss rate)?*
   A 50% loss rate reduction is assumed for the marsh creation and marsh nourishment. (USGS hyper-temporal data from 1984 to 2016 shows -1.76%/year from BS-38.)

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 restore portions of Spanish Lake shoreline.

5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project may have minor net positive impact to non-critical infrastructure comprised of pipelines and oil and gas wells.

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: 1) BS-16 South Lake Lery Shoreline and Marsh Restoration, 2) BS-24 Terracing and Marsh Creation South of Big Mar, 3) CIAP project constructed west of Delacroix, 4) the Caernarvon Freshwater Diversion, 5) BS-32 Mid-Breton Land Bridge Marsh Creation and Terracing, and 6) BS-38 Breton Landbridge Marsh Creation (West).

Considerations
The proposed may have land rights considerations.

Preliminary Construction Costs
The estimated construction cost plus 25% contingency range is $35M-$40M.

Preparer(s) of Fact Sheet:
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Jason Kroll, NOAA Fisheries, 225-757-5411, jason.kroll@noaa.gov

PPL30 Spanish Lake – Northeast Marsh Creation

302 Acres Marsh Creation
20 Acres Marsh Nourishment

Federal Sponsor: NOAA Fisheries
2019 Aerial Imagery
Map Date 1-30-2020

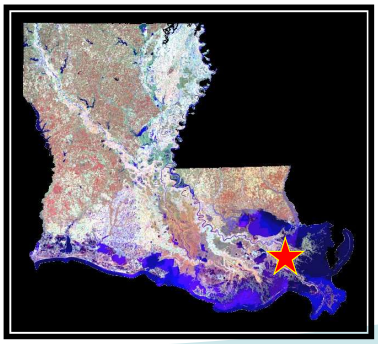
Legend

Marsh Creation

Spanish Lake - Northeast Marsh Creation

NOAA FISHERIES

Habitat Conservation Division



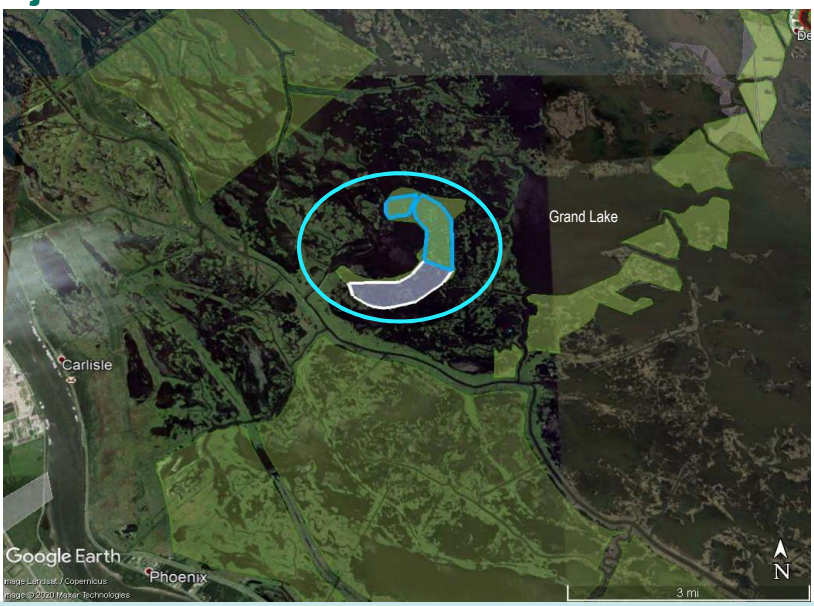
REGION 2 – Breton Basin

Presenter: Dawn Davis, Fishery Biologist, NOAA

Special Thanks
Mike Benge
Melinda Benge Brown
Mike Farizo
Delacroix Corporation

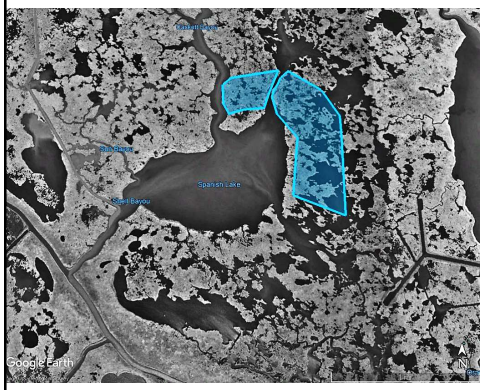
PPL30 CWPPRA Regional Planning Team Meeting
Lacombe, Louisiana
February 6, 2020

Project Location

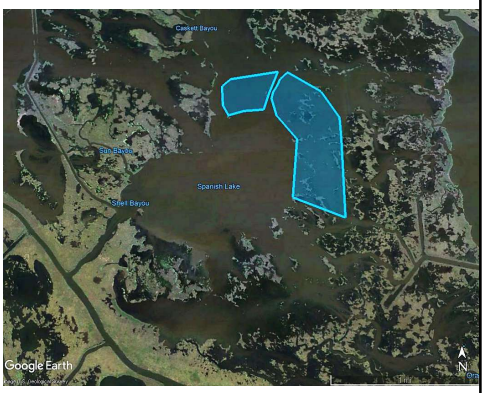


Project Area Problems

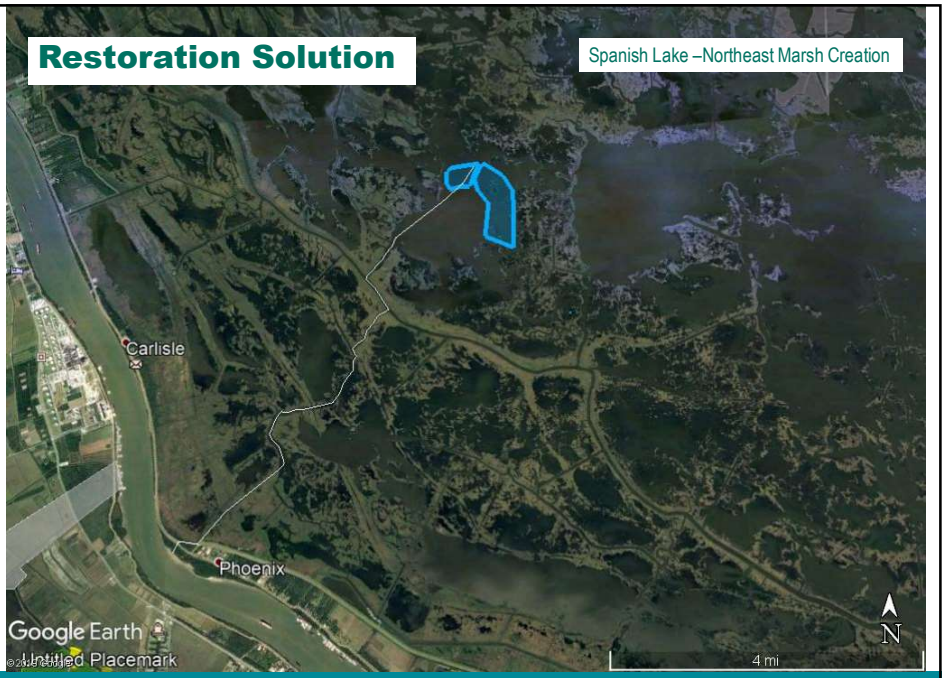
1999



2019



Restoration Solution



Project Map

- 2017 State Master Plan Polygon 001.MC.105
- Mississippi River Borrow Area
- 322 Acres TOTAL of Marsh Creation/Nourishment
- Approximately 302 Acres Creation and 20 Acres Nourishment

Summary of Features, Cost, and Benefits

- 322 Acres Total
  - 302 acres Marsh Creation
  - 20 acres Nourishment
- Construction Cost
  + 25% Contingency: $35M - $40M
- Net Benefits: 250-300 acres

Contact information:
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dawn.davis@noaa.gov
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R2 BS-07

PLL30 PROJECT FACT SHEET
February 6, 2020

Project Name
Davant Marsh Creation (Increment 1)

Master Plan Strategy
Pointe a la Hache Marsh Creation (2017 Master Plan 001.MC.102): Creation of approximately 19,100 acres of marsh on the east bank of Plaquemines Parish near Pointe a la Hache to create new wetland habitat and restore degraded marsh.

Project Location
Region 2, Breton Sound Basin, Plaquemines Parish

Problem
The project area is an open water body immediately adjacent to the east bank of the Mississippi River levee. As a result of leveeing the Mississippi River for navigation and flood control, the Pointe a la Hache wetlands were cut off from the historic overbank flooding of the river. Without continued sediment input, marshes could not maintain viable elevations due to ongoing subsidence. In addition, oil and gas canals disrupted hydrology and facilitated saltwater intrusion further degrading the marsh. The land loss rate for the area is -1.00% per year.

Proposed Solution
The proposed project would create/nourish approximately 419 acres of marsh using sediment dredged from the Mississippi River. The dredged material would be fully contained. Containment dikes would be degraded as necessary to reestablish hydrologic connectivity with adjacent wetlands. The created marsh would be planted.

Project Benefits
Create/nourish approximately 419 acres (create 360 acres and nourish 59 acres) of emergent marsh using sediment dredged from the Mississippi River.

Project Costs
The estimated construction cost including 25% contingency is $25M - $30M.

Preparer(s) of Fact Sheet:
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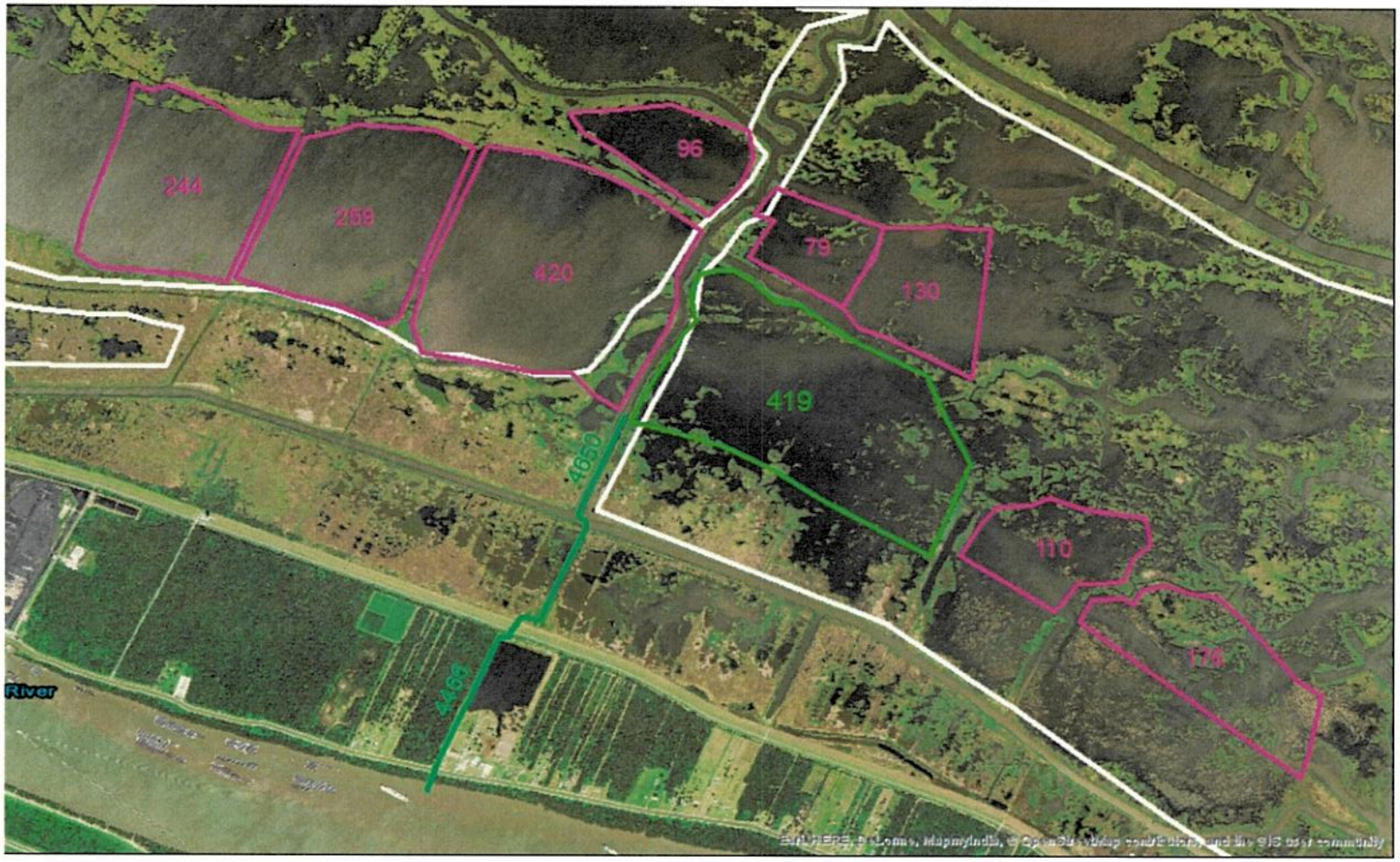
Brad Crawford, P.E., EPA; (214) 665-7255; crawford.brad@epa.gov



Davant Marsh Creation

- Davant Pipe to Borrow Site
- Davant_2020Cell
- Davant Future Cells
- 2017 MP: Pointe a la Hache Marsh Creation

N

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

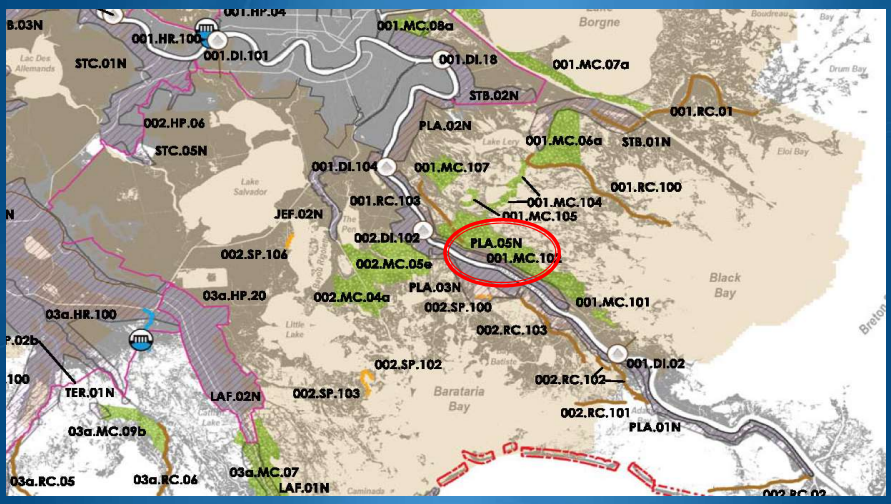
0 0.175 0.35 0.7 1.05 1.4 Mile

Davant Marsh Creation (Increment 1)

