REGION III

Coastal Wetlands Planning, Protection and Restoration Act

20th Priority Project List

Region 3
Regional Planning Team Meeting

January 27, 2010
Houma, LA

1. Welcome and Introductions

RPT Region 3
Leader:
Darren Lee -USACE

Announcements

- PPL 20 Selection Process Packages
- PPL 20 RPT meetings to accept project nominees:
  - Region IV, Rockefeller Refuge, Jan. 26, 2010, 1:00 pm
  - **Region III, Houma Municipal Auditorium, Jan. 27, 2010, 9:00 am**
  - Region II, New Orleans Corps of Engineers, Jan 28, 9:00 am
  - Region I, New Orleans Corps of Engineers, Jan 28, 1:00 pm
- Coast-wide Voting meeting to select project nominees for all basins:
  February 24, 2010, 9:30 am
  LA Department of Wildlife and Fisheries, 2000 Quail Dr. Baton Rouge
- 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 at the coast-wide voting meeting.
- CWPPRA agencies will be assigned responsibilities for preparing nominee fact sheets after the coast-wide voting meeting.

Region 3 Parishes

Eligible parishes for basins in Region 3 include:

Terrebonne Basin
- St. Mary Parish
- Terrebonne Parish
- Assumption Parish
- Lafourche Parish
- Iberia Parish
- St. Martin Parish

Atchafalaya Basin
- St. Mary Parish
- Iberia Parish
- Terrebonne Parish

Teche-Vermilion Basin
- St. Mary Parish
- Iberia Parish

2. PPL 20 Process and Ground Rules

RPT Meetings

- Jan. 26-28, 2010 to accept project and demo proposals in 4 coastal regions brokein into 9 basins (no limit on number of projects that can be proposed).
- Project proposals should support a Coast 2050 Regional or Coast-wide Strategy.
- A project can only be nominated in one basin.
- Proposals that cross multiple basins or coast wide projects shall be nominated in one basin only based on majority area of project influence.
- Project presenters can split multi-basin or coast-wide projects into multiple individual projects. This must occur during the RPT meeting the project is first presented in. If a presenter does not choose what basin to propose a project in, the RPT leaders will decide collectively after the RPT meetings but before the Coast-wide Voting Meeting.
- Public comments on project proposals will be accepted orally during the RPT meetings and in writing by February 12, 2010.

Coast-wide Voting Meeting

- Feb. 24, 2010, Coast Wide Voting Meeting.
- RPTs, consisting of CWPPRA Agencies and Coastal Parishes, will select 2 nominees per basin, except 3 each in Barataria, Terrebonne, and Pontchartrain and one in the Atchafalaya Basin. Six demonstration projects will also be selected.
- Selection will be by consensus if possible. If not CWPPRA agencies and parishes will submit ranked votes by basin.
- Parishes vote in basins they occupy and on all demonstration projects.
- No public comments taken during CWV meeting (Public comments will be heard today and written comments should be submitted by 2/12/2010 to the CWPPRA Program Manager)

Nominee Project Evaluations

- Following the coast-wide voting meeting, an agency will be assigned to each project to prepare a Nominee Project fact sheet (1 page + map).
- CWPPRA Engineering & Environmental Workgroups develop features and preliminary cost and benefit ranges
- Work groups will also review demo projects and verify that they meet demo criteria.
- CWPPRA Planning and Evaluation Subcommittee prepares cost/benefit summary matrix for Technical Committee.

PPL 20 Candidate Project Selection

- CWPPRA Technical Committee meeting, April 20, 2010 at 9:30 am, New Orleans Corps of Engineers
- Technical Committee ranks nominees and votes to select 10 candidate projects and up to 3 demos.
- Writen public comments should be submitted to Corps of Engineers prior to TC meeting by April 3, 2010
- Public comments also accepted orally during meeting.
- Technical Committee will assign CWPPRA agencies to develop Phase 0 candidate projects.

PPL 20 Candidate Project Evaluation

- Candidates evaluated between May and October
- CWPPRA Workgroups
  - Workgroups conduct site visits to establish baseline and identify needs
  - Mapping workgroup meetings to establish project boundaries
  - Environmental Workgroup WVA meetings to calculate benefits
  - Engineering Workgroup meetings to refine features and project costs
  - Engineering Workgroup meetings to develop demonstration project scope and costs.
  - Economics Workgroup conducts economic analyses to develop fully funded cost estimates for 20 year project

CWPPRA PPL 20 Selection

- 2 Public meetings to present Phase 0 Evaluation results:
  - Abbeville, Courthouse, Nov. 16, 2010, 7:00 pm
  - New Orleans, Corps of Engs, Nov. 17, 2010, 7:00 pm
- Technical Committee votes to select up to 4 candidate projects and up to 1 demo to recommend for Phase 1.
  - Dec. 1, 2010, Baton Rouge, 9:30 am
- Task Force final decsion end of January 2011.

3. Region 3 Coast 2050 Regional Strategies

Projects nominated should be:

- consistent with the Coast 2050 Regional Ecosystem or Coastwide Strategies

Restore Swamps

- Improve hydrology and drainage in Verrett Sub-basin

Restore and Sustain Marshes

- Maximize land building in Atchafalaya Bay
- Lower water levels in upper Penchant Marshes
- Increase transfer of Atchafalaya River water to lower Penchant tidal marshes
- Enhance Atchafalaya River water influence to central Terrebonne marshes
- Establish multipurpose control of HNC Lock (freshwater and sediment distribution, salinity control, hurricane protection and navigation)
- Stabilize banks of navigation channels for water conveyance and erosion control

Restore and Sustain Marshes

- Dedicated delivery of sediment for marsh building by any means feasible – deliver sand from offshore or the river to build land in Timbalier Bay area.
- Construct large conveyance channel from the Mississippi River parallel to Bayou Lafourche to divert up to 100,000 cfs to create a delta lobe in upper Timbalier Subbasin, provided that any project related navigation feature not impede or interfere with the land building capacity of the channel

Restore and Protect Bay, Lake and Gulf Shorelines and Barrier Islands

- Maintain shoreline integrity and stabilize critical areas of Teche-Vermilion Bay systems, including Gulf shoreline
- Maintain shoreline integrity of Caillou, Terrebonne and Timbalier Bays
- Restore and Maintain the Isles Dernieres and Timbalier barrier island chains

Resolve Vermilion-Cote Blanche Bays salinity and turbidity

- Optimize GIWW flow into marshes and minimize direct flow into bays
- Maintain Vermilion, East and West Cote Blanche Bays as brackish
- Reduce sedimentation in bays
- Create artificial reef complex, including one from Pt. Chevreuil toward Marsh Island

Coast 2050 Coastwide Strategies

- Beneficial Use of Dredged Material
- Dedicated Dredging for Wetland Creation
- Herbivory Control
- Stabilization of Major Navigation Channels
- Management of Bay/Lake Shoreline Integrity
- Management of Pump Outfall
- Vegetative Planting
- Maintain or Restore Ridge Function
- Terracing

4. PPL 20 Project Nominations

Demonstration Projects

- Demonstrates a new technology
- Demonstrates a technology which can be transferred to other areas in coastal Louisiana
- Are unique and not duplicative in nature
- Engineering/Environmental Workgroups will select sites for proposed demonstration projects
- The RPTs will select 6 demos at the Feb. 24th coast-wide voting meeting. The Tech. Comm. will select up to 3 demos in April 10
- Previous demo candidates must be ***re-nominated*** for PPL 20

5. Announcement of Coast-wide Voting Meeting

Coast-wide Voting Meeting

• Feb. 24, 2010 in Baton Rouge to choose 2 nominees per basin (3 in Barataria, Terrebonne, and Pontchartrain), (1 in Atchafalaya), and 6 demos. If only 1 project is nominated for the Mississippi River Basin, 3 nominees will be assigned to Breton Sound.

•Parishes within each basin are asked today to identify who will vote at the coast-wide meeting.

•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).

•No public comments accepted at the coast-wide meeting (public comments will be heard today and written comments can be submitted by 2/12/2010).

Coast-wide Voting Meeting

•Each officially designated parish representative, each Federal agency, & the State (OCPR) will have one vote.

• Voting will be by ranked vote.

• Each voting entity will be provided a ballot.

• Each voting entity will provide a ranked score for all projects – the highest ranking project will receive the highest vote and the lowest will receive a vote of "1".

• Points will be totaled for all projects within each basin.

Coast-wide Voting Meeting

- The two nominees per basin (three in Barataria, Terrebonne and Pontchartrain, & Breton sound if only 1 in MR) receiving the highest vote will be included in the list of 20 nominee projects.
- All demo projects will be voted upon in same manner with one coast-wide ballot.
- 15 minutes will be allowed for voting in each basin and for demos.

6. Announcements of Upcoming Meetings

PPL 20 Upcoming Meetings

Coast-wide Voting Mtg, Feb 24, 2010, Baton Rouge
20 nominees and 6 demos selected

Technical Committee Mtg, 20 Apr 10, New Orleans
Selection of 10 candidates and up to 3 demos

Public Meetings
16 Nov 10, Abbeville
17 Nov 10, New Orleans

Technical Committee Mtg, 1 Dec 10, New Orleans
Recommend up to 4 projects for Phase I funding

Task Force Mtg, 19 Jan 11, New Orleans
Final selection of projects for Phase I funding

Written Comments on Projects Proposed Today Should be Sent to the CWPPRA Program Manager (Deadline: February 12, 2010)

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

Fax to 504-862-1892
Attn: Melanie Goodman

Email: Melanie.L.Goodman@usace.army.mil

7. Adjourn

ATTENDANCE RECORD

DATE(S)	SPONSORING ORGANIZATION	LOCATION
January 27, 2010 9:00 A.M.	COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT	Houma Municipal Auditorium 800 Verret Street Houma, LA 70360

PURPOSE

MEETING OF THE REGIONAL PLANNING TEAM REGION III

PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER/EMAIL
KAREN WICKER	COASTAL ENVIRONMENTS, INC. VICE PRESIDENT	225.383.7455 x 119
Beth McCasland	USACE	504-862-2021
Ken Teague	EPA	214-665-6687
JACQUES BAGUR	GEILE ENGINEERS	225 612 4161
Chris Llewellyn	EPA	214-665-7239
Quin Kinler	NRCS	225-382-2047
Jeff DeBlieux	ConocoPhillips	985-853-3009
[illegible]	ConocoPhillips	985-853-3010
WENDY BILLIOT	BUS. OWNER/WETLAND TOURS	985-688-7965
Nikki Buskey	Houma Courier/Daily Comet	857-2205
Randy Moertle	McIlhenny Co. / M.O. Miller Estates	985-856-3630
Jenneke Visser	ULL	JVISSER@Louisiana.edu
Mark Hester	UL	mhester@louisiana.edu
Christine Thibodeaux	OCPR	christine.thibodeaux@la.gov
Chad Courville	Miami Corp	cjcourville@bellsouth.net
Chris Allen	OCPR	chris.allen@la.gov
Kelley Templet	OCPR	kelley.templet@la.gov
Summer Martin	OCPR	summer.martin@la.gov
BARRY HEBERT	LDWF	225 765 0233
Joe Maryman	LDWF	225 765-2380
Kim Clements	NMFS	225 389 0508
Charles Stemmans	USDA NRCS	337-893-5664

LMV FORM 583-R
JAN 88

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

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MEETING OF THE REGIONAL PLANNING TEAM REGION III

PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER/EMAIL
JOHN FOREY	NOAA/NMFS	337-291-2107
Cindy Steyer	NRCS	225 389 0334
Nicole Waguespack	FLOATING Island Environmental Solutions	225-923-2194
Chad Martin	Floating Island Environmental Solutions	225-923-2194
Marc Rogers	T. Baker Smith Assoc.	985 223 9230
John Jurgensen	NRCS	
Jen Pelto	NRCS	jen.pelto@la.usda.gov
Simone Maloz	Restore or Retreat, Exe Dir.	(985) 448-4485
John Boatman	NRCS	(985) 447-3871
PAUL KASPAR	EPA	214 665 7459
GREG LINSCOMBE	CL+F	(337) 519-8006 glinscombe@clf-co.com
Leslie Suazo	TPCG	985-873-6889 lsuazo@tpcg.org
Webster Pierce Jr.	Pierce Industries LLC	(985) 637-3118
Nic Matherne	Lafourche Parish Government	(985) 632-4666
Cheryl Brodnax	NOAA/NMFS	(225) 578-7923
Daniel Dearmond	OCPR	985 449-5103
AC Trahan	USFWS	337-291-3137
LONNIE BROUSSARD	NRCS	337-291-3069
Robert Dubois	USFWS	337-291-3127
TOM SCHANZE	JJG, INC	904-571-2819
Timmy Vincent	National Audubon Society	337-652-5494
Sherrill Sagrera	Sagrera Estate Vermilion	337 652 6636

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MEETING OF THE REGIONAL PLANNING TEAM REGION III

PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER/EMAIL
Tim Allen	Apache LA. Minerals	985-879-3528 X-8719
Vicki Summers	TPCG Coastal Restoration	985 873-6889 VLSummers@TPCG.org
Frances Fields	Apache LA. Minerals LLC	985 879-3528 X-9780

Region 3 – ATCHAFALAYA BASIN

Project Number	Project Proposals
R3-AT-01	West Wax Lake Wetlands Diversion

Region 3 – TECHE-VERMILION BASIN

R3-TV-01	Cole's Bayou Marsh Creation and Restoration
R3-TV-02	GIWWW Vermilion Bankline Protection Project
R3-TV-03	Cote Blanche Freshwater and Sediment Introduction and Shoreline Protection Project
R3-TV-04	Shark Island Shoreline Protection

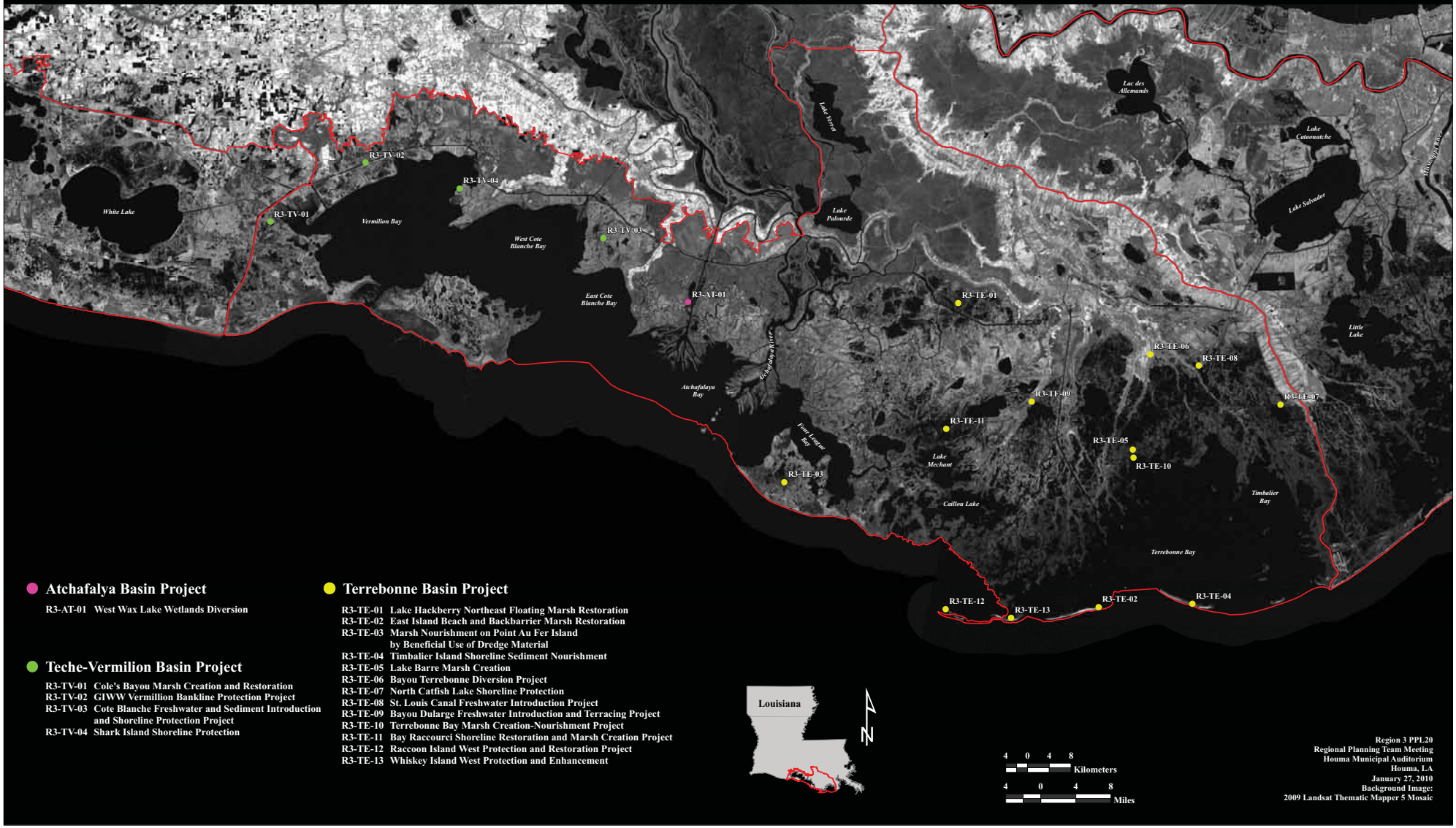
Region 3 – TERREBONNE BASIN

R3-TE-01	Lake Hackberry Northeast Floating Marsh Restoration
R3-TE-02	East Island Beach and Backbarrier Marsh Restoration
R3-TE-03	Marsh Nourishment on Point Au Fer Island by Beneficial Use of Dredged Material
R3-TE-04	Timbalier Island Sediment Nourishment
R3-TE-05	Lake Barre Marsh Creation
R3-TE-06	Bayou Terrebonne Diversion Project
R3-TE-07	North Catfish Lake Shoreline Protection Project
R3-TE-08	St. Louis Canal Freshwater Introduction Project
R3-TE-09	Bayou Dularge Freshwater Introduction and Terracing Project
R3-TE-10	Terrebonne Bay Marsh Creation-Nourishment Project
R3-TE-11	Bay Raccourci Shoreline Restoration and Marsh Creation