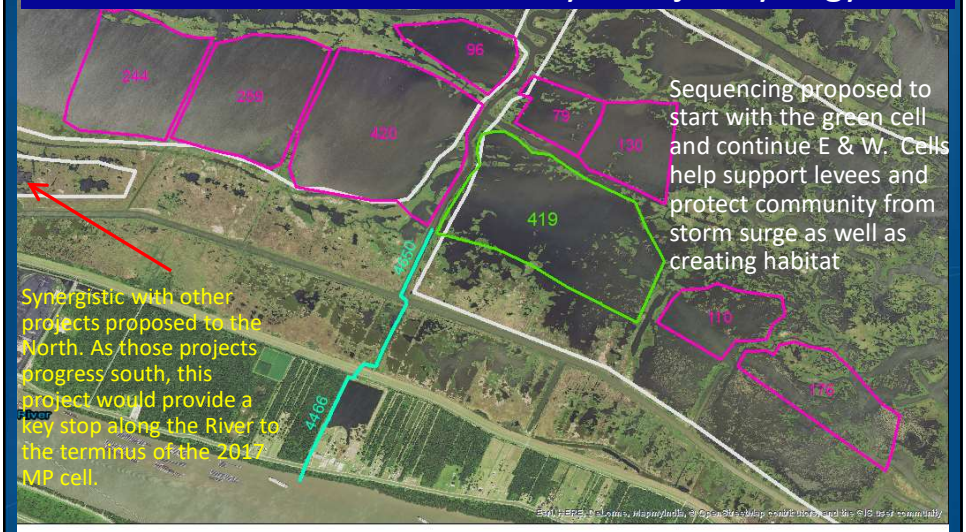
Coastal Wetlands Planning, Protection and Restoration Act

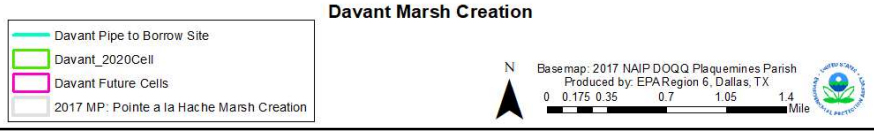
2017 Master Plan Solution

001.MC.102 Pointe a la Hache Marsh Creation: Creation of approximately 19,100 acres of marsh on the east bank of Plaquemines Parish near Pointe a la Hache to create new wetland habitat and restore degraded marsh.



2017 Master Plan Consistency & Project Synergy

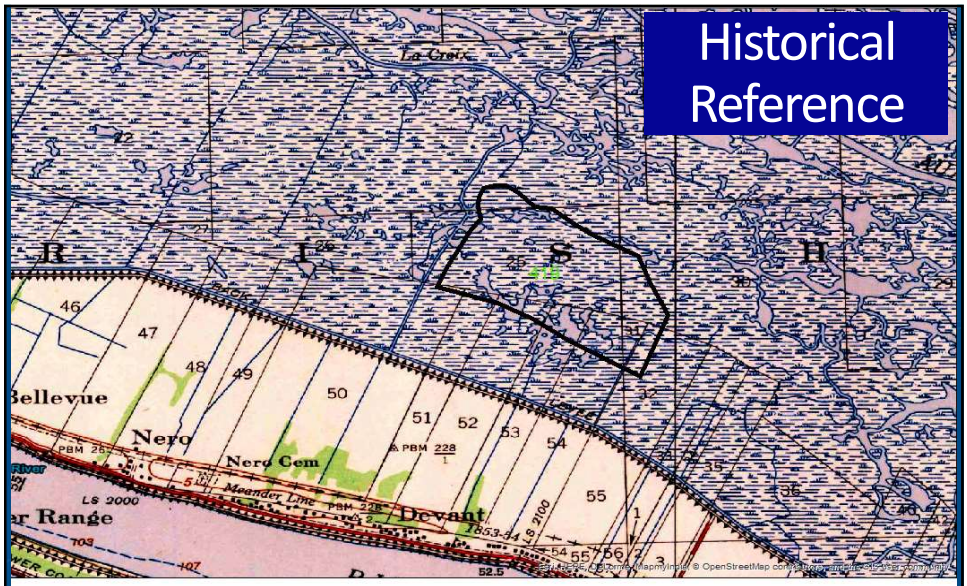




Problems

- Levees for navigation and flood control cut off wetlands from overbank flooding
- Marsh areas could not maintain viable elevations without sediment input
- Subsidence
- Oil & gas canals disrupted hydrology
- Saltwater intrusion
- Plaquemines Parish could lose an additional 55% of its land area over the next 50 years and face severe storm surge flood risk (2017 MP).

Historical Reference



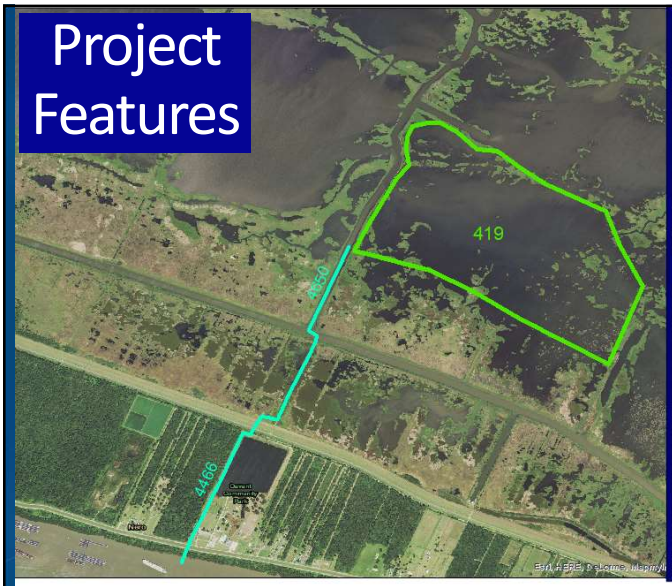
Davant Marsh Creation

Davant_2020Cell

N

Basemap: 2017 NAIP DOQQ Plaquemines Parish
Produced by: EPA Region 6, Dallas, TX
0 0.175 0.35 0.7 1.05 1.4
Mile

Project Features



Create/nourish 419 acres (360 acres marsh creation, 59 acres marsh nourishment) of emergent marsh with sediment from the Mississippi River

Address Plaquemines Parish Phase 1 (construct wetlands adjacent to levees protecting fastlands) and Phase 2 (enhance wetlands in identified areas) priorities

Restore wetland habitat & provide increased protection from storm surge and flooding

Construction + 25% = $25M - $30M

Davant Marsh Creation

Davant Pipe to Borrow Site
Davant_2020Cell

N

Basemap: 2017 NAIP DOQQ Plaquemines Parish
Produced by: EPA Region 6, Dallas, TX
0 0.15 0.3 0.6 0.9 1.2

R2 BS-08

PPL30 PROJECT FACT SHEET
February 6, 2020

Project Name
Reggio Marsh Creation and Hydrologic Restoration

Master Plan Strategy
Breton Marsh Creation-Component A (2017 Master Plan 001.MC.06a): Creation of approximately 12,000 acres of marsh in the Breton Marsh east of Delacroix Island to create new wetland habitat and restore degraded marsh.

Project Location
Region 2, Breton Sound Basin, St. Bernard Parish

Problem
St. Bernard Parish may experience some of the highest rates of wetland loss over the next 50 years of any coastal parish and with no further action, it could lose an additional 237 sq. miles (72% of the parish land area; 2017 Master Plan Appx A). Locations outside the levees could experience increased storm surge flood risk. This project area has experienced wetland loss due to a variety of factors including subsidence, saltwater intrusion, and storm damage. Hurricane Katrina devastated the area resulting in substantial marsh loss which has exposed infrastructure to open water conditions. Most recently, the area experienced impacts due to Tropical Storm Barry in 2019. Canals in the area have increased the effects of salt water pulses in the fall which subsequently cause the vegetation to die off and decay to the W and N of the canals (identified in red on the map).

Proposed Solution
Create/nourish 483 acres of wetlands by converting open water into marsh and nourishing existing marsh remnants with sediment hydraulically dredged from a borrow source in Lake Lery (if Lake Lery becomes impractical, Lake Borgne could also be targeted). Temporary containment dikes will be constructed and gapped within three years of construction to allow greater tidal exchange and estuarine organism access. In addition, two canals are proposed to be plugged to counteract saltwater intrusion. Restoration in this area would build the area's defenses against hurricanes and flooding.

Project Benefits
Create/nourish 483 acres (create 285 acres and nourish 197 acres) of emergent marsh with sediment dredged from Lake Lery and plug two canal.

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

Preparer(s) of Fact Sheet:
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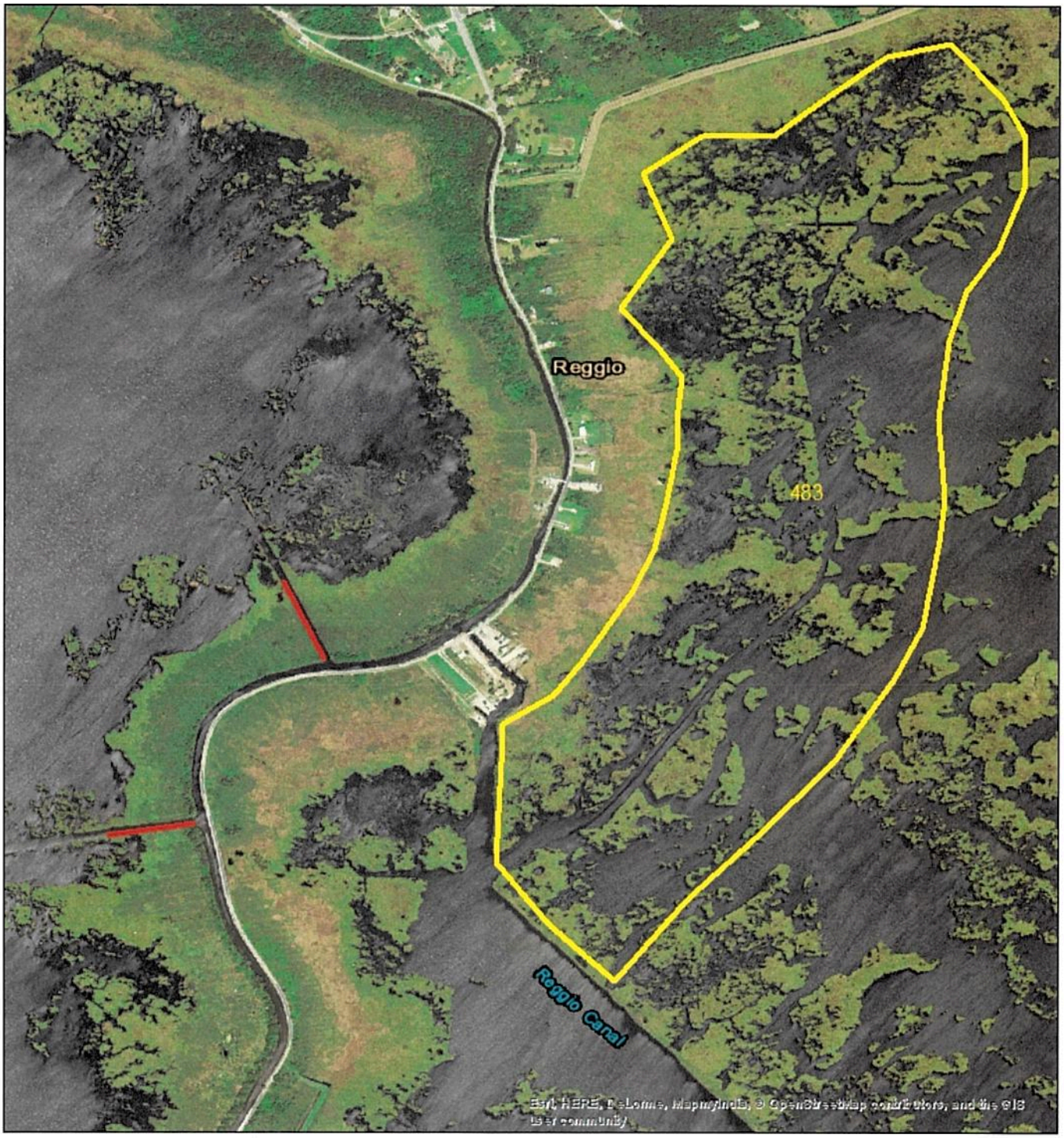
Brad Crawford, P. E., EPA; (214) 665-7255; crawford.brad@epa.gov



Reggio Marsh Creation and Hydrologic Restoration

Reggio Canals Plugged 1563ft

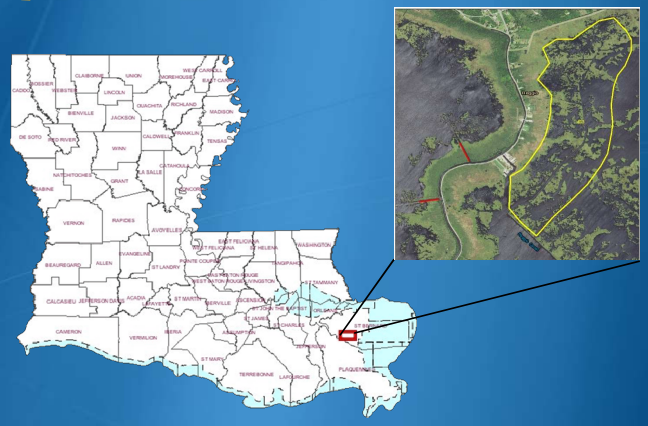
Reggio MC/HR 483 ac

N

Basemap: 2017 NAIP DOQQ St. Bernard Parish
Produced by: EPA REgion 6, Dallas, TX

0 0.050.1 0.2 0.3 0.4
Miles

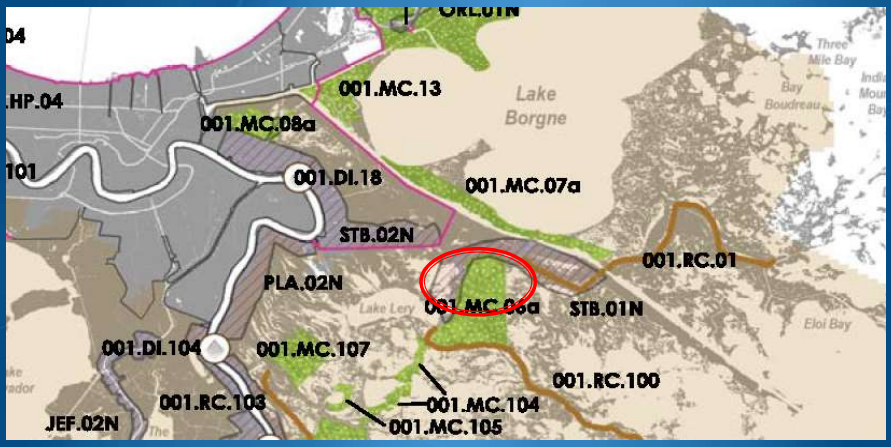
Reggio Marsh Creation & Hydrologic Restoration



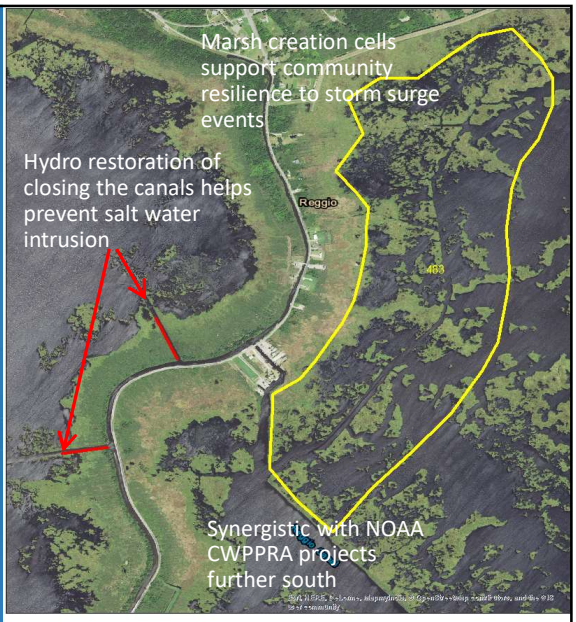
Coastal Wetlands Planning, Protection and Restoration Act

2017 Master Plan Solution

001.MC.06a Breton Marsh Creation- Component A: Creation of approximately 12,000 acres of marsh in the Breton Marsh east of Delacroix Island to create new wetland habitat and restore degraded marsh.



2017 Master Plan Consistency & Project Synergy

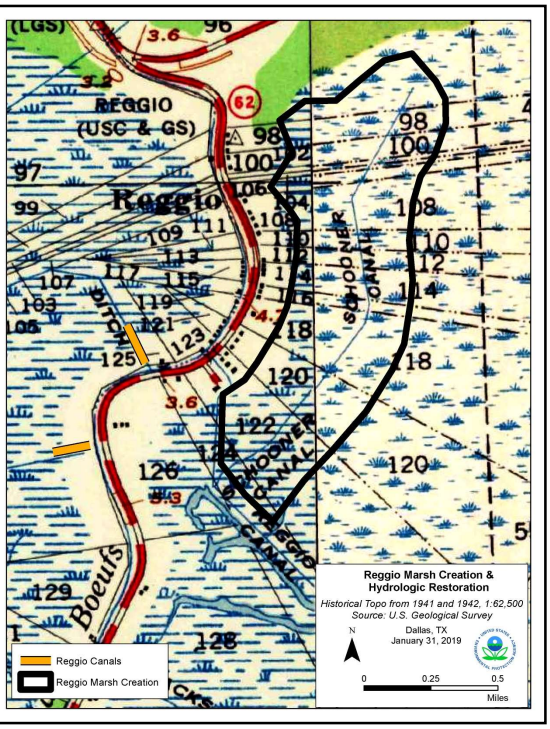


Problems

- Storm impacts from Hurricane Katrina
- Saltwater intrusion through the MC polygons makes its way to the W via the two small canals causing high salinity conditions in the fall which then causes vegetation die off and decaying conditions to the W & N of the canals
- Subsidence & Sea-level rise
- St. Bernard Parish may experience some of the highest rates of wetland loss and increased flood risk over the next 50 years (2017 MP)

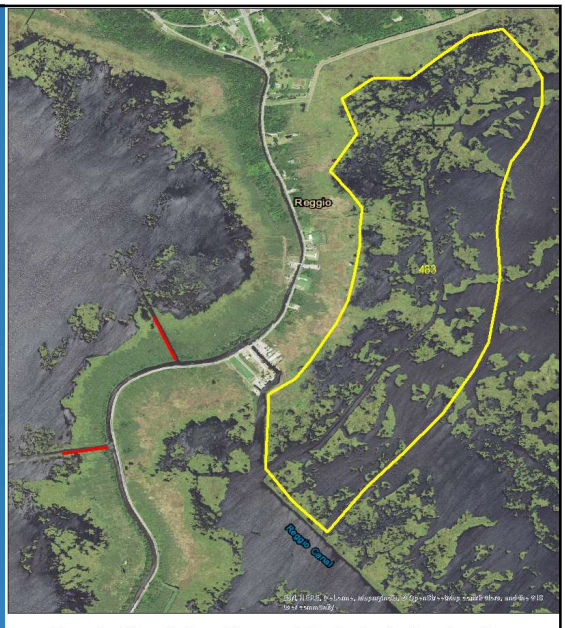
Historical Reference

- 1941



Project Features

- Create/nourish 483 acres emergent marsh and plug 2 channels
- Sediment from borrow source in Plaquemines Parish (Lake Lery)
- Resiliency from storm surge for the community of Reggio; May address St. Bernard Parish Priority Project Tier 1: Lake Lery MC polygon
- Restore wetland habitat by reducing fall high salinity conditions so that intermediate/freshwater marsh can remain viable all year long
- Construction cost + 25% contingency is $20M - $25M



R2 BS-09

PPL30 PROJECT NOMINEE FACT SHEET
February 6, 2020

Project Name
Phoenix Marsh Creation – West Increment

Project Location
Region 2, Breton Sound Basin, Plaquemines Parish, East of Phoenix, LA

Problem
Within the project vicinity, marsh loss has occurred as the result of oil/gas canals, subsidence, and a lack of sediment deposition. For the Phoenix Marsh Creation-East Increment Project (PPL29), USGS calculated a land change rate of -0.78% per year for the period 1984 to 2019.

Goals
The primary goals of this project are; 1) restore marsh habitat in the open water areas via marsh creation and 2) provide a linkage with projects to the east to continue the Breton Landbridge westward. The specific goal of this project is to create 320 acres of marsh and nourish 80 acres of marsh with dredged material from the Mississippi River.

Service goals include restoration/protection of habitat for threatened and endangered species and other at-risk species. This project would restore habitat potentially utilized by the black rail, which is proposed for listing as a threatened species. The project could also benefit other species of concern including the peregrine falcon, osprey, mottled duck, saltmarsh topminnow, and seaside sparrow.

Proposed Solution
Sediment will be hydraulically dredged from the Mississippi River to create 320 of marsh and nourish an additional 80 acres. The dredged riverine sediments will be pumped via pipeline into two semi-confined disposal areas. Where feasible, existing marsh will be used as containment instead of containment dikes. Containment dikes will be gapped no later than three years post construction.

Preliminary Project Benefits
1) *What is the total acreage benefited both directly and indirectly*? Approximately 400 acres would be benefited directly. Direct benefits include 320 acres of marsh creation and 80 acres of marsh nourishment. Indirect benefits would occur to surrounding marshes.

2) *How many acres of wetlands will be protected/created over the project life*? The total net acres protected/created over the project life is approximately 300-350 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 50%.

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc.* No.

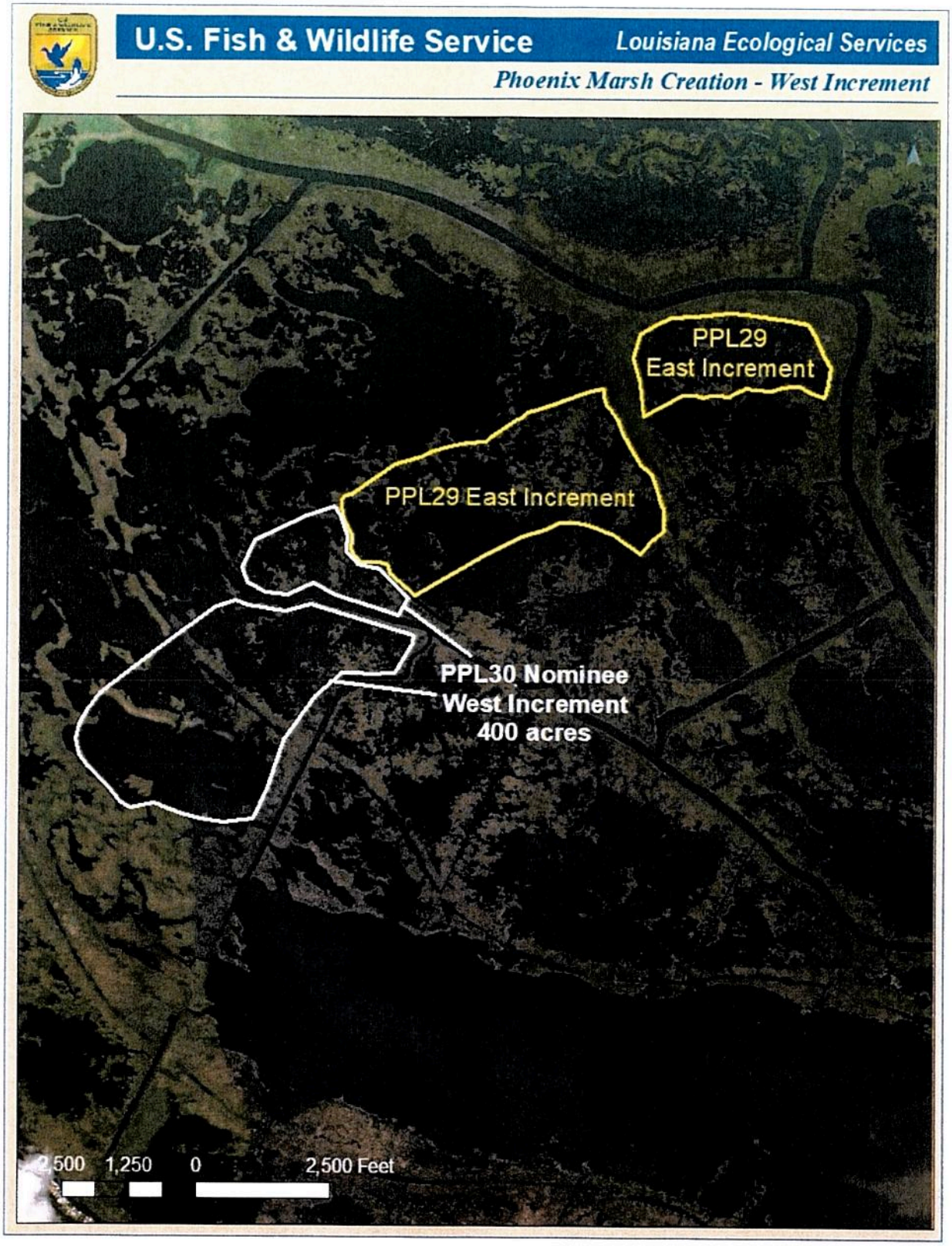
5) *What is the net impact of the project on critical and non-critical infrastructure?* The project would result in no impacts to infrastructure.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects*? The project would be synergistic to the Phoenix Marsh Creation-East Increment Project (PPL29) and the Breton Landbridge Marsh Creation (West) Project (PPL28). Both projects are located to the east and along the alignment of the Breton Sound Basin Landbridge.

Considerations
Pipelines/utilities, roads, and levees which cross the dredge pipeline route will need to be addressed during project design.

Preliminary Cost
The construction cost plus 25% contingency is $30M - $35M.

Preparer of Fact Sheet
Kevin Roy, USFWS, (337) 291-3120, kevin_roy@fws.gov


U.S. Fish & Wildlife Service
Louisiana Ecological Services
Phoenix Marsh Creation - West Increment
PPL29
East Increment
PPL29 East Increment
PPL30 Nominee
West Increment
400 acres
2,500 1,250 0 2,500 Feet

REGION II

REGIONAL PLANNING TEAM MEETING

BRETON SOUND BASIN

Lacombe, LA

February 6, 2020

Kevin Roy
Lafayette, LA


Breton Landbridge and Landbridge Extension
Carlisle
Schuyler Canal
4,300 acres
Phoenix
Horsepower Canal
Google Earth
N
2 mi


Breton Landbridge and Landbridge Extension
Carlisle
Schuyler Canal
3,100 acres
Phoenix
Horsepower Canal
Google Earth
N
2 mi

Phoenix Marsh Creation – East Increment

Approved for Phase 1 - PPL29

314 acres of marsh creation

78 acres of marsh nourishment

Mississippi River borrow site

297 net acres

$41.7 M fully funded

Phoenix Marsh Creation – West Increment

PPL30 Nominee

320 acres of marsh creation

80 acres of marsh nourishment

Mississippi River borrow site

300 - 350 net acres

$30M - $35M construction cost plus 25% contingency

R2 BS-10

PPL30 PROJECT NOMINEE FACT SHEET
February 6, 2020

Project Name
Bayou La Chape Marsh Creation

Project Location
Region 2, Breton Sound Basin, St. Bernard Parish

Problem
Pipeline canals and channelization have increased the tidal prism and allowed higher salinities waters to infiltrate fresher marshes further inland. As fresher marshes die off organic soils are lost during tidal exchange and their ability to withstand storm surges is weakened. Hurricane Betsy, and more recently Hurricane Katrina, caused much of the wetland loss in the project area. Due to this altered hydrology and saltwater intrusion, marsh loss has increased exposure of the communities of Delacroix and Reggio to flooding. The 1984 to 2019 USGS loss rate calculated for extended boundary of the North Delacroix MC and terracing project is -1.41%/year.

Goals
The project goal is to restore approximately 495 acres of brackish marsh west of pipeline canal and restore the natural hydrology by reducing the number of outlets into the pipeline canal.