Region 3 – TERREBONNE BASIN (CONT'D)

R3-TE-12	Raccoon Island West Protection and Restoration Project
R3-TE-13	Whiskey Island Shoreline Protection and Enhancement

Region 3 PPL20 Proposed Projects



Atchafalya Basin Project

R3-AT-01 West Wax Lake Wetlands Diversion

Teche-Vermilion Basin Project

R3-TV-01 Cole's Bayou Marsh Creation and Restoration
R3-TV-02 GIWW Vermillion Bankline Protection Project
R3-TV-03 Cote Blanche Freshwater and Sediment Introduction and Shoreline Protection Project
R3-TV-04 Shark Island Shoreline Protection

Terrebonne Basin Project

R3-TE-01 Lake Hackberry Northeast Floating Marsh Restoration
R3-TE-02 East Island Beach and Backbarrier Marsh Restoration
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R3-TE-05 Lake Barre Marsh Creation
R3-TE-06 Bayou Terrebonne Diversion Project
R3-TE-07 North Catfish Lake Shoreline Protection
R3-TE-08 St. Louis Canal Freshwater Introduction Project
R3-TE-09 Bayou Dularge Freshwater Introduction and Terracing Project
R3-TE-10 Terrebonne Bay Marsh Creation-Nourishment Project
R3-TE-11 Bay Raccourci Shoreline Restoration and Marsh Creation Project
R3-TE-12 Raccoon Island West Protection and Restoration Project
R3-TE-13 Whiskey Island West Protection and Enhancement

4 0 4 8 Kilometers

4 0 4 8 Miles

Region 3 PPL20
Regional Planning Team Meeting
Houma Municipal Auditorium
Houma, LA
January 27, 2010
Background Image:
2009 Landsat Thematic Mapper 5 Mosaic

Region 3 - ATCHAFALAYA BASIN

R3-AT-01-West Wax Lake Wetlands Diversion

KB-AT-01

PPL-20 PROJECT NOMINEE FACT SHEET

January 27, 2010

Project Name: West Wax Lake Wetlands Diversion

Coastwide 2050 Strategy:

- Coastwide Strategy: Dedicated Dredging for Wetland Creation
- Regional Strategies: Restore and Sustain Marshes - Maximize Atchafalaya Land Building
- Mapping Unit Strategies (Wax Lake Wetlands Unit):
  - #61 Beneficial use of dredged material
  - #62 **Maintain distributaries(e.g., Hog Bayou**, *Leopard Bayou and Bayou Blue*)

State Master Plan:

- Planning Unit 3b: Atchafalaya and Teche-Vermilion Basins
- Atchafalaya River Diversion - Freshwater (*nutrients & sediments*) Conveyance
  - D3b-9 Increase Sediment Transport Down Wax Lake Outlet (*and distributaries*)
  - D3b-14 Convey Atchafalaya River Water Westward via GIWW (*and distributaries*)

Project Location: Region 3b - Atchafalaya Basin, Wax Lake Wetlands (West side), St. Mary Parish, LA.

Problem: Three Wax Lake Outlet bayous (Hog, Leopard and Blue) are becoming blocked by development of the Outlet's west bank natural levee (evidenced through airphoto analysis and depth measurements since 1941 outlet construction and present) and are reducing diversion of fresh water, nutrients and sediment to the West Wax Lake Wetlands E of Bayou Sale.

Goals: 1) Restore and maintain bayou openings and promote through-flow of fresh water, sediments and nutrients to create and sustain freshwater marshes and swamps and promote firmer marsh substrate and natural levee development along distributary channels; 2) Offset tidal influence and substrate erosion in western area associated with access canals by maintaining a westward moving freshwater head of water and introduction of sediments and nutrients that promote vigorous plant growth.

Proposed Solutions: Restore and maintain hydrologic connection between Wax Lake Outlet (Atchafalaya River water) and distributary channels to sustain hydrologic processes and wetlands.

Preliminary Project Benefits: 1) Restore/maintain hydrologic connection between Wax Lake Outlet and distributary channels; 2) Create directly ~64 ac of freshwater wetlands through deposition of dredged material from channels; 3) Create indirectly ~55 ac of freshwater wetlands through accretion in access canals & shallow ponds adjacent to distributary channels; 4) Benefit ~20,480 ac of freshwater wetlands through input and through-flow of sediments, nutrients and fresh water; 5) Improve water quality in interior wetlands and water bodies through regular flushing associated with flood pulses, 6) Promote natural levee formation, 7) Has no apparent impact on infrastructure, 8) Contributes to planning efforts of local, state and federal governments and private landowners to create & sustain landscape integrity, maintain hydrologic processes and water quality and sustain natural land-building processes associated with freshwater and sediment diversions.

Identification of Potential Issues: There do not appear to be any potential issues at this time.

Preliminary Construction Costs: Preliminary construction cost estimate not determined.

Preparer of Fact Sheet:

Karen Wicker, Ph.D., Coastal Environments, Inc., for St. Mary Land & Exploration Co., (225) 8383-7455 x 119, kwicker@coastalenv.com

W. WAX LAKE WETLANDS DIVERSION

Legend

- Water Depths
- Channel Maintenance
- Dredge Material Disposal
- 343'/-10' Channel Width and Depth (01/2010)

Project Location

St. Mary Parish
Louisiana

Source:
Section, Township & Range data Tobin International, Ltd. (February 9, 2004).
Channel Maintenance and Dredge Material Disposal data digitized by CEI, 2010. Background image: October 27, 2005 USGS Color-Infrared DOQQ obtained from the LaCoast website, 2009.
*Note: CEI does not warrant the validity of these data. Data not derived from a registered survey and should be considered approximate.

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MAP 1

CEI 93032 January 25, 2010

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WEST WAX LAKE WETLANDS DIVERSIONS

Prepared by

Karen M. Wicker, Ph.D.
Coastal Environments, Inc.

On Behalf of

St. Mary Land & Exploration Company

PROBLEMS:

- NATURAL CHANNELS (BLUE, LEOPARD & HOG) BEING BLOCKED BY DEVELOPMENT OF WAX LAKE OUTLET (WLO) WEST BANK LEVEE
- WEST WAX LAKE INTERIOR WETLANDS EXPERIENCING DECREASE IN FRESH WATER, SEDIMENTS & NUTRIENTS
- LOCALIZED AREAS OF MARSH LOSS DUE TO: SUBSIDENCE, INCREASED TIDAL PUMPING ON WEST, EROSION ALONG ACCESS/PIPELINE CANALS, HURRICANE REMOVAL OF MARSH MAT & HERBIVORY

GOALS:

- RESTORE/MAINTAIN NATURAL HYDROLOGIC PROCESSES & FLOW PATTERNS
- RESTORE/MAINTAIN HYDROLOGIC CONNECTION BETWEEN WLO & BAYOUS BLUE, LEOPARD & HOG
- MAINTAIN/SUSTAIN LANDSCAPE INTEGRITY (FRESHWATER MARSH & SWAMP, NATURAL LEVEES & DRAINAGE/DISTRIBUTARY CHANNELS)
- MAINTAIN NATURAL PUMPING MECHANISM TO ALLOW STAGNENT, OXYGEN-DEPLETED WATERS TO BE PUSHED WESTWARD THROUGH SUBBASIN BY W FLOWING PULSE OF SEDIMENT & NUTRIENT CHARGED FRESH WATER
- COMPLIMENT LANDOWNER RESTORATION & MANAGEMENT ACTIONS

PROPOSED SOLUTIONS:

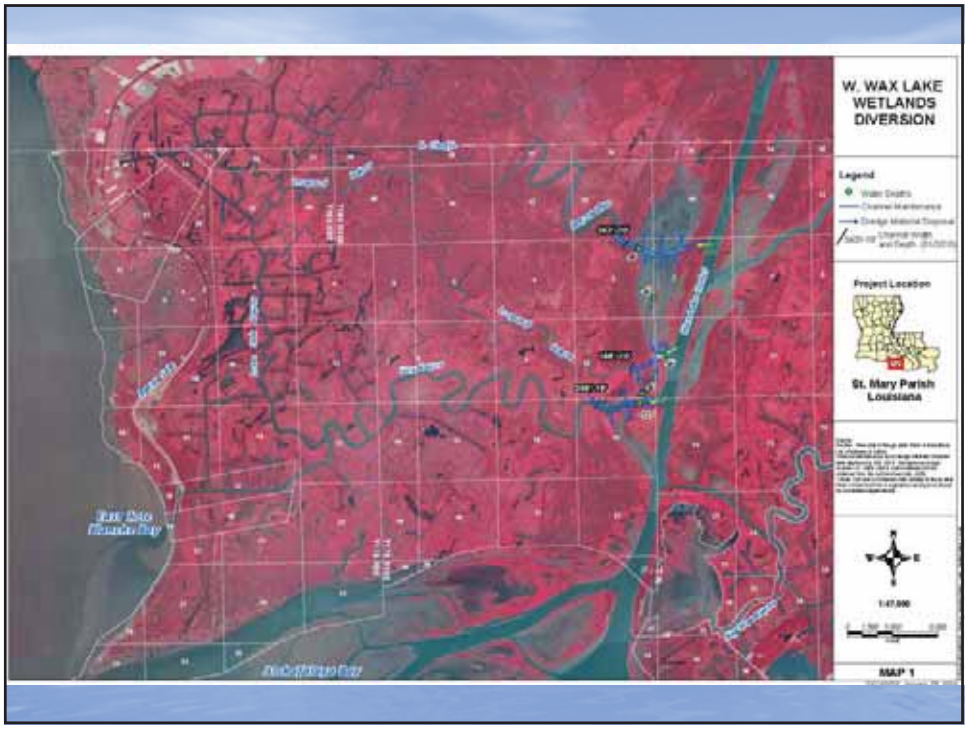
- DREDGE NEW, DIRECT CHANNEL (-15') FROM WLO TO BAYOU BLUE
- DREDGE NEW, DIRECT CHANNEL (-15') FROM WLO TO LEOPARD BAYOU
- DEEPEN/MAINTAIN EXISTING, DIRECT CONNECTION FROM WLO TO HOG BAYOU
- USE DREDGED MATERIAL TO CREATE MARSH & LOW LEVEE ALONG NEW/DEEPENED CHANNEL REACHES

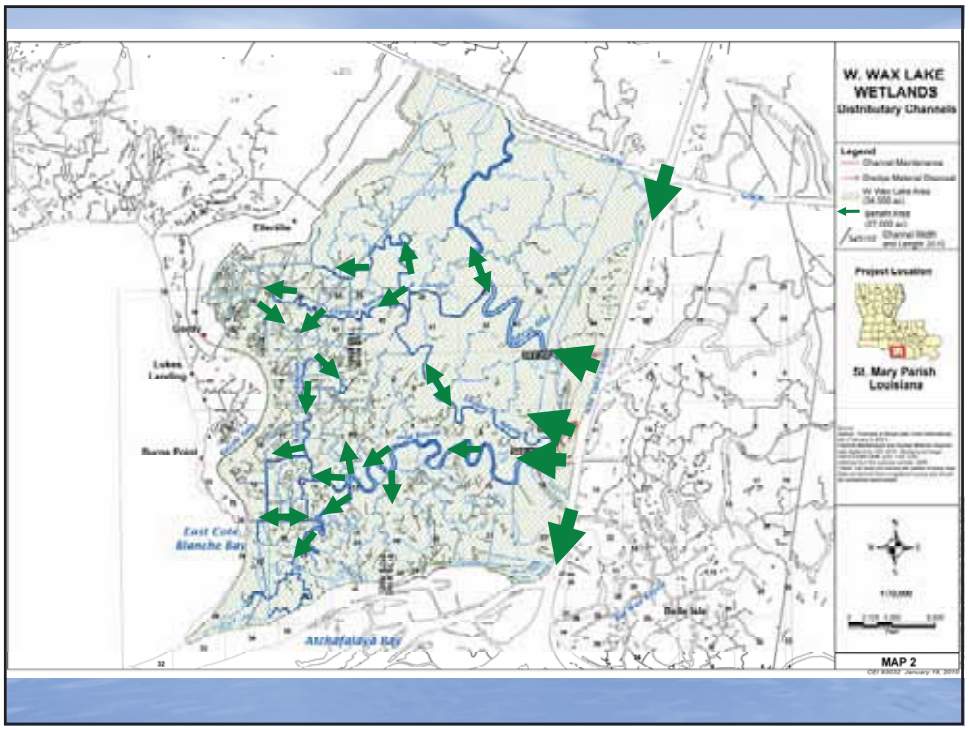
PRELIMINARY PROJECT BENEFITS:

- RESTORATION/MAINTENANCE OF HYDROLOGIC CONNECTION BETWEEN WLO & BLUE, LEOPARD & HOG BAYOUS
- DIRECT CREATION OF ~64 AC FRESHWATER WETLANDS W/DREDGING OF NEW, DIRECT CHANNEL CONNECTIONS
- INDIRECT CREATION OF ~55 AC OF FRESHWATER WETLANDS IN ACCESS CANALS AND SHALLOW PONDS ADJACENT TO DISTRIBUTARY BAYOUS
- BENEFIT ~20,000 AC FRESHWATER WETLANDS THROUGH INPUT & THROUGH-FLOW OF SEDIMENTS, NUTRIENTS & FRESH WATER
- IMPROVEMENT IN WATER QUALITY OF INTERIOR WETLANDS/ & WATER BODIES THROUGH REGULAR HYDROLOGIC FLUSHING

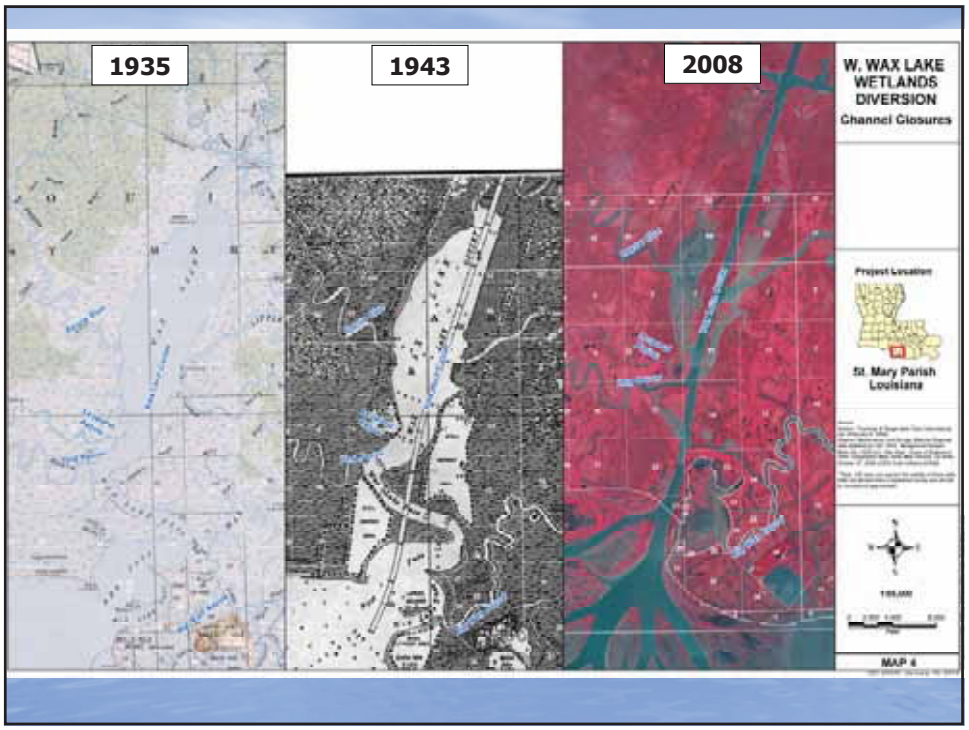
PRELIMINARY PROJECT BENEFITS:

- DEVELOPMENT OF NATURAL LEVEES & FIRMER MARSH SUBSTRATE ALONG BANKS OF MAJOR DISTRIBUTARY CHANNELS
- DEVELOPMENT OF BAR FORMATION AT JUNCTURE OF ABANDONED CANALS WITH DISTRIBUTARY CHANNELS & REDUCTION IN FLOW VELOCIATY & WETLAND SCOURING AT BACK OF CANALS
- WOULD NOT NEGATIVELY IMPACT INFRASTRUCTURE
- MAINTENANCE OF NATURAL HYDROLOGIC / LAND BUILDING PROCESSES IN W WAX LAKE SUBBASIN COMPLIMENTS PRIVATE MANAGEMENT EFFORTS
- REPRESENTS ONE COMPONENT OF STATE'S OVERALL MANAGEMENT PLAN FOR RESTORATION & PROTECTION


W. WAX LAKE
WETLANDS
DIVERSION
Legend
Project Location
St. Mary Parish
Louisiana
MAP 1


W. WAX LAKE
WETLANDS
Distributary Channels
Legend
Project Location
St. Mary Parish
Louisiana
MAP 2


W. WAX LAKE
WETLANDS
Elevation
Legend
Project Location
St. Mary Parish
Louisiana
MAP 3


1935
1943
2008
W. WAX LAKE
WETLANDS
DIVERSION
Channel Closures
Project Location
St. Mary Parish
Louisiana
MAP 4

BAYOU BLUE AT WAX LAKE

BACK LEVEE AT WAX LAKE OUTLET

MOUTH OF LEOPARD BAYOU

MOUTH OF HOG BAYOU

Region 3 - TECHE-VERMILION BASIN

R3-TV-01-Cole’s Bayou Marsh Creation and Restoration

R3-TV-01

Region 3-RPT
PPL20 PROJECT NOMINEE FACT SHEET
January 27, 2010

Project Name:
Cole's Bayou Marsh Creation and Restoration

Coast 2050 Strategy:
Restore and Sustain Wetlands *(Regional Ecosystem Strategy)*
Dedicated Dredging, to Create, Restore, or Protect Wetlands *(Coastwide Common Strategy)*
Stabilization of the Width and Depth of Major Navigation Channels *(Coastwide Common Strategy)*
Terracing *(Coastwide Common Strategy)*
Vegetative Plantings *(Coastwide Common Strategy)*

Project Location:
Region 3, Teche/Vermilion, Vermilion Parish, Eastern Bank of Freshwater Bayou, Schooner Bayou South approximately 3.85 miles

Problem:

Project area wetlands are undergoing losses at rates between -1.5%/year and -2.8%/year. Marshes in this area are subject to losses from shoreline erosion, subsidence/sediment deficit, and interior ponding. Shoreline erosion along the Freshwater Bayou Canal has resulted in direct wetland loss as the canal has widened from an authorized width of less than 200 feet to 800 feet. In addition to these direct losses, significant interior marsh loss has resulted from salt water intrusion and hydrologic changes associated increasing tidal influence. As hydrology within this area has been modified, habitats have shifted to more of a floatant marsh type, resulting in increased susceptibility to tidal energy and storm damages. Habitat shifts and hydrologic stress reduce marsh productivity, a critical component of vertical accretion in intermediate wetlands. Disturbances to the landscape from hurricanes and herbivory have resulted in the breakup and export of large sections of interior marsh. The ensuing erosion creates water turbidity within the interior ponds, this coupled with increased pond depth, decreases the coverage of submerged aquatic vegetation. Additionally, recent hurricanes have resulted in large and wide-spread losses. It is unlikely that many of these areas will recover unaided.

As evidenced from aerial photography the project area is part of a larger feature of weakened interior marsh from the project area south and west to include those marshes south of Pecan Island. If left to deteriorate, the project area would eventually open Vermilion Bay into Freshwater Bayou. This would then threaten the integrity of Freshwater Bayou, exposing a larger interior marsh area to conversion to open water.

In the specific project area, erosion of the eastern bankline of Freshwater Bayou has resulted in formation of three breaches, allowing boat wakes and hydrologic action to adversely affect the interior marsh east of the canal. The wakes from passing vessels and tidal action are causing the export of organic material from the project area. Large areas of interior marsh in the western and central part of the project area are breaking apart and turning into open water.

Goals:
(1) Halt bank erosion,
(2) Maintain limited hydrologic connection between Freshwater Bayou Canal and interior marshes

(3) Improve freshwater and sediment inflow into interior wetlands,
(4) Create approximately 365 acres of intermediate emergent marsh by creation and terraces and
(5) Protect interior marshes from erosion.

Proposed Solutions:

Create 335 acres intermediate marsh in existing open water areas via dedicated dredging. Target marsh elevation is 1.5'. Borrow is proposed from Vermillion Bay; although not considered "external" source of material, significant sediment inflows into this area may result in re-filling of the borrow area. Approximately 30,000 feet of terraces are proposed in shallow open water areas to reduce pond enlargement. Terraces would be constructed with +3', 20' crown width and planted. Terrace construction is estimated to create about 30 acres of wetland. Project features would also include a 10,600 foot-long rock dike with a top height of +3.5' NAVD beginning at an oil field canal in Schooner Bayou west to Freshwater Bayou, then south along the eastern shore of Fresh Water Bayou. As proposed, the dike would be constructed along the -2' contour with 5' wide crown and 3:1 side slopes. Conceptual dike design based on Belle Isle Bayou to the Lock (TV-11b).

Additionally, sediment-laden freshwater is often available at the northern reaches of the project area. It is proposed that flap-gated culverts be installed at locations along Freshwater Bayou Canal and through spoil banks in the northwestern portion of the project area to provide conduits for freshwater and sediment introduction. It may be necessary to conduct limited excavation of Coles Bayou and access canals to optimize sediment and freshwater introduction. It is anticipated that flapgated structures would also be replaced/installed in the southern portion of the area to provide drainage and encourage water intake from the north. It is expected that all structures will remain fully open except during extreme events.

About 365 acres would be created through marsh creation and terracing. Assuming a 50% reduction in the background loss rate of –1.5%/yr (from Freshwater Bayou Marsh Creation West PPL19 project), it is estimated that 289 acres of marsh creation and terracing would remain after 20 years.

Estimated shoreline erosion rates in the project area are 9.3'/year. Assuming 100% reduction due to shoreline protection, it is anticipated that an additional 46 acres would be protected over the 20-year project life.

Not including indirect or hydrologic restoration benefits, the project is anticipated to result in approximately 335 net acres at TY20.

Identification of Potential Issues:
Oil and gas infrastructure is within the project area and would need to be avoided by dredge/fill activities.

Preliminary Construction Costs:
Estimated construction costs plus 25% contingency = $26M.

Preparer of Fact Sheet:
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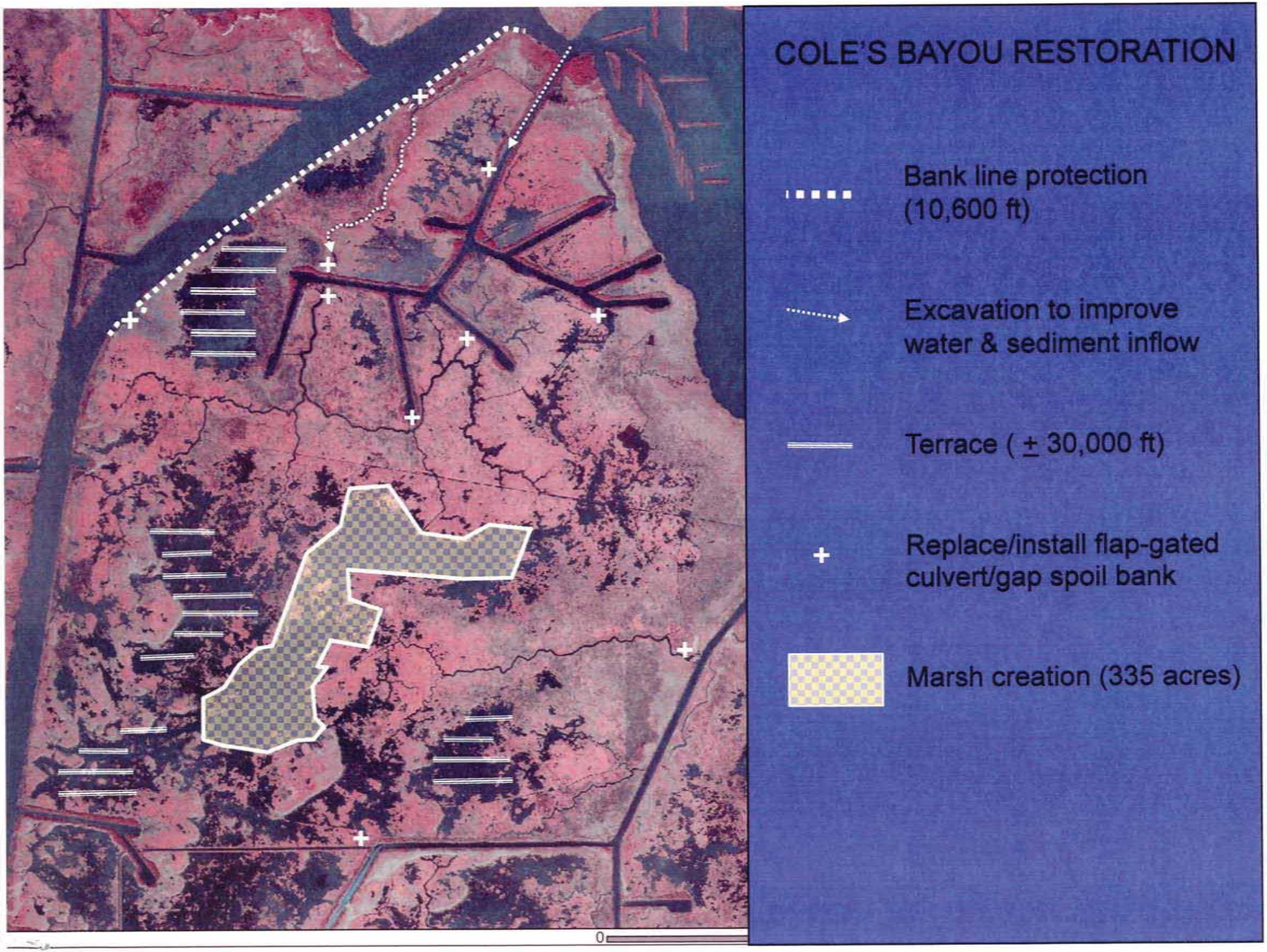
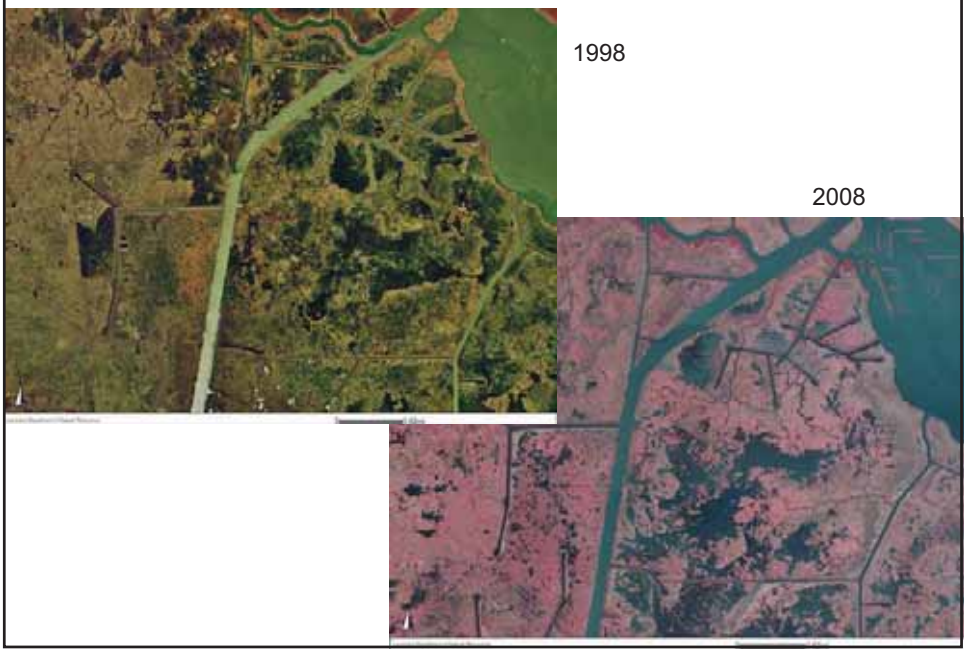
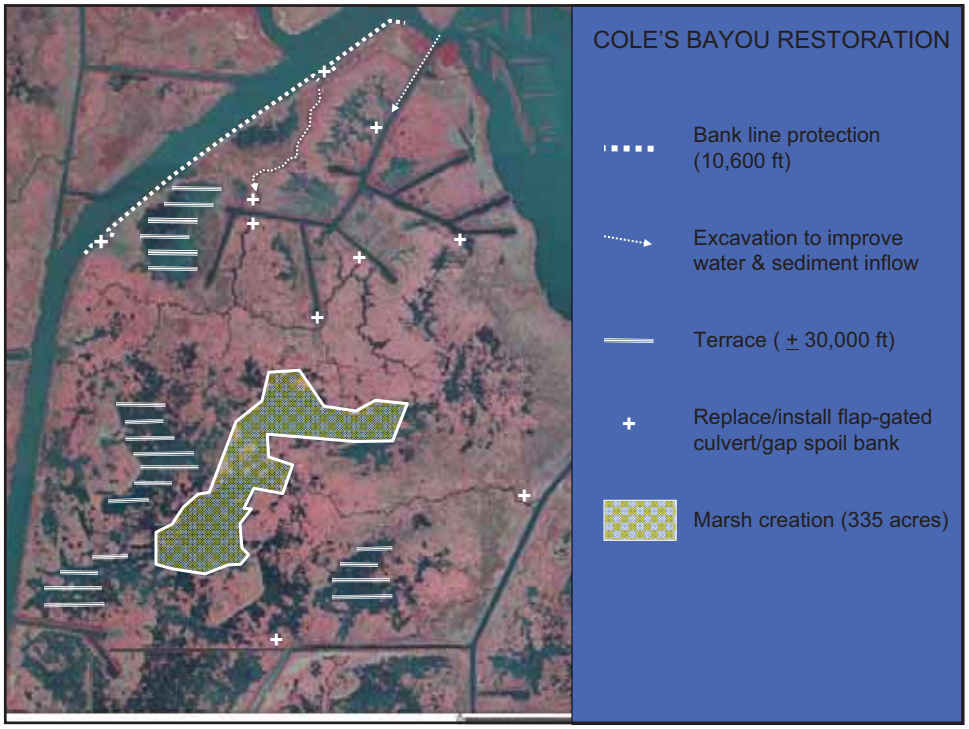
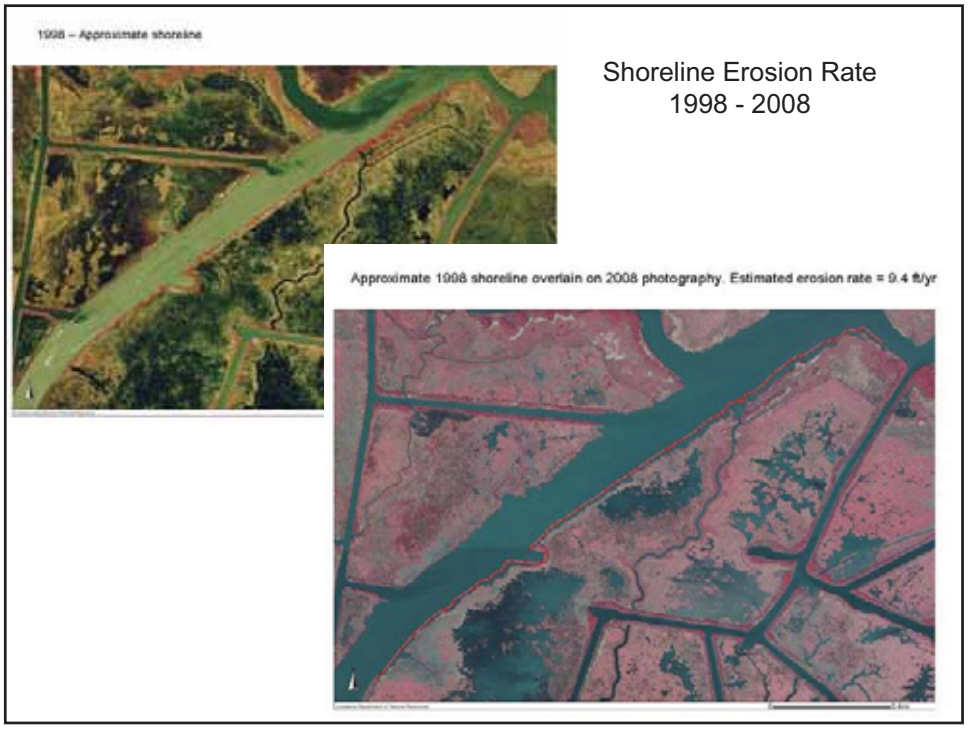