Proposed Solution
The proposed solution is to create and nourish approximately 495 acres (ac) of marsh (i.e., 375 acres marsh creation and 120 marsh nourishment). The intent is to restore degraded marsh west of the TGP Twin Pipeline canal to reduce tidal movement further inland and restore the salinity gradient. The installation of 3 sheet pile plugs with and without boat bays is also proposed to restore the natural hydrology. Sediment is proposed to be dredged from Lake Jean Louis Robin, however alternative borrow areas in Lakes Lery and Borgne will be considered. The project will work synergistically with the East Delacroix Marsh Creation and Terracing and the North Delacroix Marsh Creation and Terracing projects.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
   This total project area is 495 ac.

2) *How many acres of wetlands will be protected/created over the project life?*
   Approximately 350-400 ac. of marsh will be protected/created over the project life.

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

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*

The project will help protect the Bayou Terre aux Boeuf Ridge.

5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project will have moderate net positive impact to critical infrastructure which consists of Delacroix Highway, a hurricane evacuation route, and residences of Delacroix and Reggio communities. Net positive impact will result from providing synergistic flood protection with the back levee and help protect the highway.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
The project will have a synergistic effect with the East Delacroix Marsh Creation and Terracing and the North Delacroix Marsh Creation and Terracing projects. The project has also been identified as a Tier 1 feature of the MRGO Ecosystem Restoration Plan and of the St. Bernard Parish 2018 Coastal Strategy Document.

Considerations
The proposed project has potential utility/pipeline considerations.

Preliminary Construction Costs
The estimated fully funded cost is $25-30M.

Preparer(s) of Fact Sheet:
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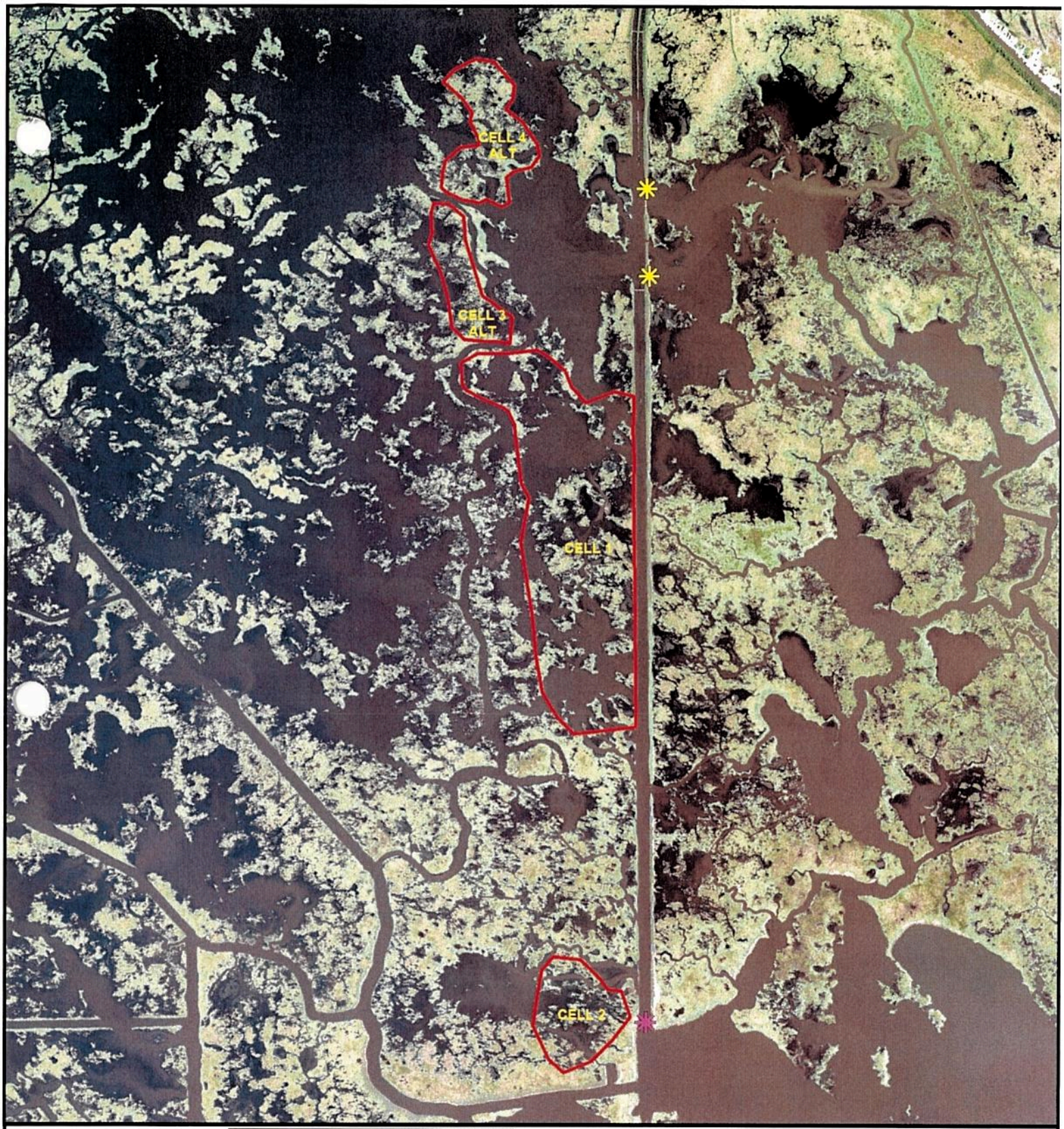
Eric Whitney, NRCS, eric.whitney@usda.gov, 337/291-3069



USDA

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

Data Source: NAIP 2019

Map Date: JANUARY 15, 2020

PPL 30
BAYOU LA CHAPE MARSH CREATION
ST BERNARD PARISH, LA

0 1,500 3,000 Feet

Legend

- BAYOU_LA_CHAPE_MARSH_CREATION
- SHEET_PILE_PLUG
- SHEET_PILE_PLUG_WITH_BOAT_BAY

PPL30
Bayou La Chape Marsh Creation

Region 2, Breton Sound Basin

Angela Trahan
Angela_Trahan@usda.gov

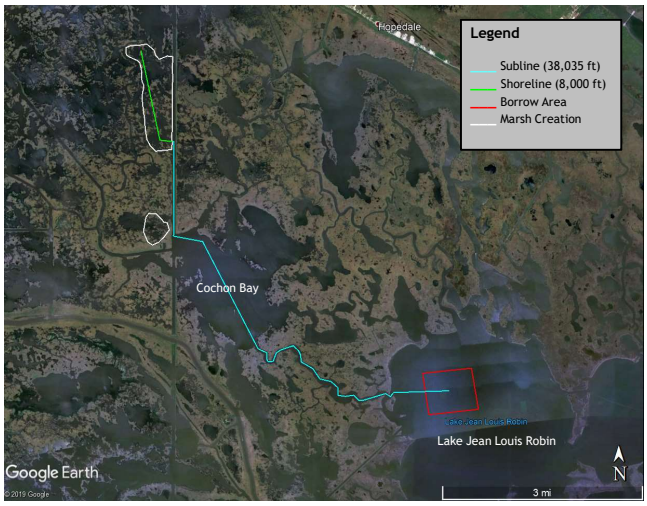
PPL30 – Bayou La Chape Marsh Creation

- 2017 Coastal Master Plan –
  - ❖ Restore degraded marsh east of Delacroix Island
- Tier 1 feature of the MRGO Ecosystem Restoration Plan
- St. Bernard Parish 2018 Coastal Strategy Document

Problem:

Pipeline canals & channelization have increased the tidal prism and allowed higher salinities waters to infiltrate fresher marshes resulting in a net loss of organic soils.

PPL30 – Bayou La Chape Marsh Creation



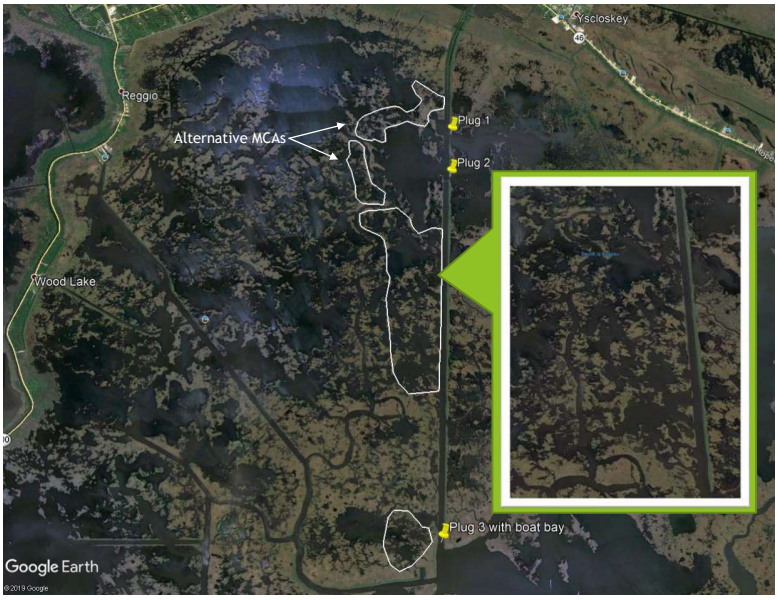
Goal:

- Restore degraded marsh west of the TGP Twin Pipeline canal
- Reduce tidal movement from the East further inland
- Restore the salinity gradient along the eastern edge of the marsh complex

Solution:

- Borrow Area: Lake Jean Louis Robin

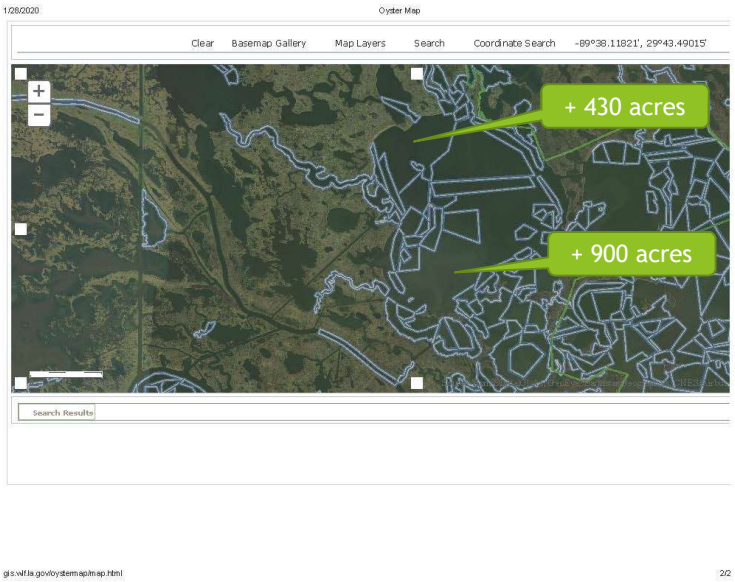
PPL30 – Bayou La Chape Marsh Creation



Solution:

- Marsh Creation: 375 Acres
- Marsh Nourishment: 120 Acres
- Total: 495 acres
- 373 Net Acres (-1.41%/yr loss rate
- 3 sheet pile plugs with/without boat bays to restore the natural hydrology and reduce exchange to the natural bayous

Construction Costs + 25% Contingency = **$25-30 M**



Considerations:

- Landrights
- Oyster Leases

Questions

R2 BS-11

PPL30 PROJECT NOMINEE FACT SHEET
February 6, 2020

Project Name
Bohemia Spillway Outfall Management

Project Location
Region 2, Breton Sound Basin, Plaquemines Parish

Problem
The Bohemia Spillway is one of the few areas within the Mississippi (MS) River floodplain that is considered sustainable and has relatively low rates of land loss. Land loss is associated with the direct loss due to dredging of canals and due to shoreline erosion near the bays. Even though this area is considered a stable marsh land building has yet to occur. Sediment supplied by overbank flooding is not directly delivered to the marsh but is carried out into adjacent bays through the numerous canals and bayous. Currently, under the normal range of river stage that goes through the Bohemia Spillway, peak annual flow is likely to 30,000 to 50,000 cubic feet per second (LPBF Bohemia Spillway Report 2013). In that Report, it is suggested that sediment that gets deposited into the bay is redistributed into the marsh during storms and fronts. Loss rates for 1985-2016 for the American Bay mapping unit is -0.44%/yr (Couvillion et al. 2017).

Goals
The primary goal is to manage outfall of the Spillway to enhance the natural marsh processes and increase the growth rate of the emergent wetlands associated with Lower Grand Bayou and John Bayou distributaries. Specific goals include: 1) maintaining and increase flow of fresh water and sediments into shallow, open-water habitat, 2) create 318 acres of marsh using the material from the bayous, 4) create 20,600 linear feet (LF, 13 acres) of terraces, 3) reduce fetch and wave energy in open water areas and 6) protect 3,700 LF of shoreline along Battle Ground Bay. The project will build upon the multiple lines of defense strategy by extending the marsh into the bays offering a buffer for areas to the north. Additional indirect benefits include increased sediment retention within the marsh and bay areas.

Proposed Solution
The proposed solution is to create approximately 318 acres of marsh within the outfall of John and Lower Grand Bayous to facilitate sediment retention in the bays. Material will be dredged primarily from Lower Grand Bayou (18,300 LF) and John Bayou (11,000 LF) to ensure efficiency of the distributary bayous. Portions of the Back Levee Canal (10,000 LF) experiencing siltation will also be dredged to ensure flow to these bayous. A crevasse (433 feet long x 75 feet wide x 8 feet deep) will be dredged to facilitate sediment-laden waters into Long Bay from Lower Grand Bayou. Approximately 20,600 linear feet of terraces (i.e., 300 acres of terrace field/s resulting in 13 acres of marsh creation benefits) will be created within strategic areas to encourage sediment retention. The terrace slopes and crown would be planted with appropriate marsh vegetation. Shoreline protection is proposed along the southwestern shoreline of Battle Ground Bay to prevent the shoreline from eroding into inland bays and bayous. Approximately 3,700 linear feet (12,333 sq. yards) of gabion mattresses will be placed along the foreshore containment dike of the proposed marsh creation area.

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

The total project area is 331 (318+13) acres will be benefited directly through marsh creation and terracing. An additional 300 acres (terrace field acres) or more could experience increased sediment deposition within the terrace fields and marsh creation areas.

2) *How many acres of wetlands will be protected/created over the project life?*
Approximately 300-350 ac of marsh will be protected/created over the project life.

3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (e.g., 50% reduction in the background loss rate)?*
The intent is to increase land building processes in an area that is sustainable. If land change analysis reveals land loss the assumption is the loss will be reduced by 50%.

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?* The project protects 3,700 LF of bay rim along Battle Ground Bay.

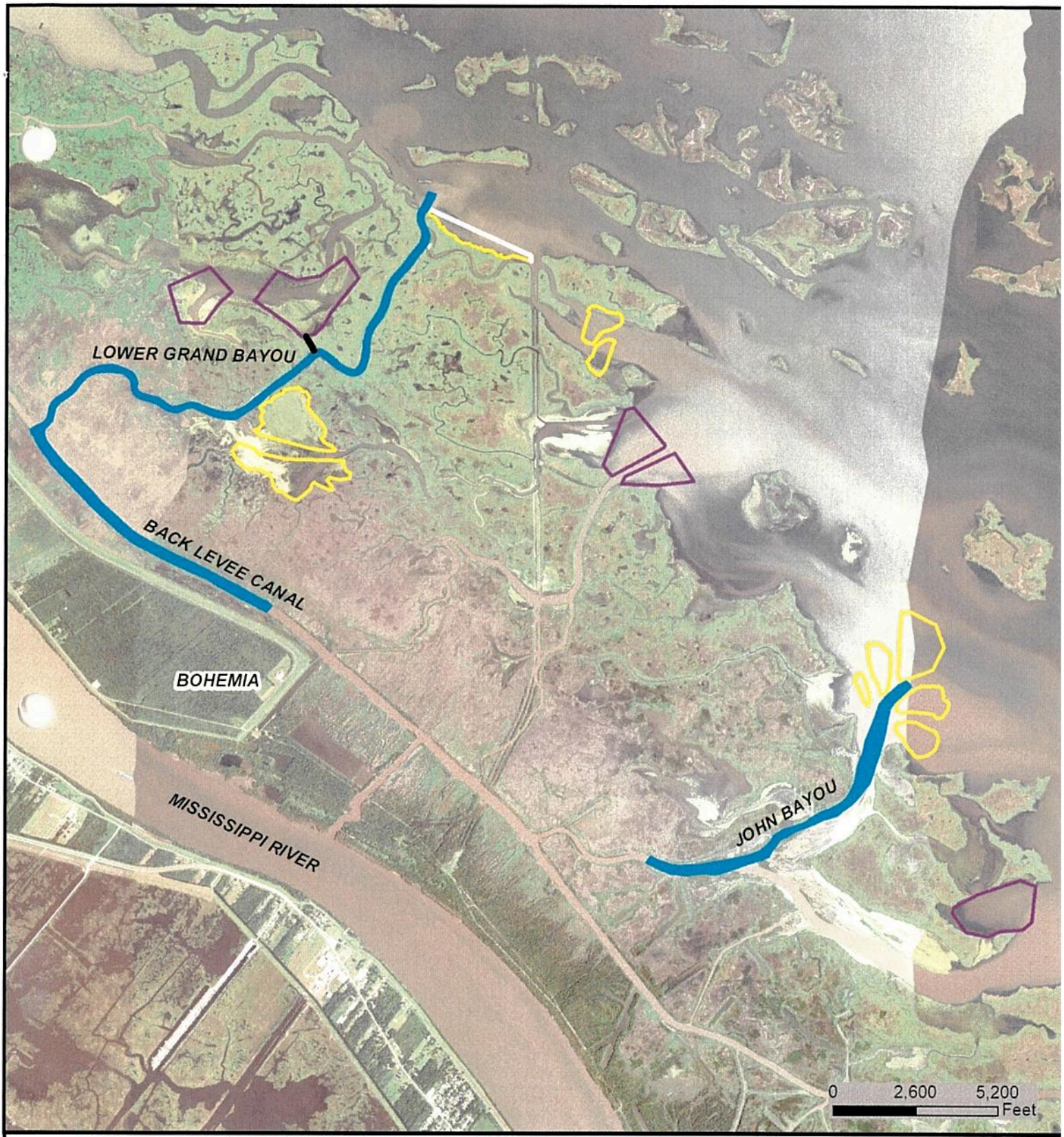
5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project will offer protection to the Mississippi River and Tributaries (MR&T) main line levee and work synergistically with that levee to protect the infrastructure and communities within the flood protection system.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
The project concept has been designed to synergistically work with the Bohemia Spillway during high river events to encourage land growth.

Considerations
Landrights

Preliminary Construction Costs
The construction cost +25% contingency is estimated to be $35-40M.

Preparer(s) of Fact Sheet:
Angela Trahan, USDA-NRCS, angela.trahan@usda.gov, 337-291-3142
Eric Whitney, USDA-NRCS, eric.whitney@usda.gov, 337-291-3069



USDA

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

Data Source: NAIP 2019

Map Date: JANUARY 27, 2020

PPL 30
BOHEMIA SPILLWAY
OUTFALL MANAGEMENT
PLAQUEMINES PARISH, LA

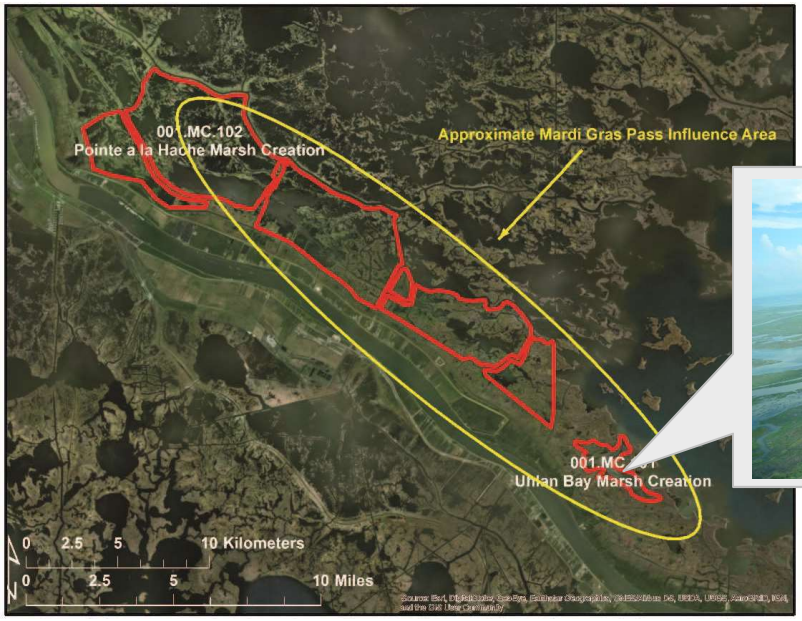
PPL30

Bohemia Spillway Outfall Management

Region 2, Breton Sound Basin

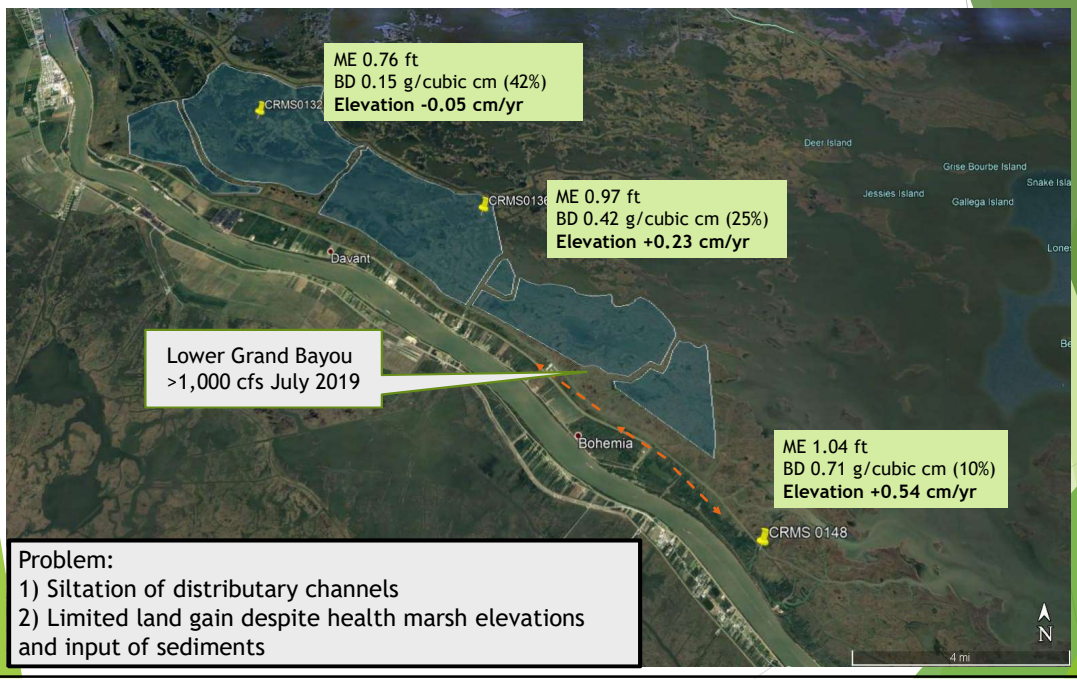
Angela Trahan
Angela_Trahan@usda.gov

PPL30 Bohemia Spillway Outfall Management



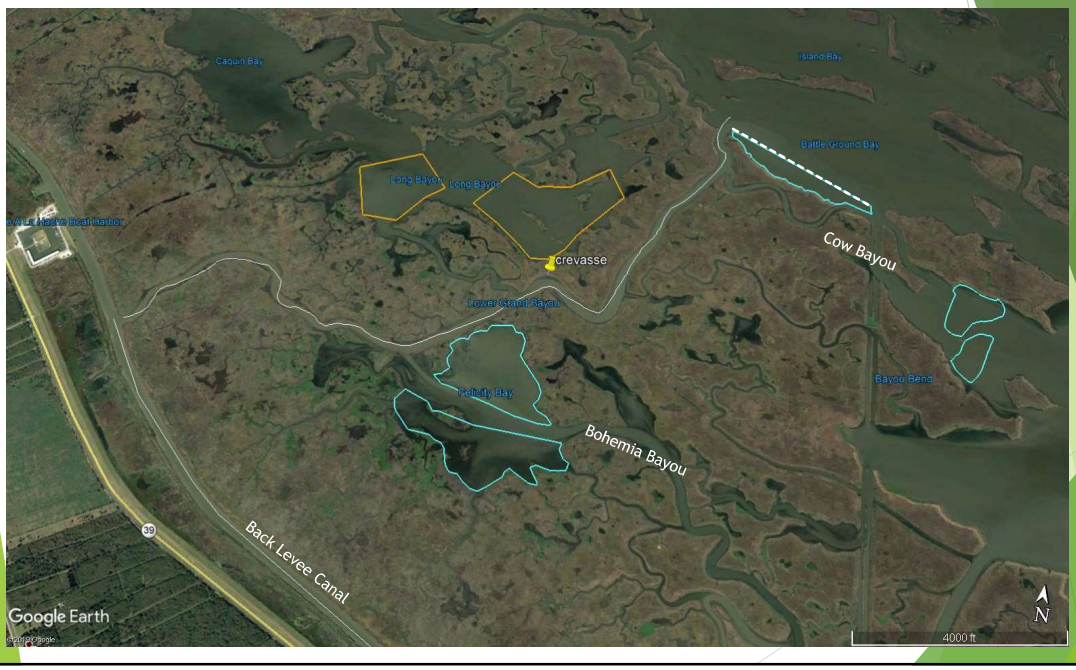
LPBF. 2018. MGP Regional Influence: Sediment Distribution and Deposition, Salinity and Nutrients in 2017

PPL30 Bohemia Spillway Outfall Management



Problem:
1) Siltation of distributary channels
2) Limited land gain despite health marsh elevations and input of sediments

PPL30 Bohemia Spillway Outfall Management



PPL30 Bohemia Spillway Outfall Management

PPL30 Bohemia Spillway Outfall Management

Goal:

- Dredging: 31,000 LF
- Marsh Creation: 318 Acres
- Terraces:
  - 20,600 LF
  - 3 Terrace Fields (300 Acres)
  - 13 acres MC
- Shoreline Protection: 3,700 LF

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

Delta Mngt at Fort. St Philip (BS-11)

"The ultimate usefulness of sediment to build coastal wetlands by an outlet or diversion is dependent not just on the outlet or diversion's existence, capacity, and operation, but also on the riverside and bayside conditions to capture sediment, build land and become vegetated."

-LPBF 2017

West Bay Diversion

R2 BS-12

PPL30 PROJECT FACT SHEET
February 06, 2020

Project Name
Bayou Terre aux Boeufs Ridge Restoration and Marsh Creation

Project Location
Region 2, Breton Sound Basin, Plaquemines Parish, west of bayou Terre Aux Boeufs

Problem
Historic ridge habitat loss occurs in the form of subsidence and shoreline erosion along Bayou Terre aux Boeufs (BTAB). The shoreline erosion is caused by boat traffic from recreational and commercial vessels. The ridge is subsiding due to anthropogenic and natural processes. The habitat associated with ridges in Louisiana is Live Oak Hackberry forest. This ecosystem is utilized by trans-gulf migratory bird species as a first and last stop when crossing the Gulf of Mexico. This critical habitat is rated as S1 and S2 priority by the state of Louisiana. Interior marsh loss in the project site is caused by subsidence, increased tidal prism and salinities due to construction of access and or transmission canals. The BTAB ridge is the barrier that separates brackish from intermediate marsh in the Breton Basin. Loss of this hydrological barrier could pose greater threats to already diminishing intermediate marshes. Based on the hyper-temporal analysis (1985-2018) conducted by USGS loss rates are estimated to be -0.65% per year.

Goals
The primary goals of this project are: 1) create forested, coastal ridge habitat along the western bank of Bayou Terre aux Boeufs, and 2) restore marsh habitat in the open water areas via marsh creation and marsh nourishment. Specific goals of the project are: 1) Create approximately 28,214 linear feet (22 acres) of forested ridge; and 2) create approximately 286 acres and nourish approximately 249 acres of marsh with dredged material from Cochon Bay.

Proposed Solution
Lake sediments will be hydraulically dredged and pumped via pipeline to create 286 acres of marsh and nourish 249 acres of marsh. The bayou will be mechanically dredged to create 28,214 linear feet (22 acres) of ridge habitat. Containment dikes will be gapped, and the ridge will be planted.