COLE'S BAYOU RESTORATION
Bank line protection (10,600 ft)
Excavation to improve water & sediment inflow
Terrace (± 30,000 ft)
Replace/install flap-gated culvert/gap spoil bank
Marsh creation (335 acres)
0

Cole's Bayou Marsh Creation and Restoration




COLE'S BAYOU RESTORATION
Bank line protection (10,600 ft)
Excavation to improve water & sediment inflow
Terrace (± 30,000 ft)
Replace/install flap-gated culvert/gap spoil bank
Marsh creation (335 acres)


1998 – Approximate shoreline
Shoreline Erosion Rate
1998 - 2008
Approximate 1998 shoreline overlain on 2008 photography. Estimated erosion rate = 9.4 ft/yr

Sedimentation Along Freshwater Bayou

R3-TV-02-GIWW Vermilion Bankline Protection Project

R3-TV-02

PPL 20 PROJECT NOMINEE FACT SHEET
1/27/2010

Project Name
GIWW Vermilion Bankline Protection Project

Coast 2050 Strategy
Region 3; #6. Stablize banks and/or cross-sections of any navigation channels for water conveyance and/or for restoring hydrology of adjacent marshes.

Project Location
Region 3, Teche/Vermilion Basin, Vermilion Parish, North Bank of GIWW

Problem
The Gulf Intracoastal Waterway (GIWW) bankline has deteriorated rapidly along much of it's length throughout Vermilion Parish. Because the canal traverses mostly coastal marshes, there has been an accelerated deterioration of some areas where the bank has eroded through it's original construction spoils and has begun to penetrate highly organic soils of adjacent marshes. The erosion of the bankline is mostly unabated and action is necessary, particularly in more sensitive areas, to prevent further erosion into adjacent marshes and bayous.

Proposed Project Features
The project will construct approximately 23,000 linear feet of bankline protection on the north shore of the GIWW. Additional action will include bankline protection at the mouth of the Boston Canal and North Bayou on the north bank of the GIWW to prevent further widening of the channel.

Goals
To prevent further bankline erosion of the GIWW navigation channel into adjacent marshes and bayous and to prevent the further widening of the mouth of the Boston Canal and reduce the opening of North Bayou.

Preliminary Project Benefits
The benefits from this project will be generated from the prevention of further bankline erosion of marshes. Approximately 70 acres of marsh is expected to benefit directly from bankline protection and approximately 4300 acres indirectly within the project area.

Identification of Potential Issues
O&M

Preliminary Construction Costs
$10.4 million

Preparer of Fact Sheet
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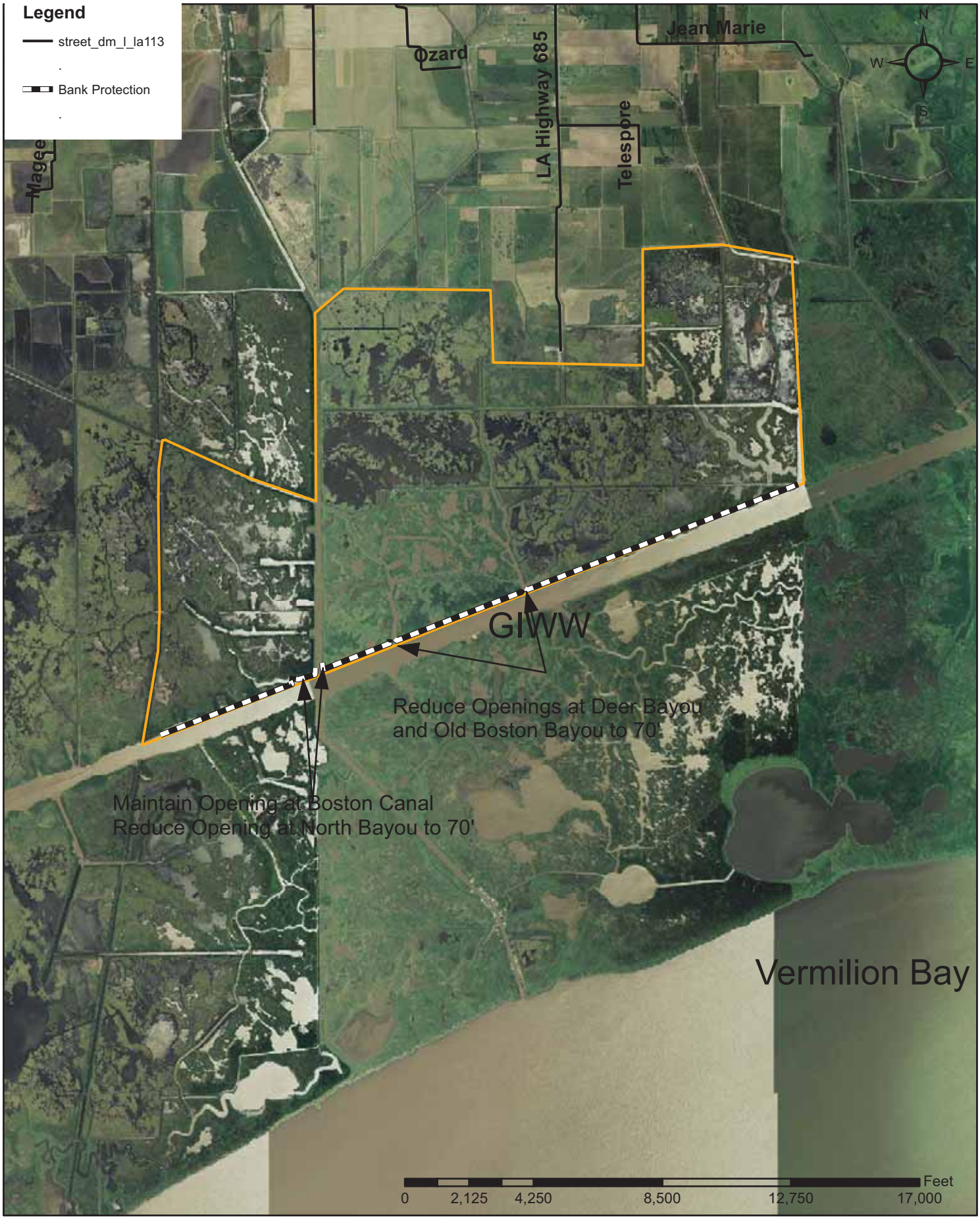
GIWW Vermilion Bankline Protection



R3-TV-03-Cote Blanche Freshwater and Sediment Introduction and Shoreline Protection Project

R3-TV-03

PPL 20 Project Nominee Fact Sheet
January 2010

Project Name:
Cote Blanche Freshwater & Sediment Introduction & Shoreline Protection Project

Coast 2050 Strategy:
Coast wide: Goal 1 – Assure Vertical Accumulation to Achieve Sustainability
Strategy 5 – Maintenance of Gulf, Bay and Lake Shoreline Integrity
Strategy 11 – Diversion & Riverine Discharge

Regional: 12. Maintain shoreline integrity and stabilize critical shoreline areas of the Teche-Vermilion system
15. Optimize Atchafalaya River flow in Gulf Intracoastal Waterway into marshes and minimize direct flow into bays & Gulf of Mexico
17. Reduce sedimentation into bays

Mapping Units - Cote Blanche Wetlands, East Cote Blanche Bay, West Cote Blanche Bay:
80. Protect Bay/Lake Shorelines

Louisiana State Master Plan:
Atchafalaya River Delta & Chenier Plain:
Managing Water & Sediment - Opportunistic use of GIWW to distribute existing Atchafalaya freshwater & sediment flows to interior marshes
Bay/Lake Shoreline Stabilization – Prevent expansion of Vermilion, East and West Cote Blanche Bays and prevent wave erosion impacts to surrounding marsh.

Project Location:
The project is located in Region 3, Teche/Vermilion Basin, St. Mary Parish, within the TV-4 Cote Blanche Hydrologic Restoration Project interior, and along portions of the northern shoreline of East Cote Blanche Bay and eastern shoreline of West Cote Blanche Bay.

Problem:
Substantial loss of emergent wetlands, up to .45% per year, was occurring in the project interior prior to TV-4 Project construction. The TV-4 Project has reduced water level variability, thereby facilitating accretion of the sediment entering from the adjacent bays and achieving the project objective of reducing the rate of interior marsh loss. Unfortunately, in 2002 Hurricane Lili caused direct removal of approximately 1,750 acres of emergent marsh within the project area (Barras 2004), which was followed by additional loss from Hurricane Rita in 2005 (Barras 2005).

Significant quantities of freshwater and sediment are available to be tapped from the GIWW, but only a small portion is currently reaching the adjacent interior marshes for a number of reasons. Continuous stretches of spoil banks bordering some canals prevent the nourishing flows to the wetlands. Additionally, the storms blocked some avenues that previously allowed some low-level freshwater and sediment flows to interior marsh areas. In other areas, some flows that should be circulating through interior areas have been short-circuited back into the canal systems. The TV-4 project structures have continued to function as intended; however, increasing sediment inputs through new, more direct paths would accelerate accretion and restoration of damaged interior marsh areas adjacent to the GIWW.

The targeted Marone Point shoreline area has historic and predicted shoreline erosion rates of 15-20 ft/year. If left unchecked, the rapidly eroding shoreline along East Cote Blanche Bay will lead to a conversion of interior wetlands to open bay. Installing shoreline protection would also preserve the hydrologic integrity of water control structures installed under the TV-04 Project.

Proposed Solution:
Project features will include channel enlargement, spoilbank gapping, and/or structural measures where necessary to increase freshwater & sediment input from the GIWW into interior Cote Blanche marshes and optimize distribution through multiple avenues to further reduce emergent marsh loss and accelerate sediment accretion to promote land building in isolated areas.

Project features also include construction of approximately 26,400 linear feet of armored protection parallel to the northern shoreline of East Cote Blanche Bay. The proposed location of the shoreline protection feature is approximately 23,000 linear feet, starting from 3300 feet west of Humble Canal and extending around Marone Point, and approximately 3,400 feet to the east of the Humble Canal between existing shoreline protection segments.

Goals:
Reduce and/or reverse shoreline erosion rates, reduce interior land loss and promote land building, protect critical marsh habitat and maintain lower energy hydrology of the East Cote Blanche Bay wetlands established through the TV-04 project. The marsh habitat provides important habitat for wintering migratory waterfowl, alligator, bald eagles, black bear, and other furbearers. These wetlands also provide vital protection to inland areas of St. Mary Parish from storm surges associated with hurricanes.

Preliminary Project Benefits:
1) What is the total acreage benefited both directly and indirectly?
The proposed shoreline protection feature would directly benefit approximately 209 acres by eliminating the annual shoreline loss of 17.5 ft/yr. Approximately 375 acres of intermediate marshes would benefit indirectly by preventing the breaching of, and tidal exchange through, several natural bayous and open water ponds lying adjacent to the E Cote Blanche Bay shoreline. Therefore the total acreage potentially benefitted by the shoreline protection would be 584 acres.

With the estimated additional flows and improved distribution, the freshwater and sediment introduction component is expected to beneficially influence an approximate total of 11,150 wetland acres, of which approximately 9,500 acres is emergent marsh.
Therefore, for both project components, the total acreage benefitted would be approximately 11,735 acres.

2) How many acres of wetlands will be protected/created over the project life?
Approximately 209 acres would be protected at the end of the project life due to the shoreline protection component.

For the freshwater & sediment introduction component, a total of 428 acres of emergent wetlands is estimated to be protected/created over the project life. In addition, approximately 12 acres of emergent marsh would be created with the dredged material from channel enlargement.
Therefore, for both project components, a total of 649 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?
Shoreline protection will be provided by some form of armored structure which, when properly designed and installed, should reduce the shoreline erosion rates by 100% over the project's life.

The anticipated loss rate reduction over the project life due to the freshwater and sediment introduction component throughout the areas of direct benefit is estimated to range from 26% to 36%.

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?
Shoreline protection feature will provide protection and serve to maintain a significant critical section of the East & West Cote Blanche Bays' shoreline.

5) What is the net impact of the project on critical and non-critical infrastructure?
The project would serve to protect inland oilfield well locations and the GIWW transportation corridor from exposure to open bay conditions, and from increased wave energy generated by marsh fragmentation and expansion of interior open water areas.

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

The project features will provide a synergistic effect with the TV-04 Cote Blanche Hydrologic Restoration Project, TV-20 Bayou Sale Shoreline Protection Project, and TV-15 Sediment Trapping at the Jaws by extending shoreline protection around the entire northern shore of East Cote Blanche Bay, and ultimately providing contiguous protection and promoting sustainable restoration to thousands of acres of deteriorating marsh in St. Mary parish.

Identification of Potential Issues:

No significant potential issues are expected from the project implementation. St. Mary Parish and major landowners are in full support of the project.

Preliminary Construction Costs:

The estimated construction cost plus 25% contingency is $12,488,890, and the estimated fully funded cost is $19,982,224.

Preparer of Fact Sheet

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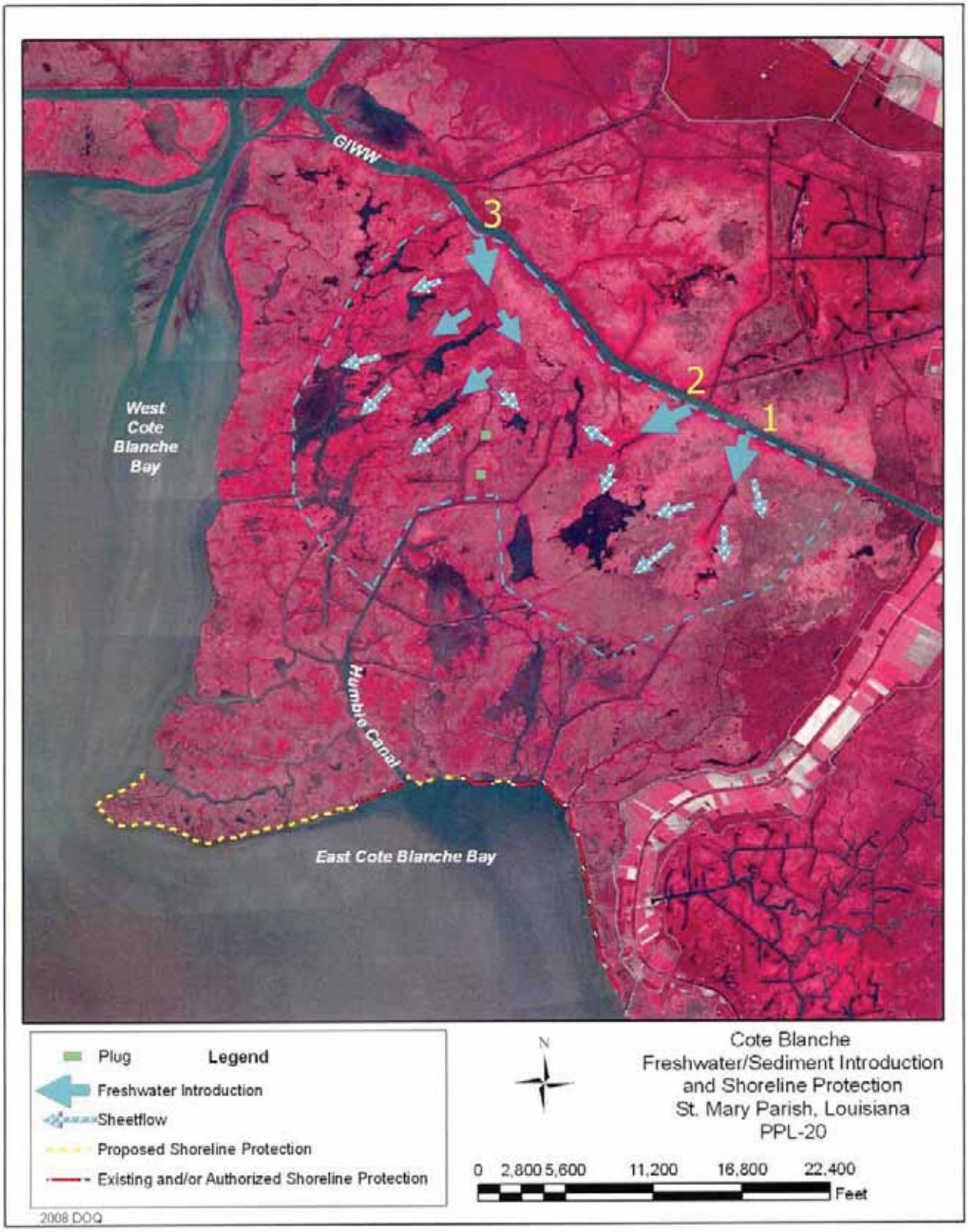
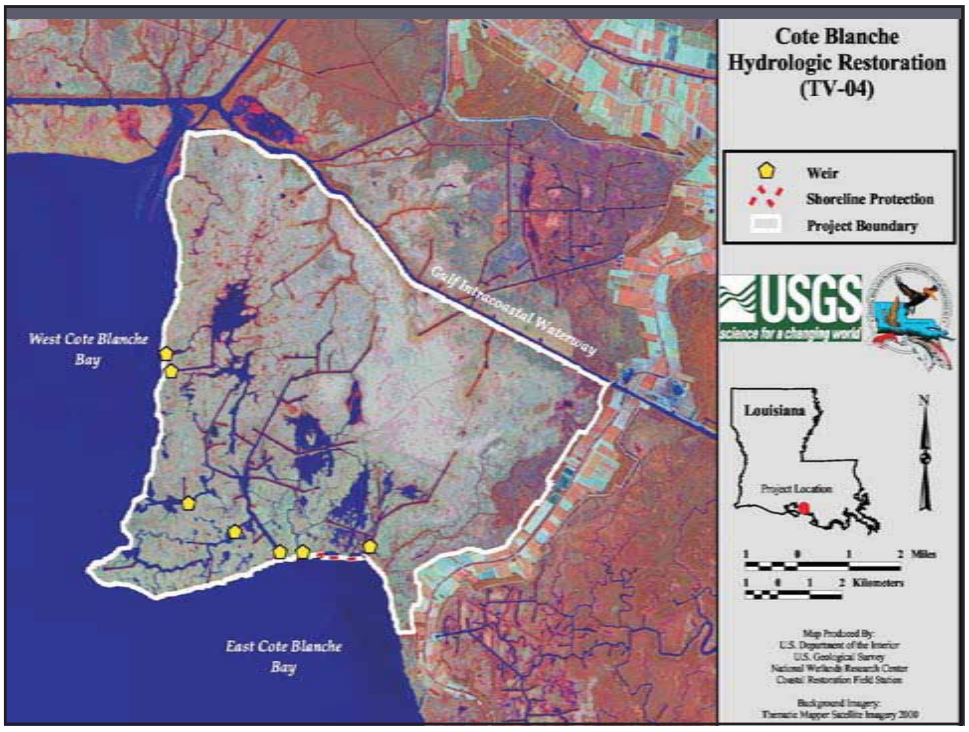

GIWW
3
2
1
West
Cote
Blanche
Bay
Humble Canal
East Cote Blanche Bay
Legend
Plug
Freshwater Introduction
Sheetflow
Proposed Shoreline Protection
Existing and/or Authorized Shoreline Protection
2008 DOQ
N
Cote Blanche
Freshwater/Sediment Introduction
and Shoreline Protection
St. Mary Parish, Louisiana
PPL-20
0 2,800 5,600 11,200 16,800 22,400
Feet

PPL20 RPT MEETING

January 27, 2010

REGION III - Teche/Vermilion Basin

Cote Blanche Freshwater Introduction & Shoreline Protection Project

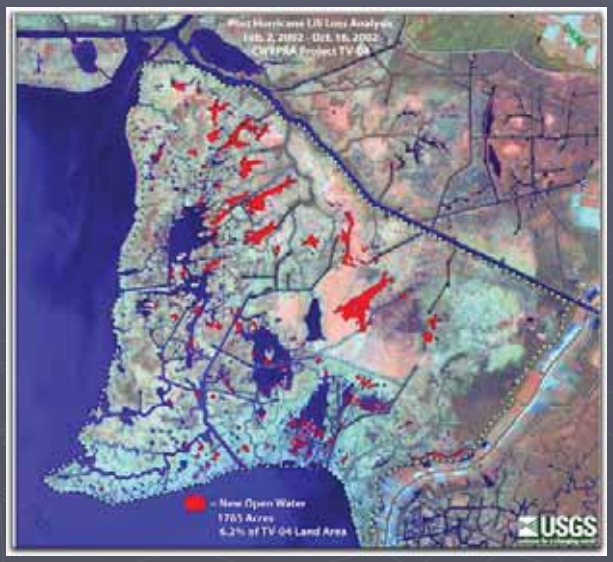


Recommended Improvements from Adaptive Management Review

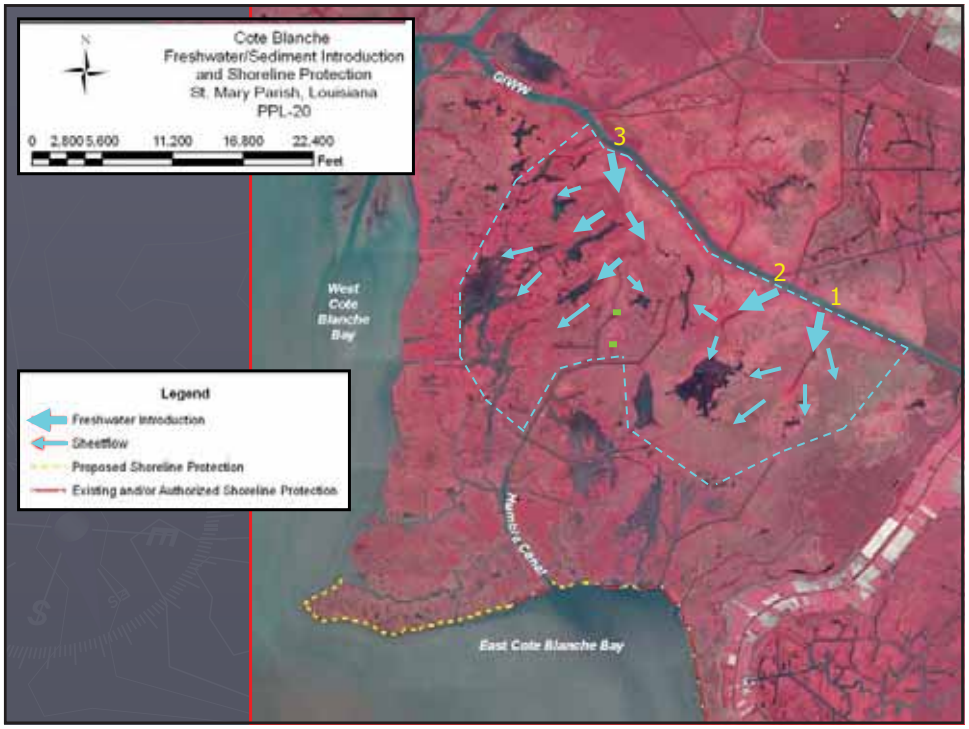
- Investigate enlargement of some GIWW openings to allow more sediment delivery into the project area.
- Shoreline protection on the southern boundary should be extended further west to prevent continued erosion along unprotected shoreline.

USGS Land:Water Change – Pre- & Post-Hurricane Lili 10/3/2002

1,765 acres Lost



(Comparative Analysis of Satellite Imagery Dated Feb 2, 2002 & Oct 16, 2002)


Cote Blanche
Freshwater/Sediment Introduction
and Shoreline Protection
St. Mary Parish, Louisiana
PPL-20
0 2,800 5,600 11,200 16,800 22,400
Feet
GIWW
3
2
1
West
Cote
Blanche
Bay
Legend
Freshwater Introduction
Sheetflow
Proposed Shoreline Protection
Existing and/or Authorized Shoreline Protection
Humble Canal
East Cote Blanche Bay

Cote Blanche Freshwater & Sediment Introduction and Shoreline Protection

Estimated Flows (cfs)			
	Existing	FWP	Net to Interior
Site 1	16	100	84
Site 2	0	100	100
Site 3	0	468	468
Total	16	668	652

R3-TV-04-Shark Island Shoreline Protection

PPL 20 Project Nominee Fact Sheet
January 27, 2010

Project Name:
Shark Island Shoreline Protection

Coast 2050 Strategy:
Coast wide: Maintenance of Bay and Lake Shoreline Integrity
Regional: 11. Maintain shoreline integrity and stabilize critical shoreline areas of the Teche-Vermilion system including the gulf shoreline
Mapping Unit: (Vermilion Bay Marsh) 84. Protect Bay/Lake Shorelines

Project Location:
The project is located in Region 3, Teche/Vermilion Basin, Iberia Parish, along the eastern shoreline of Vermilion Bay.

Problem:
This area of shoreline has historic and predicted shoreline erosion rates of 15-20 ft. /year. If left unchecked, the rapidly eroding shoreline along Vermilion Bay will continue to diminish the size of Shark Island and further expose the eastern bank of Weeks Bay to significantly larger fetch conditions. Critical oil and gas infrastructure, navigational interest along the GIWW, and wetlands protecting Weeks Island are being adversely impacted by unimpeded wave conditions generated from the west by the continued regression of Mud Point.

Proposed Solution:
Project features include construction of approximately 19,300 linear feet of armored protection parallel to the existing eastern shoreline of Vermilion Bay. The proposed location of the shoreline protection feature would extend from Mud Point on the northern peninsula southward to Blue Point.

Goals:
Reduce and/or reverse shoreline erosion rates, protect critical marsh habitat and maintain existing hydrology of the Shark Island wetlands. The marsh habitat provides important habitat for wintering migratory waterfowl, black bears, and other furbearers. These wetlands also provide vital protection to inland areas of Iberia and St. Mary Parishes from storm surges associated with tropical events.

Preliminary Project Benefits:
The proposed project would directly benefit approximately 8 acres by eliminating the annual shoreline loss of 17.5 ft/yr. Approximately 2,900 acres of intermediate marshes would benefit indirectly by preventing the breaching of, and tidal exchange through, several natural bayous and open water ponds lying adjacent to the Vermilion Bay shoreline.

Identification of Potential Issues:
No significant potential issues are expected from the project implementation. Major landowners are in full support of the project.

Preliminary Construction Cost:
The construction cost plus contingencies for this project is approximately $9.7 million.

Preparer of Fact Sheet
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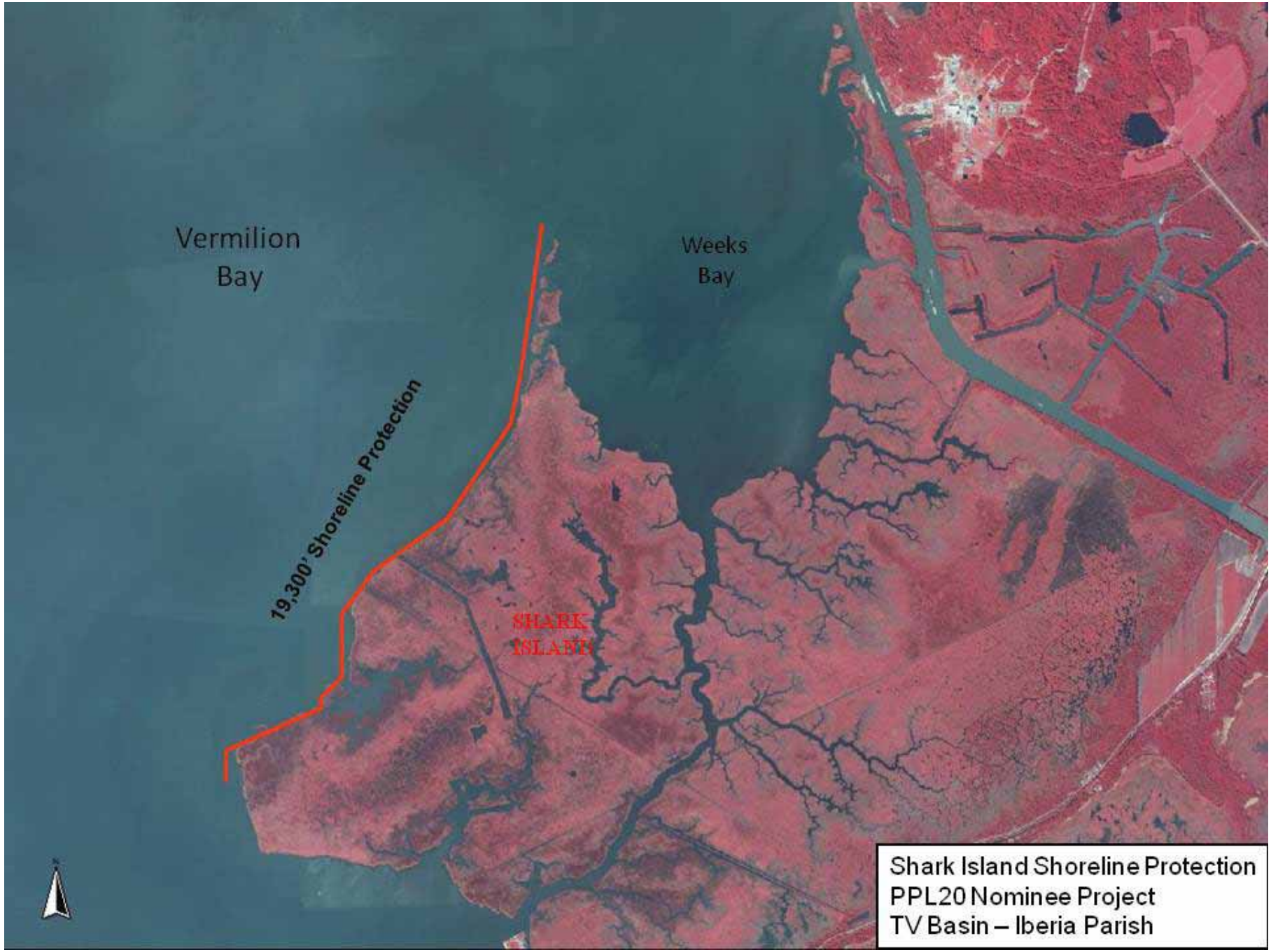
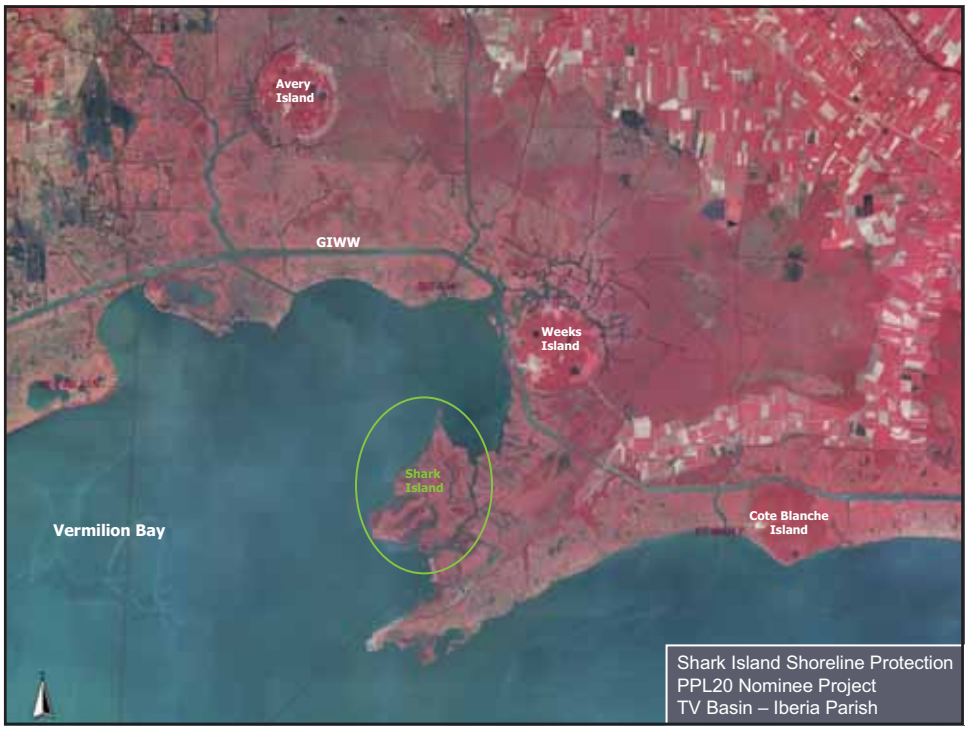
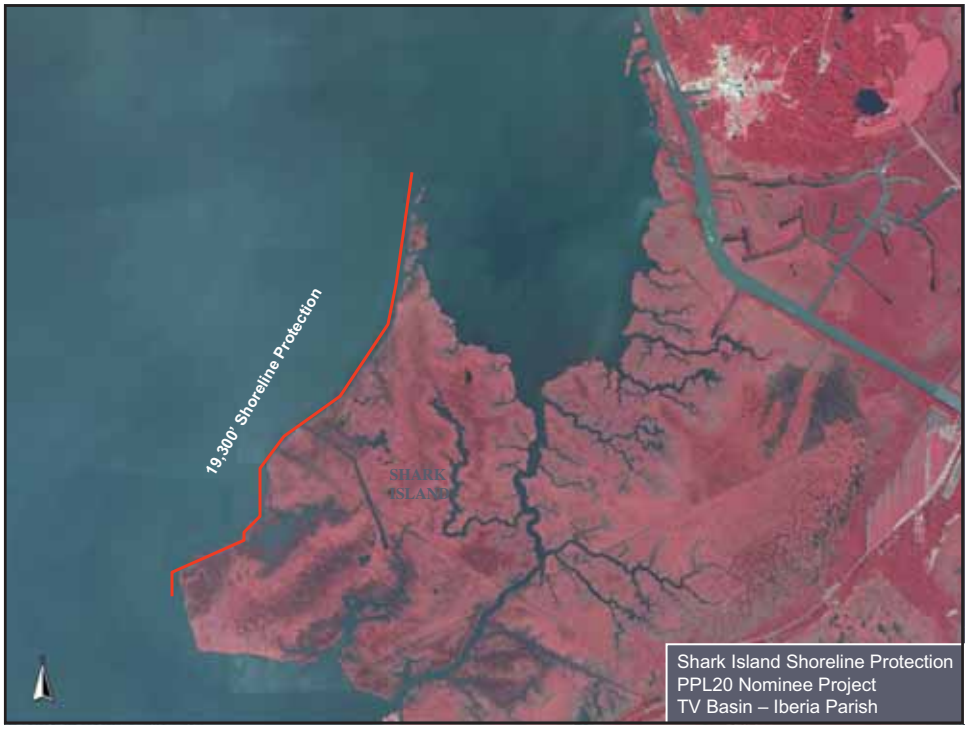