Project Benefits
The project would result in approximately 262 net acres of marsh and 22 acres of forested ridge over the 20-year project life.

Preliminary Cost
The estimated construction cost including 25% contingency is $25M - $30M. Cost savings, construction efficiencies, and project synergy could be realized if nearby project concepts (e.g. EPA project concept) are designed and constructed together.

Preparer of Fact Sheet
Ron Boustany, USDA/NRCS, ron.boustany@la.usda.gov

Bayou Terre aux Boeufs Ridge Restoration and Marsh Creation (PPL28 Candidate)

USGS
science for a changing world

Marsh Creation *

Ridge Restoration *

Project Boundary

* denotes proposed features

0.5 0 0.5 1 Kilometers

0.5 0 0.5 1 Miles

Scale: 1:50,000

Map ID: 2018-11-0021
Map Date: May 31, 2018

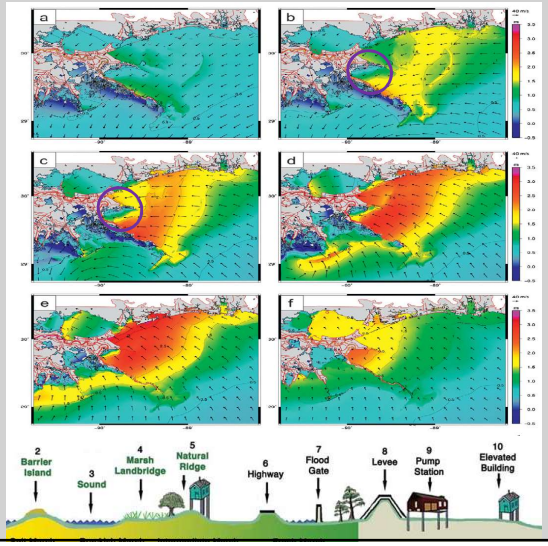
Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal and Oceanic Restoration Branch
Baton Rouge, LA

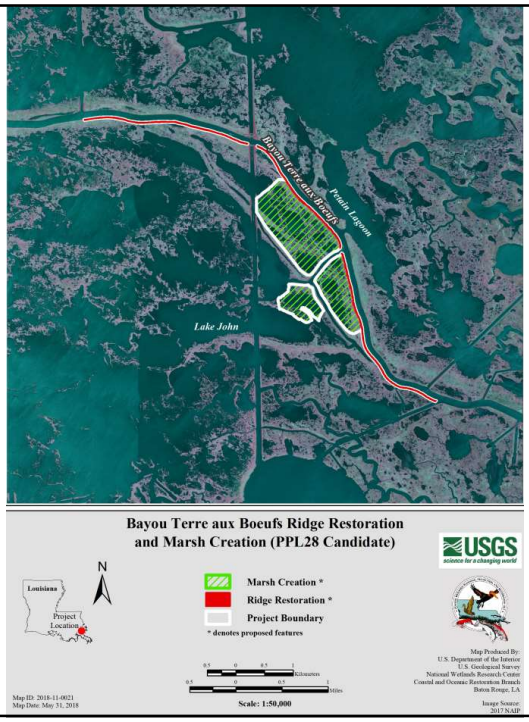
Image Source:
2017 NAIP

Bayou Terre aux Boeuf Ridge Restoration and Marsh Creation

CWPPRA PPL 30
Region 2
Breton Basin

- Breton communities/ecosystems vulnerable with loss of BTAB ridge
- Ridge systems are integral part of the Multiple lines of defense





Bayou Terre Aux Boeuf RR & MC

Ridge Restoration

- 4.73 miles of Ridge
- 22 acres of S1/S2 Live Oak Hackberry Forest Habitat

Marsh Creation

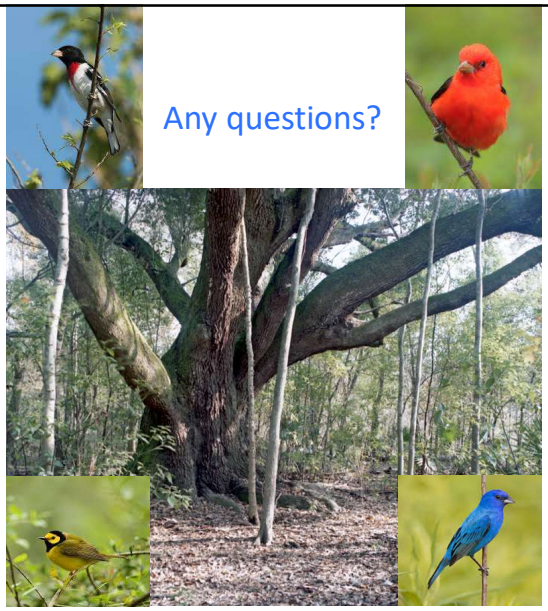
- 286 acres total

Marsh Nourishment

- 249 acres total

Total cost + Contingency

=20-25 Million



Blaise Pezold, The Meraux Foundation, 504-264-8125, Blaise@merauxfoundation.org

R2 BS-13

PPL 30 PROJECT FACT SHEET
6 February 2020

Project Name
Wills Point South Marsh Restoration

2017 Master Plan Strategy
001.MC.107 Tiger Ridge/ Maple Knoll Marsh Creation: Creation of approximately 4,700 acres of marsh in Plaquemines Parish near Tiger Ridge to create new wetland habitat and restore degraded marsh.

Project Location
Region 2, Breton Sound Basin, Plaquemines Parish

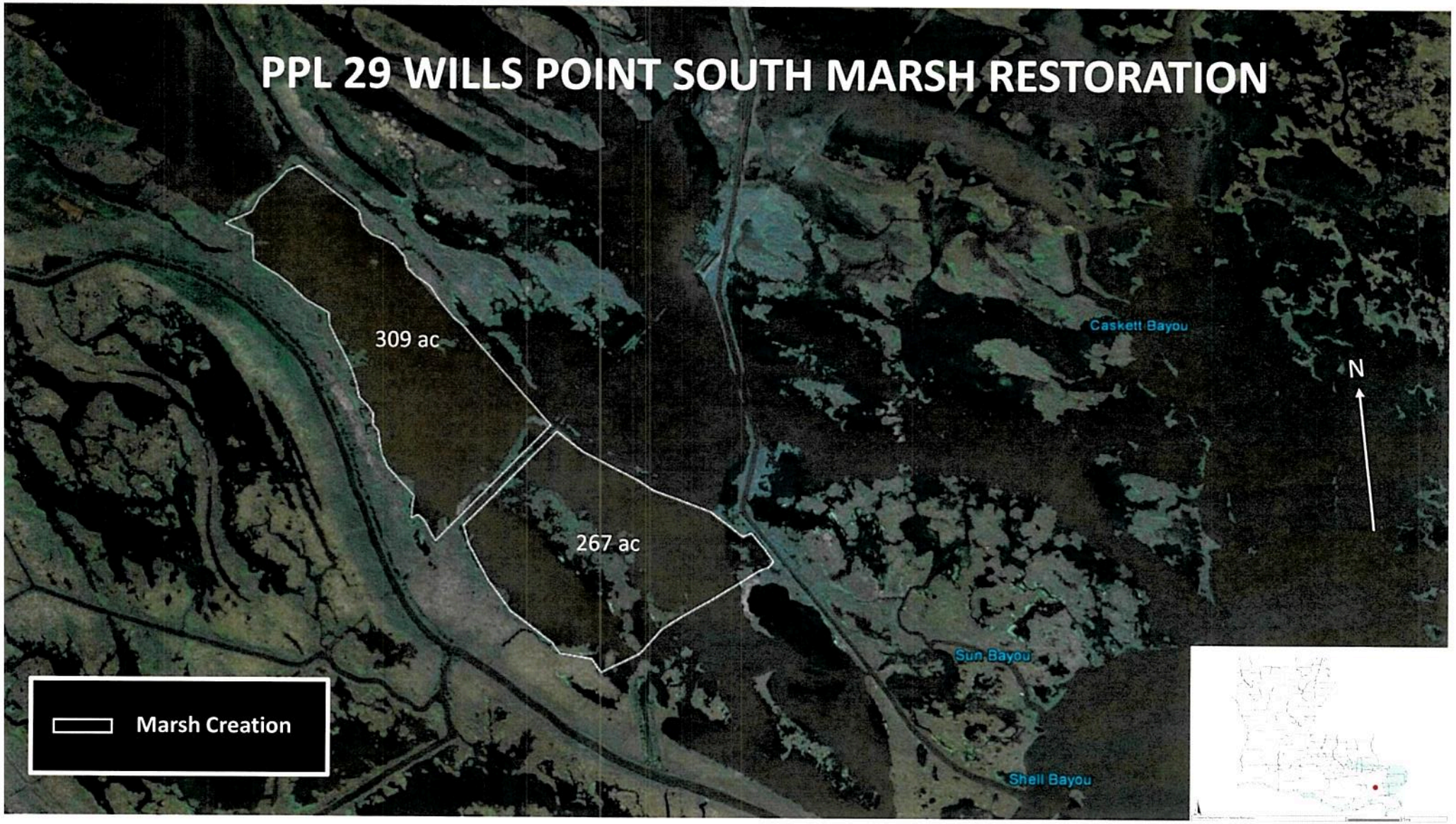
Problem
The project area is mostly shallow water that appeared when marsh was lost between 1958 and 1974. Hurricane Katrina further exacerbated the deterioration of interior wetlands, and accelerated losses of critical habitat. The area lies amongst the natural ridges of River aux Chenes and Tiger Ridge. Losses over time have increased the vulnerability to wave fetch and tidal exchange. Furthermore another major hurricane could be devastating to the stability of the marshes in this area.

Proposed Project Features
Approximately 3.1 million CY of material would be mined from the Mississippi River from the point bar at Wills Point. It would be used to restore 576 acres of marsh adjacent to the River aux Chenes and Tiger Ridge Area. Containment dikes would be constructed around entire perimeter, however existing spoil banks and ridges will be considered as well for containment of river material.

Project Benefits
468 acres of open water would be filled with sediment dredged from the Mississippi River, and 108 acres of degraded marsh would be nourished. Project also protects natural ridges of River aux Chenes and Tiger Ridge, as well as adjacent levees which are critical to neighboring communities of Bertrandville and Wills Point.

Preliminary Construction Costs
The estimated construction cost including 25% contingency is $30M – $35M

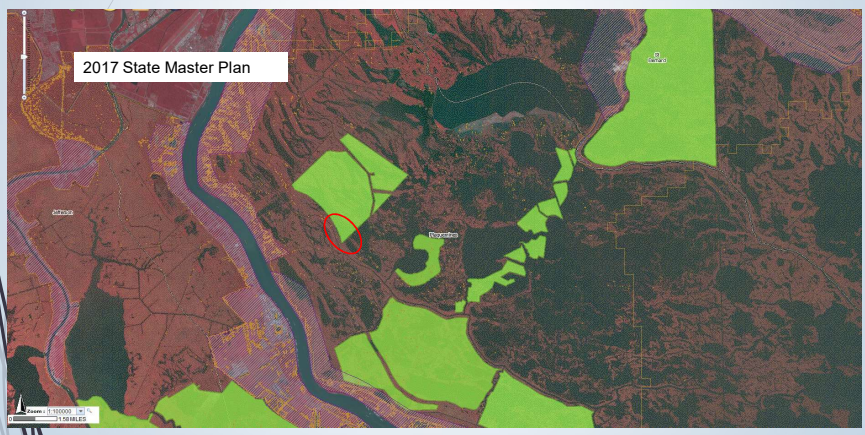
Preparers of Fact Sheet
Kaitlyn Carriere, USACE, 504-862-1798 kaitlyn.m.carriere@usace.army.mil


PPL 29 WILLS POINT SOUTH MARSH RESTORATION
309 ac
267 ac
Caskett Bayou
N
Sun Bayou
Shell Bayou
Marsh Creation

Wills Point South Marsh Restoration

PPL 30
Region 2
Breton Sound Basin

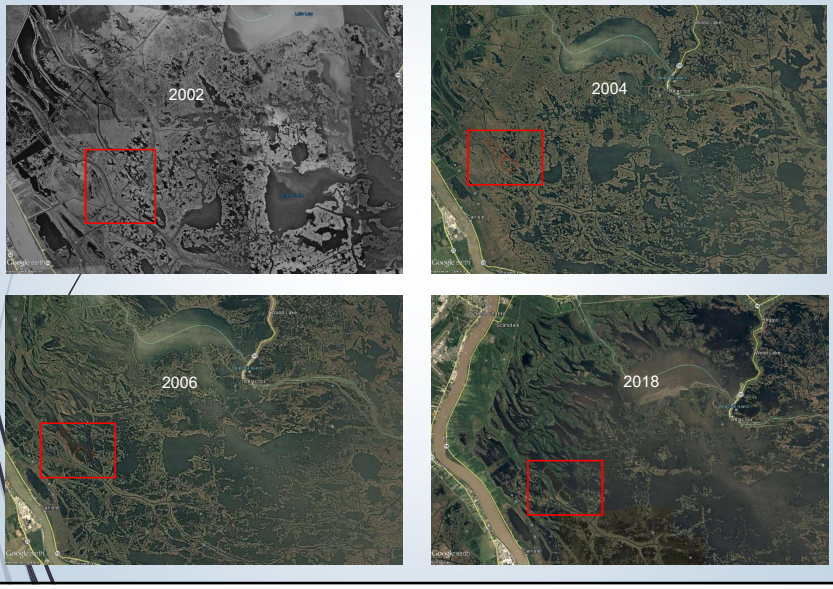
Project Location:



Problem:

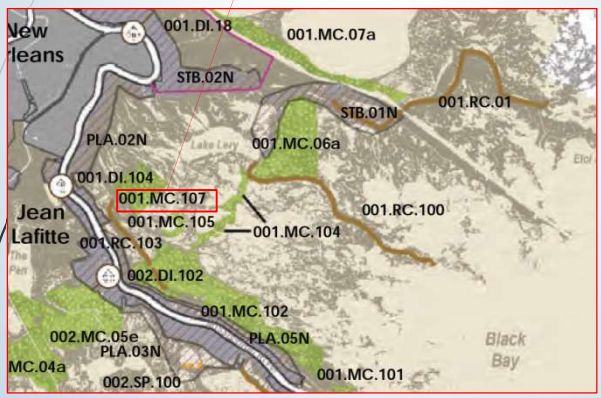
- The project area is mostly shallow open water that began to appear when marsh was lost between 1958 and 1974, due to subsidence, salinity spikes and tropical events.
- However the major losses incurred in this area were a result of Hurricane Katrina in 2005, and have experienced steady deterioration since.