Vermilion
Bay
Weeks
Bay
19,300' Shoreline Protection
SHARK
ISLAND
Shark Island Shoreline Protection
PPL20 Nominee Project
TV Basin – Iberia Parish

Shark Island
Shoreline Protection
Project




19,300' Shoreline Protection
SHARK
ISLAND
Shark Island Shoreline Protection
PPL20 Nominee Project
TV Basin – Iberia Parish

Region 3 - TERREBONNE BASIN

R3-TE-01-Lake Hackberry Northeast Floating Marsh Restoration

R3-TE-01

PPL20 PROJECT NOMINEE FACT SHEET
January 26, 2010

Project Name
Lake Hackberry Northeast Floating Marsh Restoration

Coast 2050 Strategy
Coastwide Strategies: Vegetative Plantings; Terracing
Region 3 Revised Regional Strategy # 6. Stabilize Navigation Channel Banks or Cross Sections for Water Conveyance.

Louisiana's Comprehensive Master Plan for a Sustainable Coast
Restoration and stabilization of floating marshes near the GIWW is needed for the Master Plan strategies of "Convey Atchafalaya Water Eastward via GIWW to Benefit Eastern and Lower Terrebonne Marshes" and Freshwater Introduction into Central and Lower Terrebonne Marshes.

Project Location
Region 3, Terrebonne Basin, Terrebonne Parish, Northeast East of Lake Hackberry and GIWW.

Problem
What problem will the project solve? Floating marsh in the project are is severely deteriorated.

What evidence is there for the nature and scope of the problem in the project area? Aerial imagery confirms the degradation of the floating marsh.

Goals

Restore floating marsh using floating mat units. The units will provide and hold in place vegetative source material to create islands and lines of floating vegetation. These island and lines will "weave" or "knit" together existing floating islands that are currently experiencing break-up and transport.

Proposed Solution

Install approximately 26,600 feet of "single row" and approximately 10,835 feet of "double row" groups of floating mat units. The mat units will be planted with potted maidencane and stems. Nutria control will be provided via an enhanced incentive program in the area surrounding the floating mat deployment.

Preliminary Project Benefits

1) What is the total acreage benefited both directly and indirectly? Once vegetated the mat units will occupy and estimated 40 acres, within a 1000-acres area that will be greatly restored.

2) How many acres of wetlands will be protected/created over the project life? Not yet determined.

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%). Not yet determined

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 once continuous floating marshes in this are have perforated by the GIWW and smaller access canals, leading to "float" break-up and transport. The project will serve to create islands and lines of floating vegetation which will "weave" or "knit" together small islands, thereby restoring larger areas of floating marsh.

5) What is the net impact of the project on critical and non-critical infrastructure? Restoration of floating marsh continuity in the vicinity of the GIWW will better allow the GIWW to serve as a conduit of Atchafalaya water to the east.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? Along with CIAP and CWPPRA projects to protect the bankline of GIWW, this project will contribute to the concept of using the GIWW to serve as a conduit of Atchafalaya water to the east.

Identification of Potential Issues
The proposed project has the following potential issues: no issues presently identified.

Preliminary Construction Costs
$3 million (including 25%contingency)

Preparer of Fact Sheet
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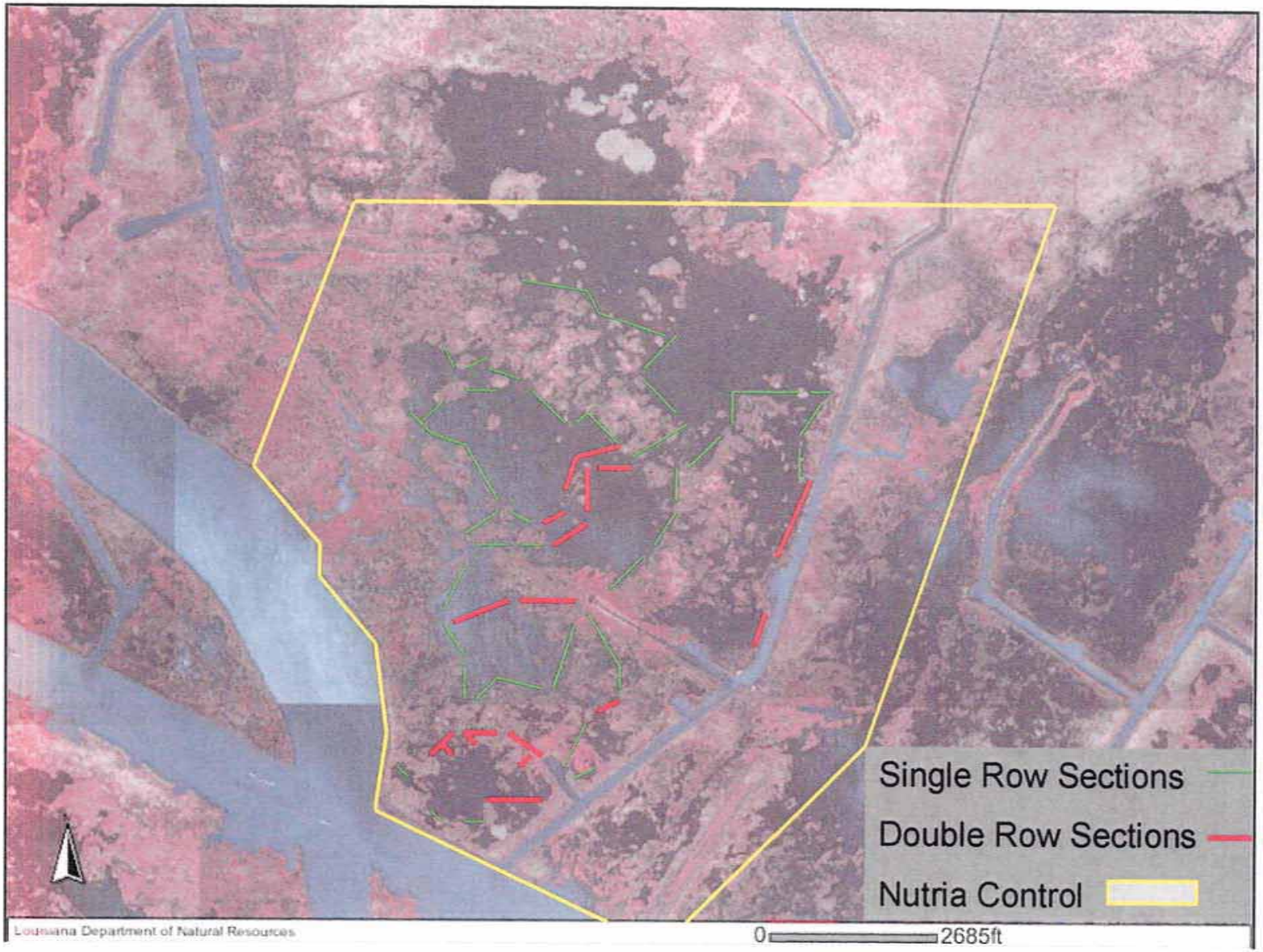
LAKE HACKBERRY NORTHEAST FLOATING MARSH RESTORATION



LAKE HACKBERRY NORTHEAST

FLOATING MARSH RESTORATION

June 2006

September 2006

LA-05

May 2006

October 2007

June 2006

September 2006

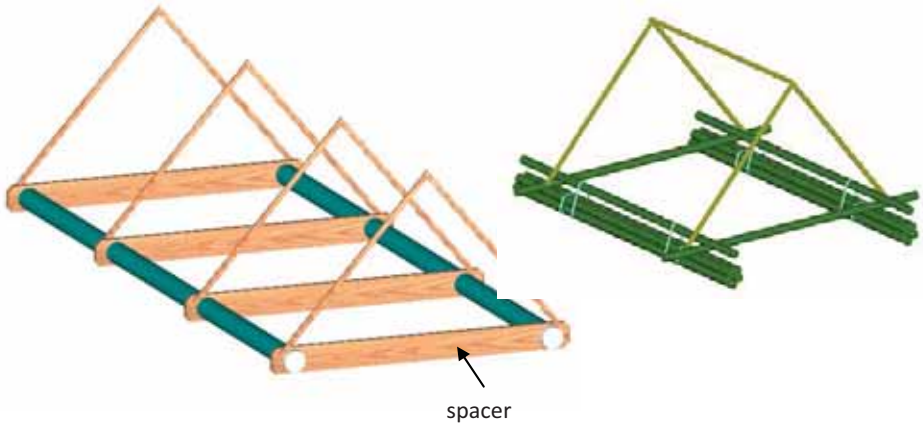
LA-05

May 2007

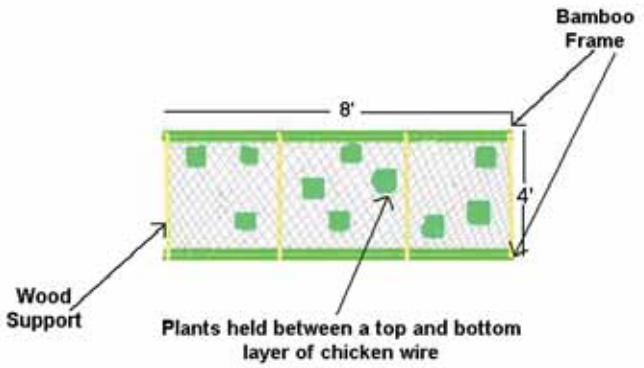
October 2007

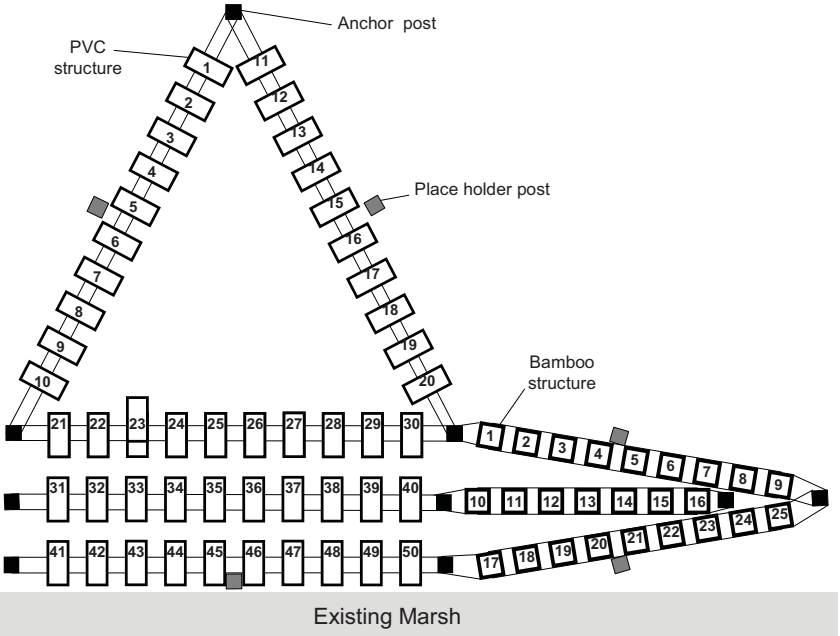
LA-05

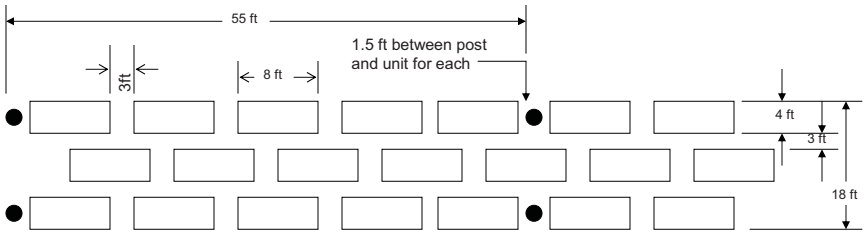
Floating Marsh Demo Project



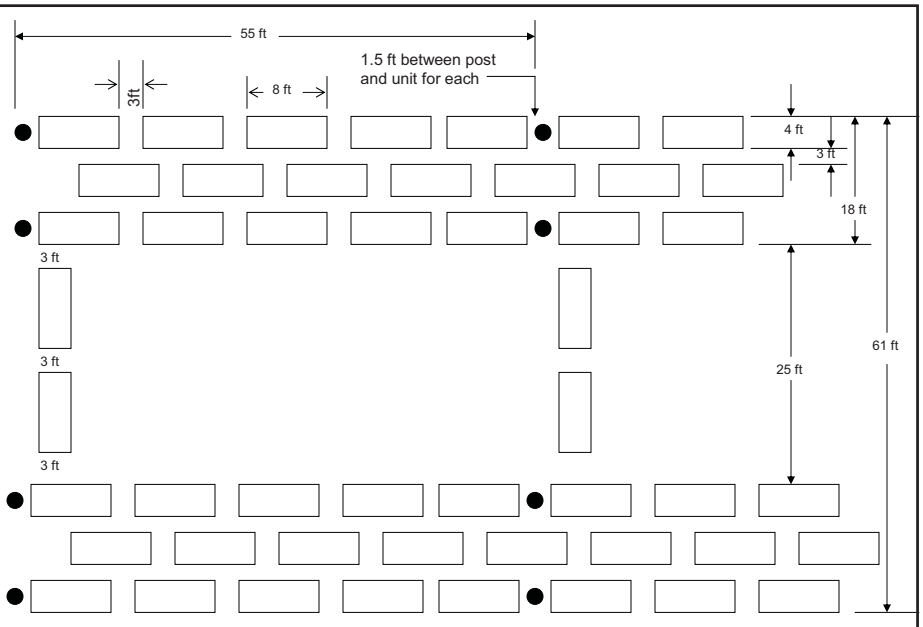
FLOATING MAT UNIT







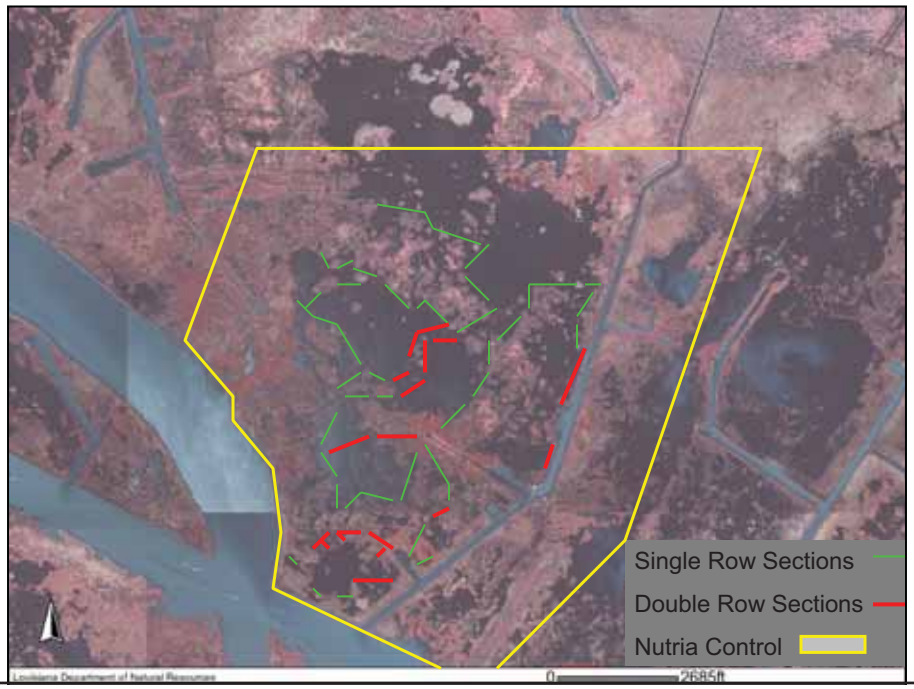
Single Row Floating Mat Section (55 ft X 18 ft)



Double Row Floating Mat Section (55 ft X 61 ft)

LAKE HACKBERRY NORTHEAST FLOATING MARSH RESTORATION

LAKE HACKBERRY NORTHEAST FLOATING MARSH RESTORATION



LAKE HACKBERRY NORTHEAST FLOATING MARSH RESTORATION

Build on lessons learned in CWPPRA Demo Project

Approximately 26,600 feet of “single row”

Approximately 10,835 feet of “double row”

Preliminary Construction Estimate = $3 million

R3-TE-02- East Island Beach and Backbarrier Marsh Restoration

R3-TE-02

PPL20 Project Nominee Fact Sheet
January 27, 2010

Project Name
East Island Beach and Backbarrier Marsh Restoration

Coast 2050 Strategy
Coastwide Common Strategies-Dedicated dredging to create, restore, or protect wetlands; Vegetative planting; Offshore and riverine sand and sediment resources.
Region 2 Ecosystem Strategies- Restore and sustain marshes- #8. Dedicated delivery of sediment for marsh building by any feasible means; Restore barrier islands and Gulf shorelines-#12. Restore and maintain the Isles Dernieres and Timbalier barrier island chains, Marsh Island, Point au Fer, and Cheniere au Tigre (including back barrier beaches).
Mapping Unit Strategies- #33. Protect bay/gulf shorelines

Project Location
Region 3, Terrebonne Basin, Terrebonne Parish, part of the Isles Dernieres, approximately 38 miles south of Houma, LA

Problem
East/Trinity Island is part of the Isles Dernieres barrier island chain, one of the most rapidly deteriorating barrier shorelines in the U.S. These barrier islands ensure that the estuaries behind them are low energy environments capable of supporting wetlands and emerging deltas where Mississippi River water is reintroduced. These islands lack a stable subaerial backbarrier platform upon which the islands can migrate landward.

Proposed Project Features
Dredged material will be placed on the back side of the island creating additional backbarrier marsh, and along the Gulf shoreline. The former will provide a stable backbarrier platform on which the island can migrate landward, while the latter will provide additional sand for redistribution by currents and waves along the entire island's Gulf beach.

Goals
1) provide a backbarrier platform to enable successful island migration;
2) extend the life of this barrier island by increasing its width;
3) create 232 ac of vegetated intertidal marsh using new dredged material and vegetative plantings;
4) protect the Terrebonne estuary and vegetated wetlands against direct exposure to the Gulf of Mexico.
5) add sand to this sand-starved barrier island system

Preliminary Project Benefits
The project would benefit about 2148 acres of barrier island habitat. Approximately 272 acres of barrier island habitat would be created initially with an estimated 175 protected over the 20-year project life.

Identification of Potential Issues
None

Preliminary Construction Costs
The total fully funded cost for the project is $15 - $20 Million.

Preparers of Fact Sheet:
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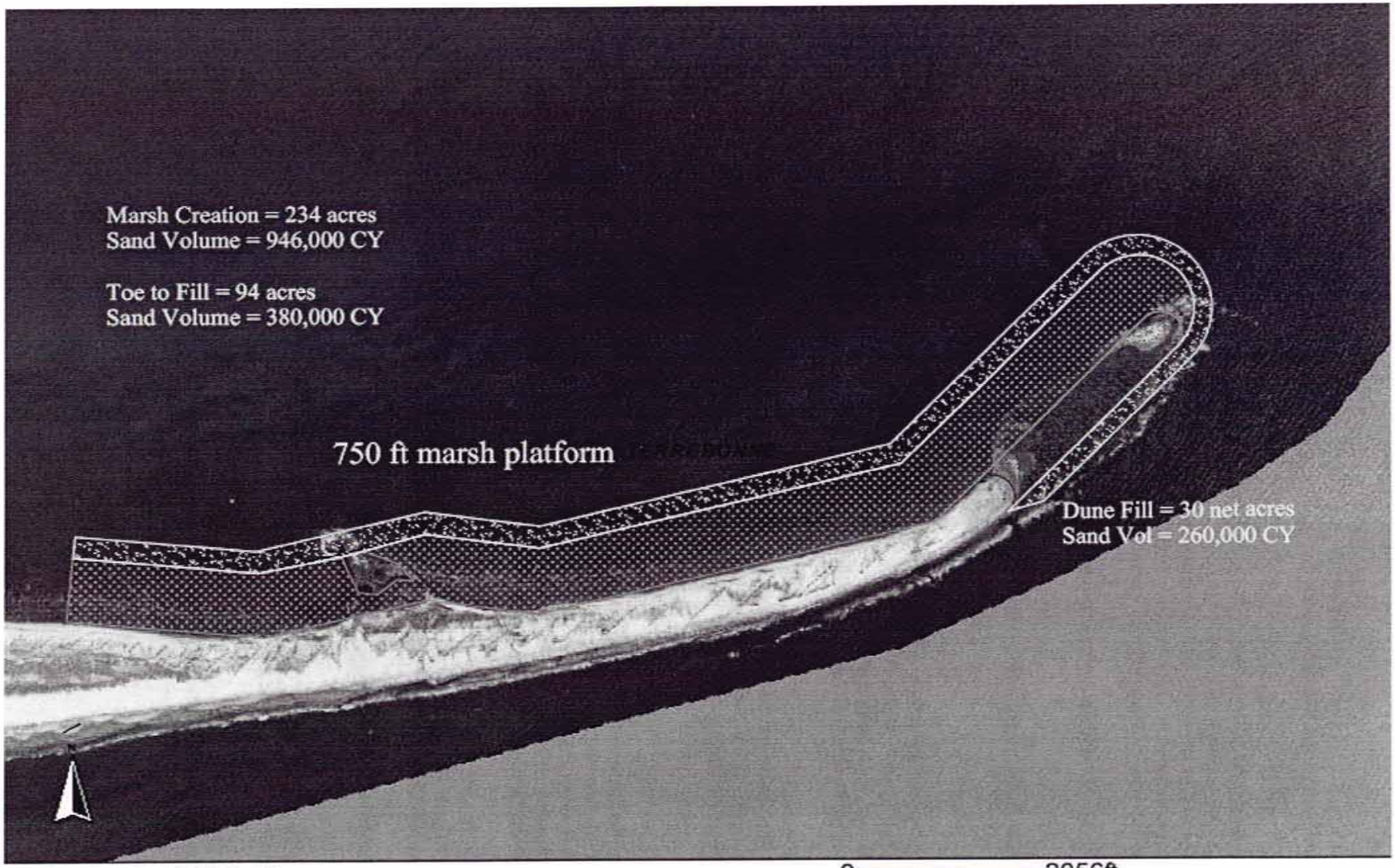
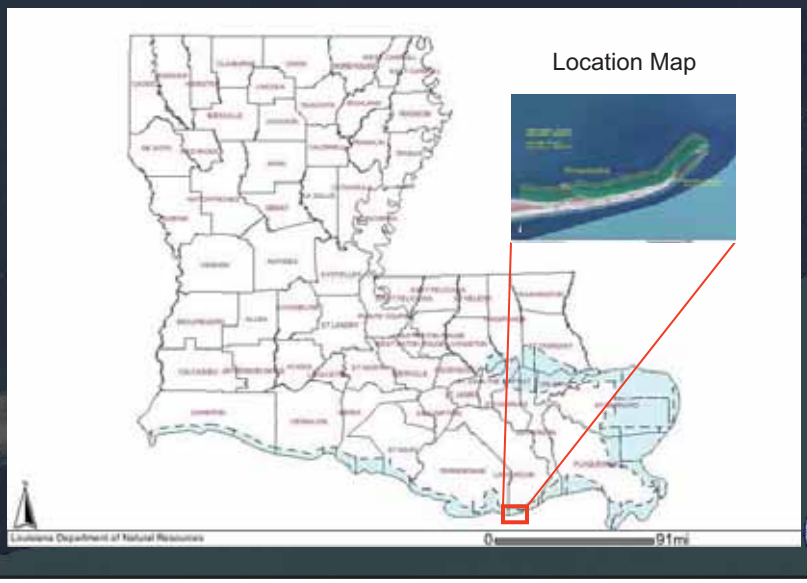
Brad Crawford, EPA Region 6, (214) 665-7255, crawford.brad@epa.gov


Marsh Creation = 234 acres
Sand Volume = 946,000 CY
Toe to Fill = 94 acres
Sand Volume = 380,000 CY
750 ft marsh platform
Dune Fill = 30 net acres
Sand Vol = 260,000 CY
Louisiana Department of Natural Resources
0
2056ft

East Island Dune and Marsh Restoration



East Island Dune and Marsh Restoration

East Island Dune and Marsh Restoration

Goals:
- Create 272 acres intertidal
- Create 20 acres dune
- Create 10 acre of supratidal
- Total of 302 acre of BI habitat

Preliminary Project Benefits:
- 175 net ac over 20 years

Identification of Potential Issues:
- None

Preliminary Construction Costs:
- $15-$20 million

East Island Dune and Marsh Restoration

Questions?

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R3-TE-03-Marsh Nourishment on Point Au Fer Island by Beneficial Use of Dredged Material

RB-TE-03

PPL20 PROJECT NOMINEE FACT SHEET
January 27, 2010

Project Name
Marsh Nourishment on Point au Fer Island by Beneficial Use of Dredged Material

Coast 2050 Strategy
Coastwide Strategy: Restore/sustain marshes
Region 3 Regional ecosystem strategies: Dedicated delivery of sediment for marsh building by any feasible means
Point au Fer mapping unit strategies: Beneficial use of dredged material

Project Location
Region 3, Terrebonne Basin, Terrebonne Parish, Point au Fer Island

Problem
Despite the existence of high concentrations of sediment and nutrients in the water surrounding Point au Fer Island, brackish marshes here have continued to be lost over time, presumably due to a combination of insufficient accretion and various effects from oil and gas canals. In addition, marsh management by semi-impoundment may play a role.

Proposed Project Features
This project would primarily nourish existing degraded marshes by beneficially using dredged material from the Atchafalaya navigation channel to the west in Atchafalaya Bay and in the nearshore Gulf of Mexico. Dredged material from this channel includes some very fine-grained, but consolidated material, but is dominated by "fluff", which is extremely fine sediment and suspensions of water and sediment that is primarily water (colloidal). We estimate 10 million cubic yards of dredged material is removed from nearby (estimated 8 mi away) channel reaches, per year. However, due to cost considerations, this project would beneficially use only about 2-4 million cubic yards of dredged material. Dredged material would be discharged across the marsh surface without containment. We predict that the material would spread over a very large area, and nourish the marsh similar to other documented effects of placing dredged material on the marsh surface, but perhaps with somewhat less environmental benefit due to the large amounts of water involved.

Goals

- Nourish approximately 10,000 ac of brackish marsh using dredged material
- Temporarily increase accretion on the marsh
- Temporarily reduce marsh loss rates

Preliminary Project Benefits

- Nourish approximately 10,000 ac of brackish marsh with 1.5-3 in of dredged material
- Offset 9-18 years of subsidence (1.1- 2.0 ft/century) and landloss (0.28 percent per year, or 152-304 ac)

Identification of Potential Issues
Land rights, pipelines.

Preliminary Construction Costs
The estimated construction cost including 25% contingency is $20-40 million

Preparer of Fact Sheet
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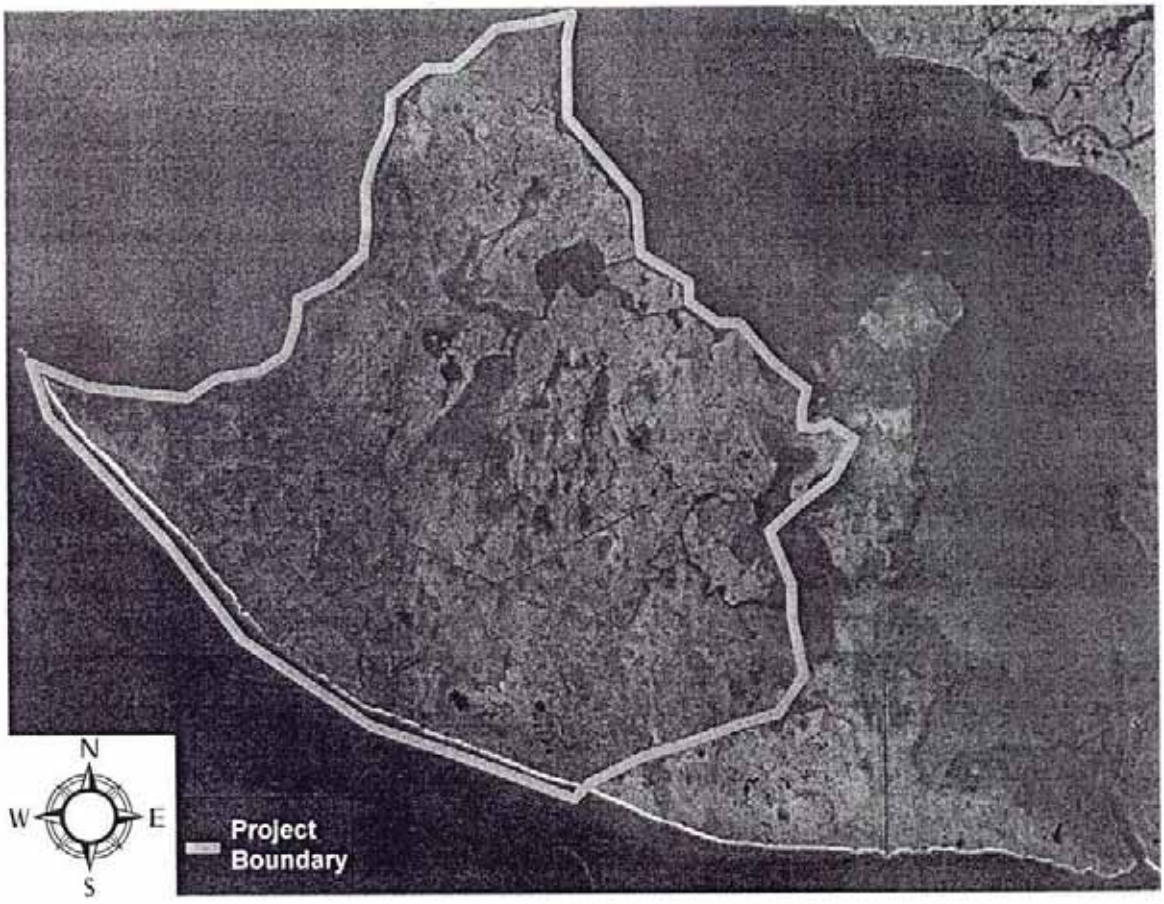
N
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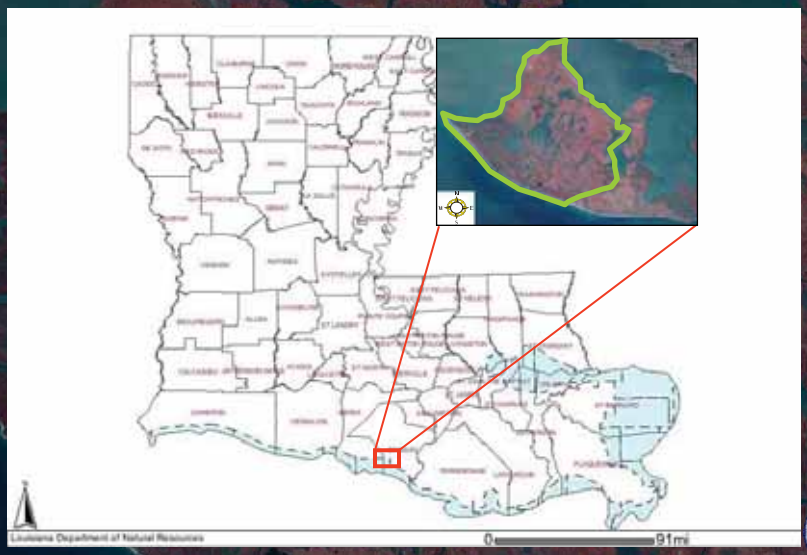
Project
Boundary

Marsh Nourishment on Point au Fer Island by Beneficial Use of Dredged Material



Marsh Nourishment on Point au Fer Island by Beneficial Use of Dredged Material

Marsh Nourishment on Point au Fer Island by Beneficial Use of Dredged Material

Goals:

- Nourish ~10,000 ac of brackish marsh using dredged material
- Temporarily increase accretion on the marsh
- Temporarily reduce marsh loss rates

Preliminary Project Benefits:

- Offset 9-18 years of subsidence (1.1- 2.0 ft/century) and landloss (0.28 percent per year, or 152-304 ac)

Identification of Potential Issues:

- Landrights, pipelines

Preliminary Construction Costs:

- $20-40 million

Marsh Nourishment on Point au Fer Island by Beneficial Use of Dredged Material

Questions?