Land Loss over Time:



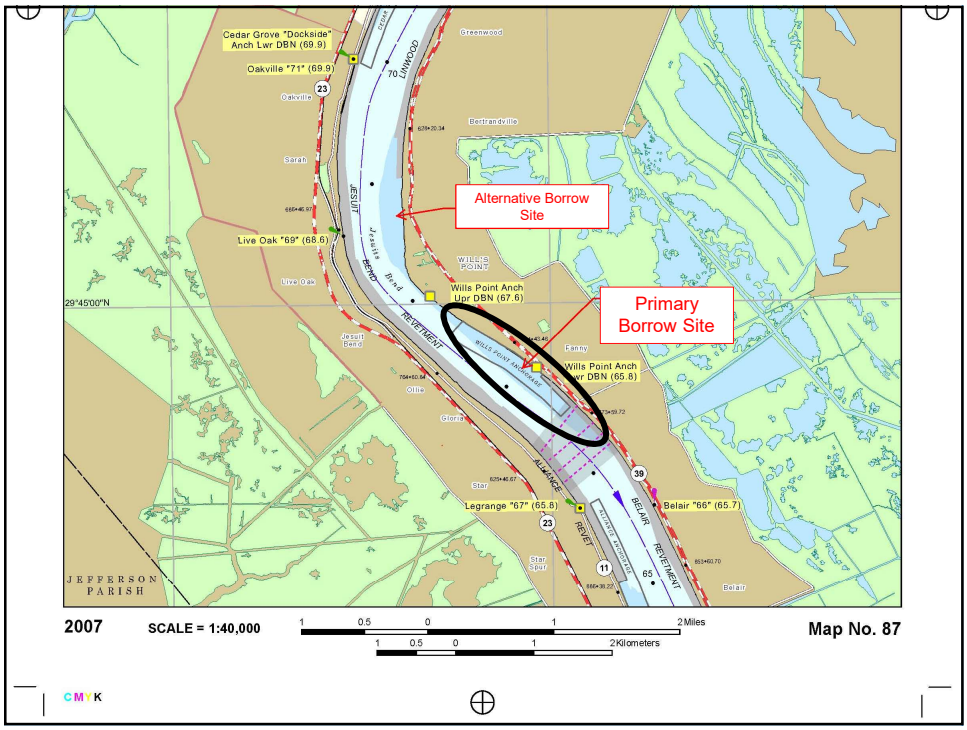
Master Plan Strategy:

001.MC.107	Tiger Ridge/Maple Knoll Marsh Creation: Creation of approximately 4,700 acres of marsh in Plaquemines Parish near Tiger Ridge to create new wetland habitat and restore degraded marsh.



Proposed Project Features:

- Restore 576 acres of marsh (468 created/108 nourished)
- Estimate around 3 million CY of material would be mined from the Mississippi River
- The existing spoil banks and ridges could potentially be used to contain the dredge material.



Summary:

- Create 468 acres of emergent marsh
- Nourish 108 acres of degraded wetlands
- Restore marsh and critical habitat around Spanish Lake and Tiger Ridge area
- Estimated Construction Cost + 25% contingency $30-35M

R2 BS-14

PPL30 PROJECT NOMINEE FACT SHEET
February 6, 2020

Project Name
Breton Landbridge Central Marsh Creation

Project Location
Region 2, Breton Basin, Plaquemines Parish

Problem
Historically, this area was nourished by the freshwater delivered by the Mississippi River until the creation of the levees along the lower river. In 1991, the Caernarvon Freshwater Diversion began delivering freshwater to the marshes in the area. The major cause of wetland loss has been to storm activity (i.e. Hurricanes Betsy and Katrina), causing both storm-induced scouring and salt water intrusion. High subsidence rates range from 2.1-3.5 ft/century. Natural lakes and bays are increasing in size due to coalescence with marsh lost to water and increased wave fetch. The 1984 to 2016 USGS loss rate is -1.79%/yr for the extended project boundary area from the average of the adjacent Breton Landbridge West (BS-38) and Mid-Breton Landbridge projects (BS-32).

Goals
The project goal is to restore approximately 299 acres of marsh and banklines along the north shore of Grand Lake at the intersection with Bayou Gentilly and Petit Lake on the north side of Alligator Pass. This is the proposed third phase in a comprehensive restoration goal to create/nourish 1,000 to 2,000 acres of marsh across seven miles of the Breton Basin from River aux Chenes to Bayou Terre aux Bouefs.

Proposed Solution
There will be approximately 274 and 25 acres of marsh creation and marsh nourishment, respectively, via confined disposal of sediment dredged from Grand Lake. Borrow area design takes into consideration regional sediment management and infrastructure. The borrow is sited to maintain a minimum of 1,000-feet offset from existing shorelines and a 1,500-feet offset from the BS-38 borrow area to minimize impacts to hydrology. A portion of the disposal area at the intersection of Grand Lake, Bayou Gentilly, and Petit Lake on the north side of Alligator Pass would be fronted by constructing a lakeside berm. The lakeside slope of the berm would be planted with appropriate vegetation. The marsh creation acres would not be planted. The non-lakeside portions of the dikes will be gapped no later than three years post construction (i.e., the lakeshore berm would not be gapped). If selected for candidacy, the eastern marsh creation area would be refined based on water depths and small terrace fields may be added north of the marsh creation to provide protection from shoreline erosion. If BS-32 is not expanded to include fill placement at the intersection of Bayou Gentilly and Grand Lake, the eastern marsh creation cell under this nominee would be reconfigured similar to as nominated on PPL29 to complete the landbridge between BS-38 and BS-32.

The overall landbridge concept incorporates marsh and shoreline restoration in a west-to-east configuration across the basin to be completed in three phases. Once restored, the land-bridge would reduce the potential for coalescence of Lake Lery with Grand Lake and Lake Petit.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
This total project area is 299 ac.

2) *How many acres of wetlands will be protected/created over the project life?*
Approximately 200-250 acres of habitat will be protected/created over the project life.

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

4) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*
The project will restore the structural frame work of Grand Lake and Bayou Gentilly.

5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project would have minor net positive impact non-critical oil and gas infrastructure in the project vicinity.

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 Mid-Breton Landbridge project (BS-32), South Lake Lery Shoreline and Marsh Restoration (BS-16), Terracing and Marsh Creation South of Big Mar (BS-24), and other increments of comprehensive plans along the Breton Landbridge, (e.g., BS-38 Breton Landbridge West).

Considerations

The proposed project has potential utility/pipeline considerations.

Preliminary Construction Costs

The construction cost + 25% contingency range is $15M-$20M.

Preparer(s) of Fact Sheet:

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Patrick Williams, NOAA Fisheries, 225-380-0058, patrick.williams@noaa.gov

PPL30 Breton Landbridge Central Marsh Creation

274 Acres Marsh Creation
25 Acres Marsh Nourishment

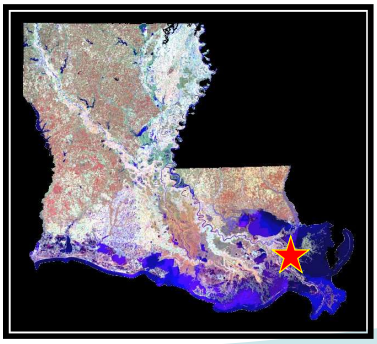
Federal Sponsor: NOAA Fisheries
2019 Aerial Imagery
Map Date 1-31-2020

Legend

- Marsh Creation
- Shoreline Berm

Breton Landbridge Central Marsh Creation

NOAA FISHERIES
Habitat Conservation Division



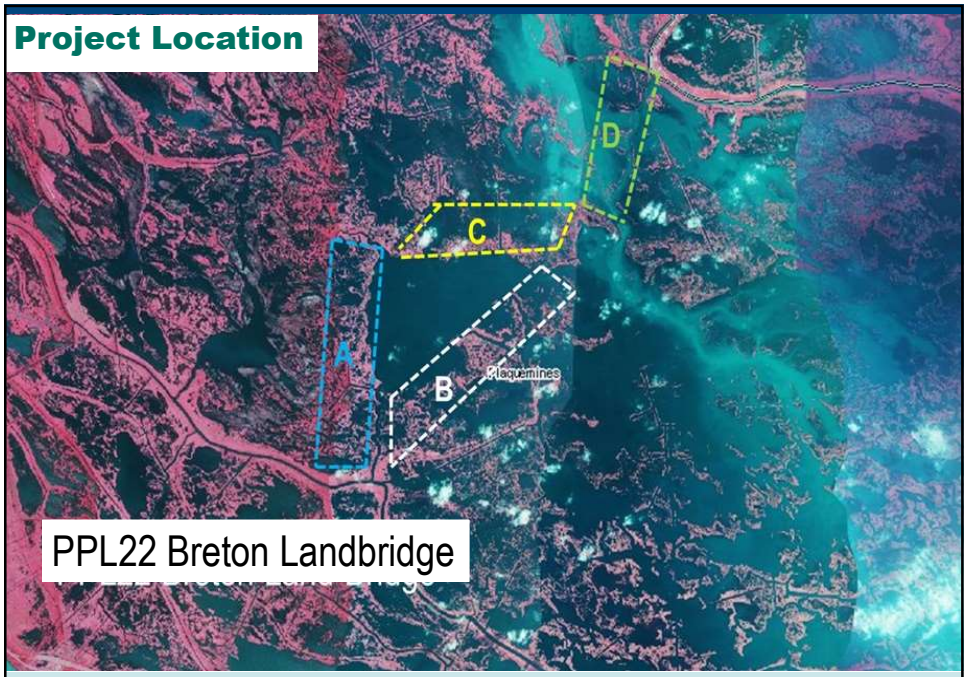
REGION 2 – Breton Basin

Presenter: Dawn Davis, Fishery Biologist, NOAA
Patrick Williams, Fishery Biologist, NOAA

Special Thanks
Mike Benge
Melinda Benge Brown
Mike Farizo
Delacroix Corporation

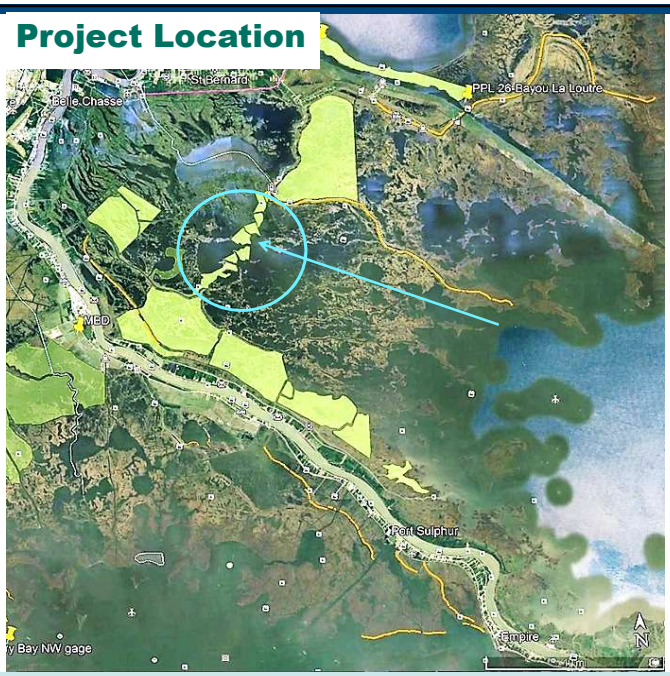
PPL30 CWPPRA Regional Planning Team Meeting
Lacombe, Louisiana
February 6, 2020

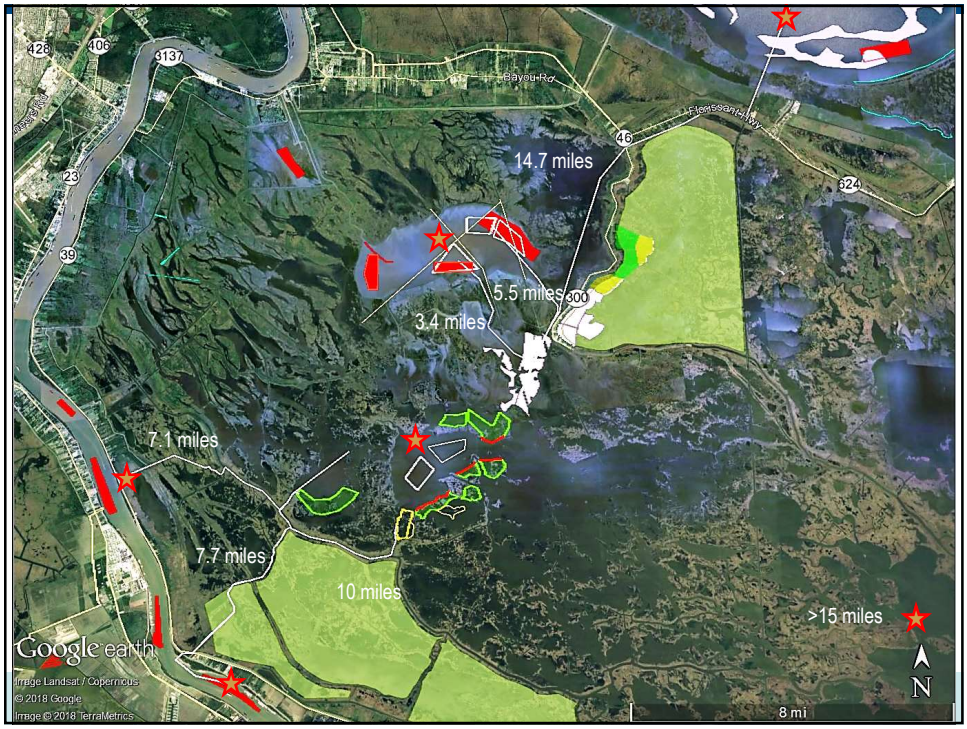
Project Location

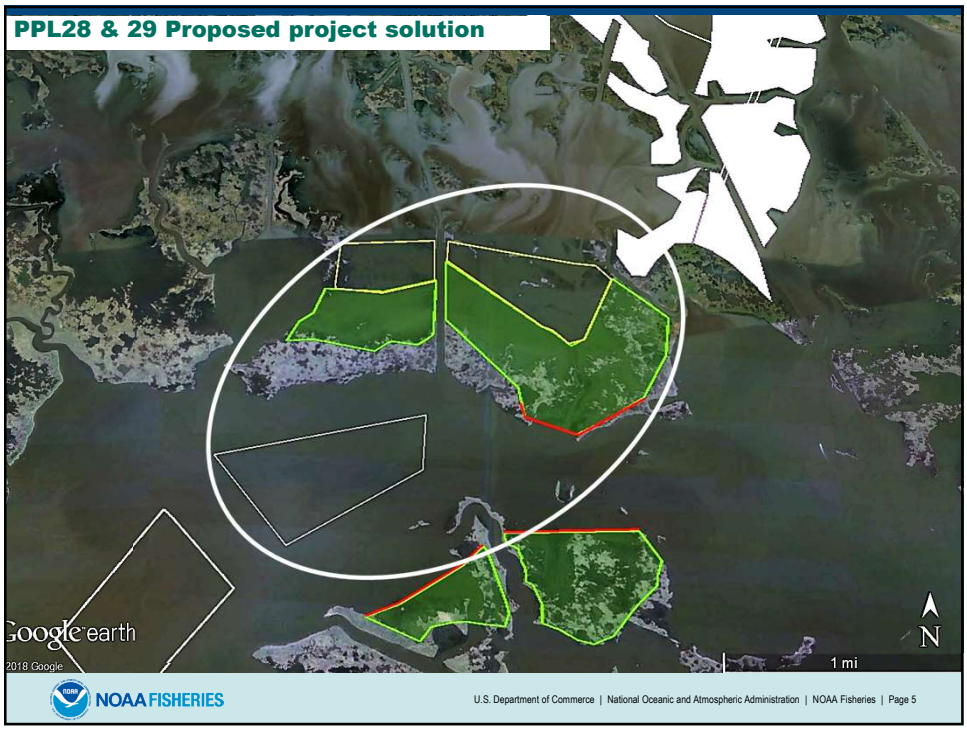


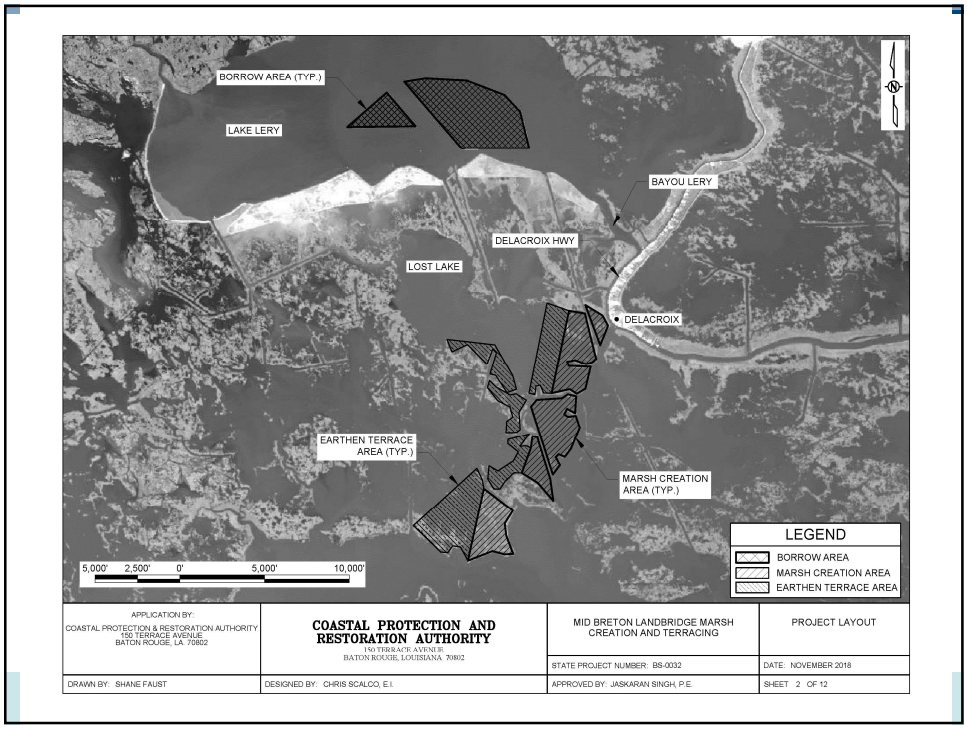
PPL22 Breton Landbridge

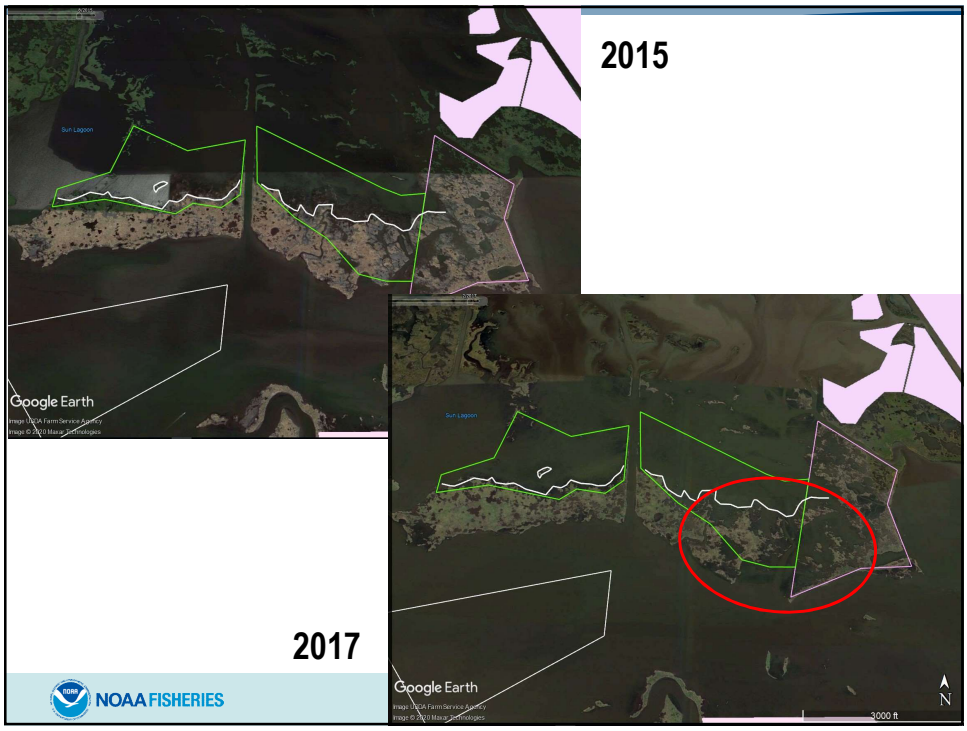
Project Location

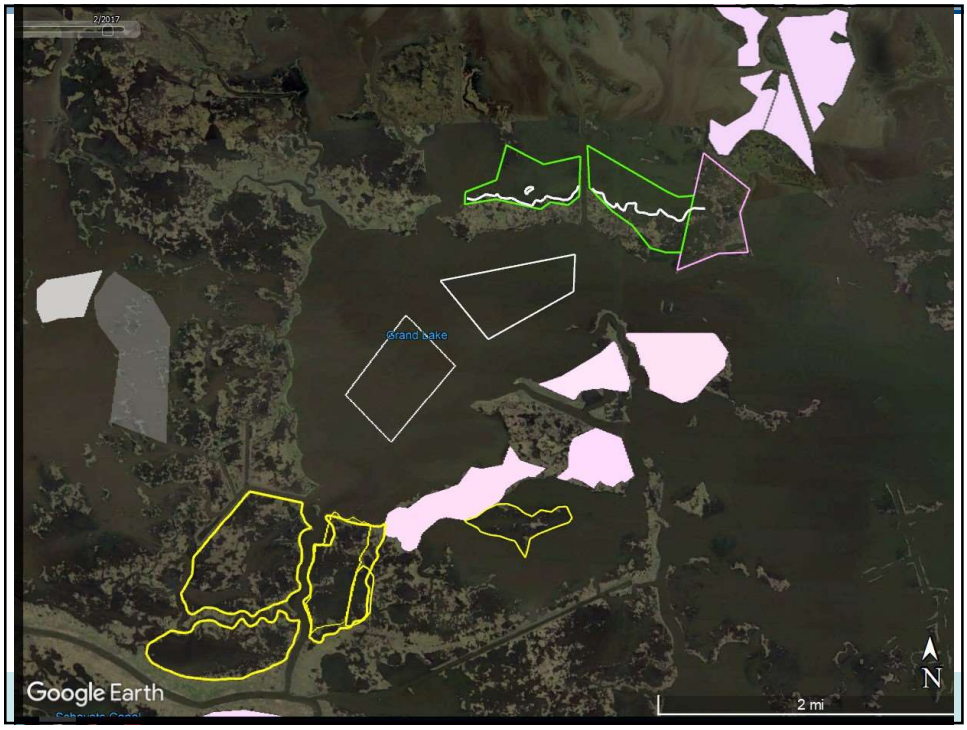





PPL28 & 29 Proposed project solution
Google earth
2018 Google
1 mi
N
NOAA FISHERIES
U.S. Department of Commerce | National Oceanic and Atmospheric Administration | NOAA Fisheries | Page 5


BORROW AREA (TYP.)
LAKE LERY
BAYOU LERY
DELACROIX HWY
LOST LAKE
DELACROIX
EARTHEN TERRACE AREA (TYP.)
MARSH CREATION AREA (TYP.)
5,000' 2,500' 0' 5,000' 10,000'
LEGEND
BORROW AREA
MARSH CREATION AREA
EARTHEN TERRACE AREA
APPLICATION BY:
COASTAL PROTECTION & RESTORATION AUTHORITY
150 TERRACE AVENUE
BATON ROUGE, LA 70802
COASTAL PROTECTION AND RESTORATION AUTHORITY
150 TERRACE AVENUE
BATON ROUGE, LOUISIANA 70802
MID BRETON LANDBRIDGE MARSH CREATION AND TERRACING
PROJECT LAYOUT
STATE PROJECT NUMBER: BS-0032
DATE: NOVEMBER 2018
DRAWN BY: SHANE FAUST
DESIGNED BY: CHRIS SCALCO, E.I.
APPROVED BY: JASKARAN SINGH, P.E.
SHEET 2 OF 12


2015
2017
Google Earth
NOAA FISHERIES
Sun Lagoon
3000 ft
N


Grand Lake
Google Earth
2 mi
N

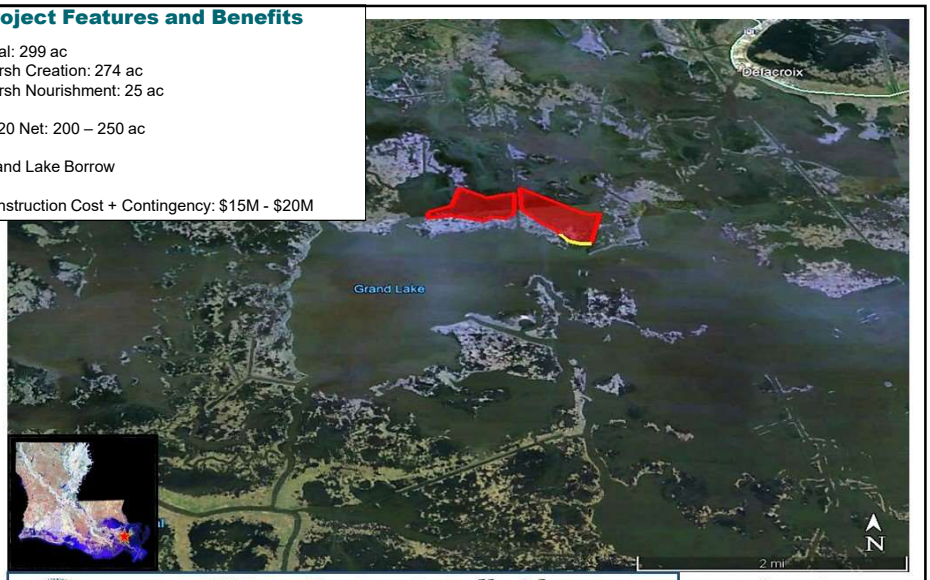
Project Features and Benefits

Total: 299 ac
Marsh Creation: 274 ac
Marsh Nourishment: 25 ac

TY20 Net: 200 – 250 ac

Grand Lake Borrow

Construction Cost + Contingency: $15M - $20M



PPL30 Breton Landbridge Central Marsh Creation

274 Acres Marsh Creation
25 Acres Marsh Nourishment

Federal Sponsor: NOAA Fisheries
2019 Aerial Imagery
Map Date 1-31-2020

Legend
- Marsh Creation
- Shoreline Berm

Questions?

Contact information:

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Patrick Williams
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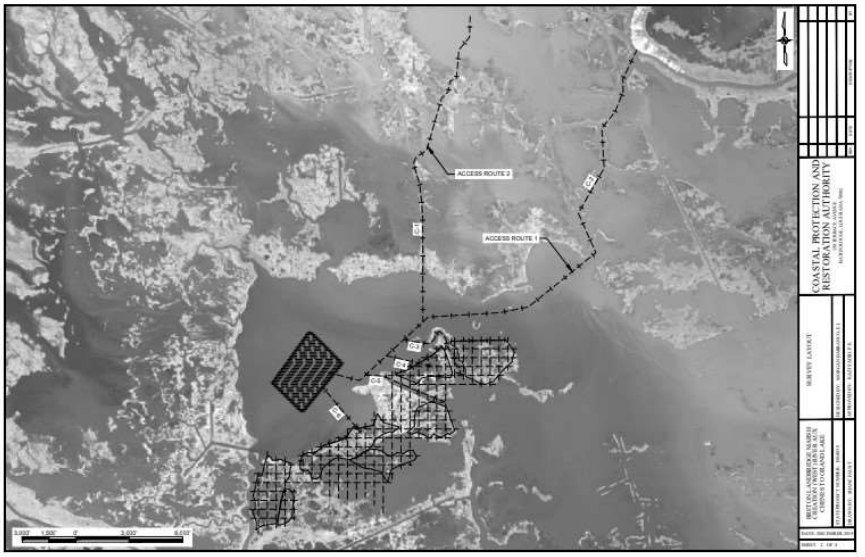
ACCESS ROUTE 2
ACCESS ROUTE 1
COASTAL PROTECTION AND RESTORATION AUTHORITY
SURVEY LAYOUT