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R3-TE-04-Timbalier Island Sediment Nourishment

R3-TE-04

PPL20 PROJECT NOMINEE FACT SHEET

January 27, 2009

Project Name
Timbalier Island Shoreline Sediment Nourishment

Coast 2050 Strategy
Coastwide Common Strategies-Dedicated dredging to create, restore, or protect wetlands; Vegetative planting; Offshore and riverine sand and sediment resources. Region 2 Ecosystem Strategies- Restore and sustain marshes; 8) Dedicated delivery of sediment for marsh building by any feasible means; Restore barrier islands and Gulf shorelines; 12) Restore and maintain the Isles Derrieres and Timbalier barrier island chains, Marsh Island, Point au Fer, and Cheniere au Tigre (including back barrier beaches). Mapping Unit Strategies – 33) Protect bay/gulf shorelines

Project Location
Region 3, Terrebonne Basin, Terrebonne Parish, approximately 38 miles south of Houma, LA.

Problem
Barrier islands are the first line of defense against storm surge and protect the interior wetlands and infrastructure from open ocean wave effects. They ensure the estuaries behind them are low energy environments capable of supporting wetlands and emerging deltas. Timbalier Island is part of the Lafourche Delta headland and barrier island system, one of the rapidly deteriorating barrier shorelines in Louisiana averaging -13.1 ft/yr of erosion from 1990's thru 2005 in the proposed project area. Additionally, the pass east of Timbalier Island (Little Pass Timbalier) is moving westerly. Hurricanes Katrina, Rita, Gustav, and Ike have breached the island in the proposed project area and the closure of the breach should be done to prevent any attempt of the pass to shift westerly toward this point.

Proposed Project Features
This project will place dredge material on the Gulf and bay side of Timbalier Island. Placing dredge material on the bay side of Timbalier Island will increase the area of backbarrier marsh which will provide a stable platform which the island needs to migrate landward. Placement of dredge material on the Gulf side of Timbalier Island will provide sand that can be redistributed along the islands shoreline by currents and waves along the entire island's Gulf shore. Sediment fences and plantings will be utilized to manage new placed sediments.

Goals:

- Close the cut in the island from Hurricane Gustav to slow shifting of the tidal pass.
- Provide a backbarrier platform to enable sustainable and successful island migration
- Extend the life of this barrier island by increasing its width
- Create about 60 acres of intertidal marsh using new dredged material and vegetative plantings
- Fortify/protect the platform and marsh by creating 150 acres of beach.
- Protect Terrebonne estuary and vegetated wetlands against direct exposure to the Gulf of Mexico
- Add sand to this sand-starved barrier island system

Preliminary Project Benefits

- Creation of 160 ac of beach and marsh habitat
- Protect approximately 130 ac of barrier island habitat over 20 years
- Synergistic affects with other CWPPRA and LCA Terrebonne Barrier Shoreline restoration efforts

Identification of Potential Issues
None

Preliminary Construction Costs
The estimated construction costs including 25% contingency is $30,525,000

Preparers of Fact Sheet:
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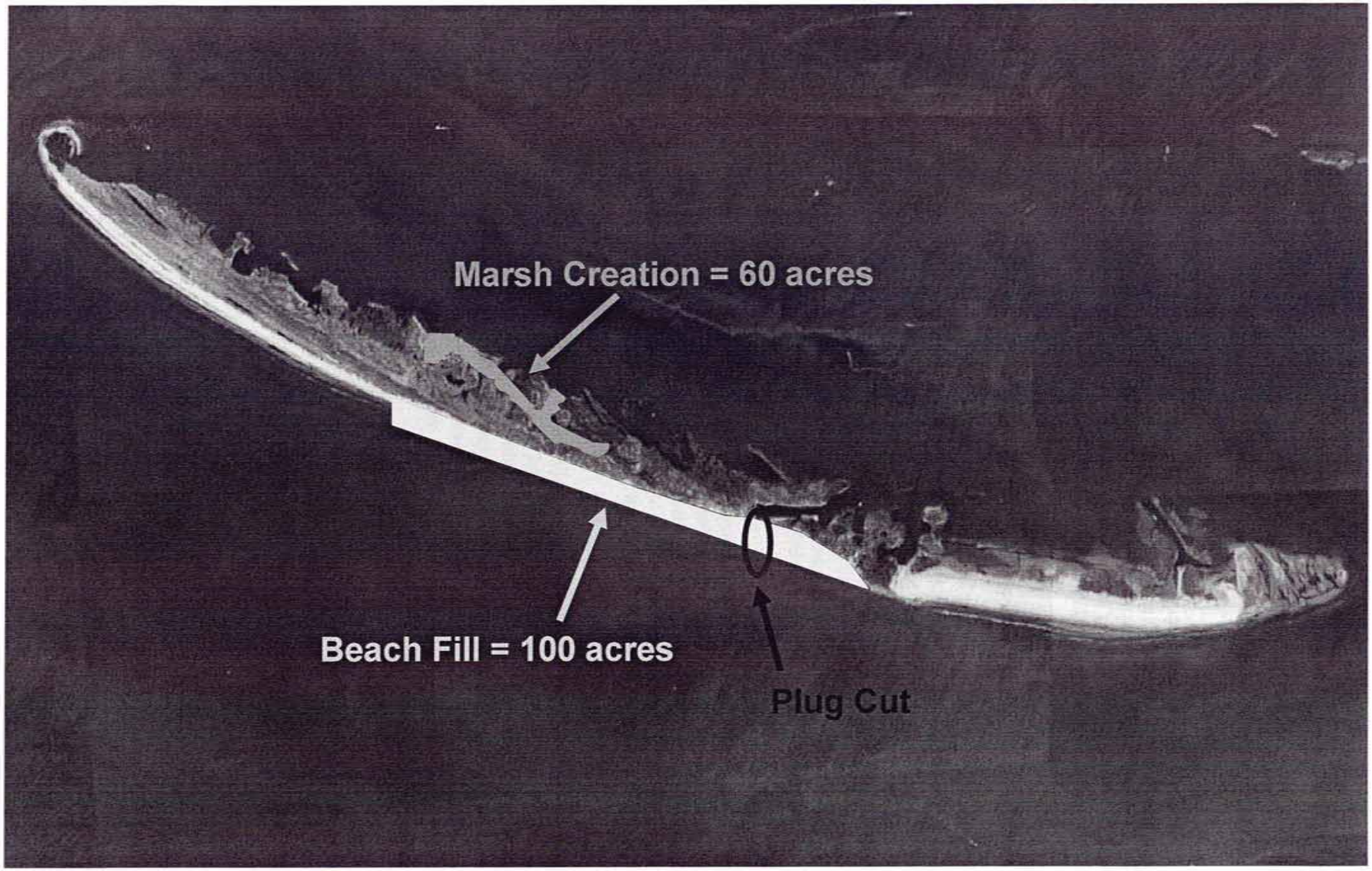
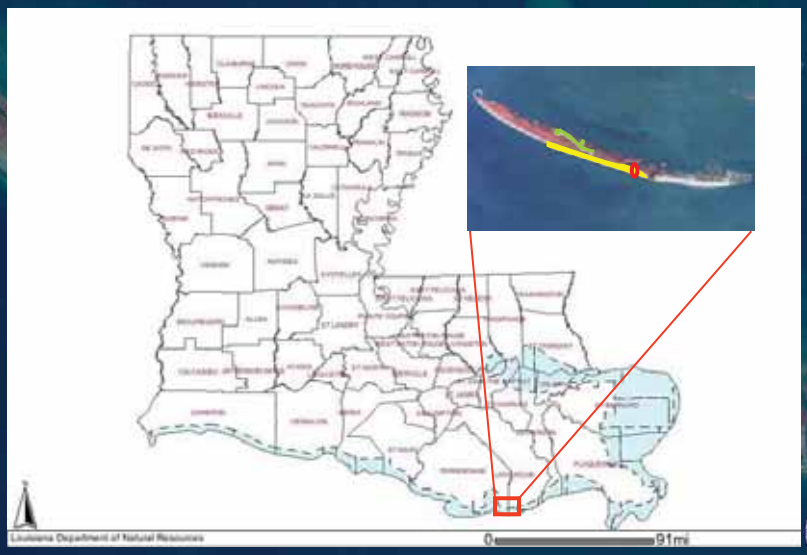

Marsh Creation = 60 acres
Beach Fill = 100 acres
Plug Cut

Timbalier Island Shoreline Sediment Nourishment



Timbalier Island Shoreline Sediment Nourishment

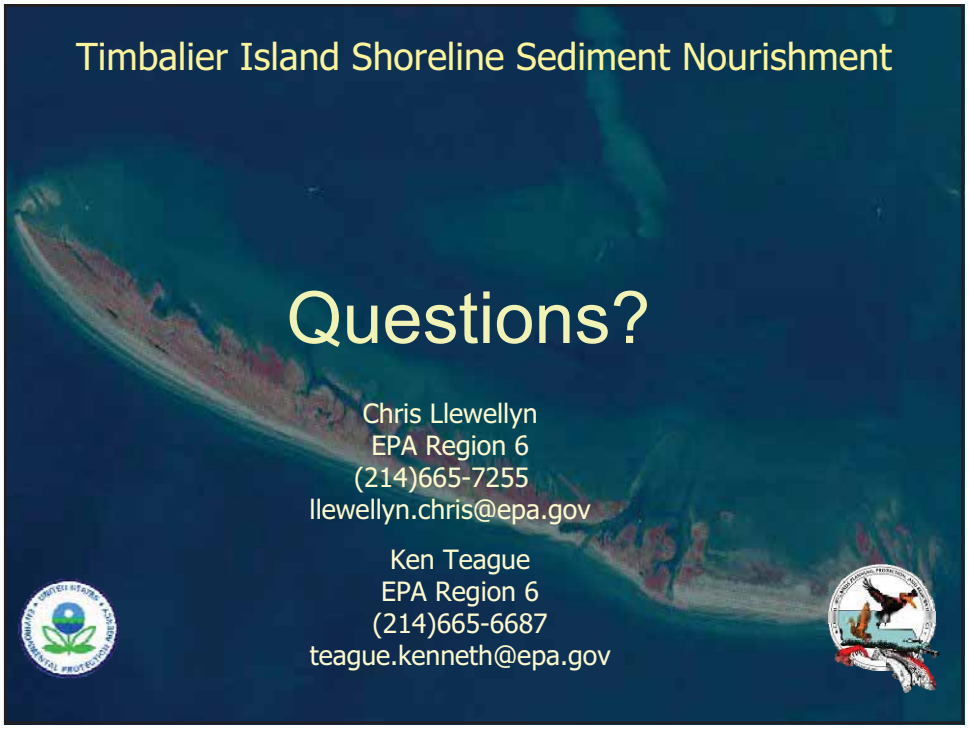
Timbalier Island Shoreline Sediment Nourishment

Goals:
- Close the cut in the island
- Create a backbarrier platform
- Increase the sustainability and life of this barrier island
- Fortify/protect the platform and marsh
- Add sand to this sand-starved barrier island system

Preliminary Project Benefits:
- Create 100 ac of beach and 60 ac of marsh habitat
- Protect ~130 ac of barrier island habitat over 20 years

Identification of Potential Issues:
- None

Preliminary Construction Costs:
- $30 million


Timbalier Island Shoreline Sediment Nourishment
Questions?
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Ken Teague
EPA Region 6
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R3-TE-05-Lake Barre Marsh Creation

PPL20 PROJECT NOMINEE FACT SHEET
January 23, 2010

Project Name:
Lake Barre Marsh Creation

Coast 2050 Strategy:
Regional Ecosystem Strategy 8 – dedicated delivery and/or beneficial use of sediments for marsh building. Terrebonne Marshes Mapping Unit Strategies 15 (protect bay/lake shorelines) and 16 (beneficial use of dredged material)

State Master Plan:

Project Location:
Region 3, Terrebonne Parish, east of Bayou Terrebonne, approximately 10 miles southeast of Montegut.

Problem:
The remaining land mass between Madison Bay and Terrebonne Bay is deteriorating due to interior wetlands loss and shoreline erosion. This land mass is the last barrier between Terrebonne bay and interior bays, marshes and infrastructure along lower Bayou Terrebonne. As this area erodes/subsides, flood control/hurricane protection projects Inspection of recent aerial photography suggests that although some areas of robust marsh still exist in the proposed project area, much of the remaining marsh is fragmented. Interior wetlands loss rates in the vicinity were recently calculated to be about -2.0%/year (PPL19 Terrebonne Bay Shoreline Protection/Marsh Creation Project, 1988 – 2008 interior loss rate).

Water depths and bay processes on the northern edge of Terrebonne Bay may make restoration south of the proposed project technically challenging and costly. Marsh creation/nourishment along the southern edge of Madison Bay would act to maintain an interior line of defense and stabilize the land mass between Madison and Terrebonne bays.

Goals:
Create and nourish 553 acres of saline marsh through dedicated dredging.

Proposed Solutions:
Dedicated dredging from either Lake Barre or Madison Bay to create 328 acres and nourish 103 acres saline marsh. Fill areas were selected to maintain a continuous landform, address open water and nourish fragmenting marsh. About 3.4 Mcy of material, in place, will be required based on an initial construction elevation of +2.5' NAVD and assuming existing open water depths of -2.5' and existing marsh elevations of 0.0'. Borrow would be obtained from Madison Bay (north) or Terrebonne Bay (south). No "external" sources are available. Review of Morganza to the Gulf plans (including mitigation) and existing infrastructure data, suggest that ample area appears to be available. Containment dikes will be constructed to manage fill deposition as needed although full containment is included in the preliminary cost estimate. As conceptualized, due to differential settlement deeper waterways, bayous and canals, it is anticipated that post-construction tidal creek construction may not be required. Vegetative plantings will be used.

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

About 553 acres will be directly benefited from marsh creation/nourishment.

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

Assuming a background loss rate of -2.0%/year, and FWP loss rate reduction of 50%, it is anticipated that approximately 356 created/nourished acres would remain after 20 years. Total net acres are projected to be 278.

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%).

Anticipated loss rate reduction is 50 – 74%.

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

No.

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

The project will benefit critical (flood control/hurricane protection projects) and non-critical (oil and gas facilities, minor navigation channels, secondary/minor roads) infrastructure

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

The project could provide limited synergistic benefits with Madison Bay Marsh Creation and Terracing (TE-51).

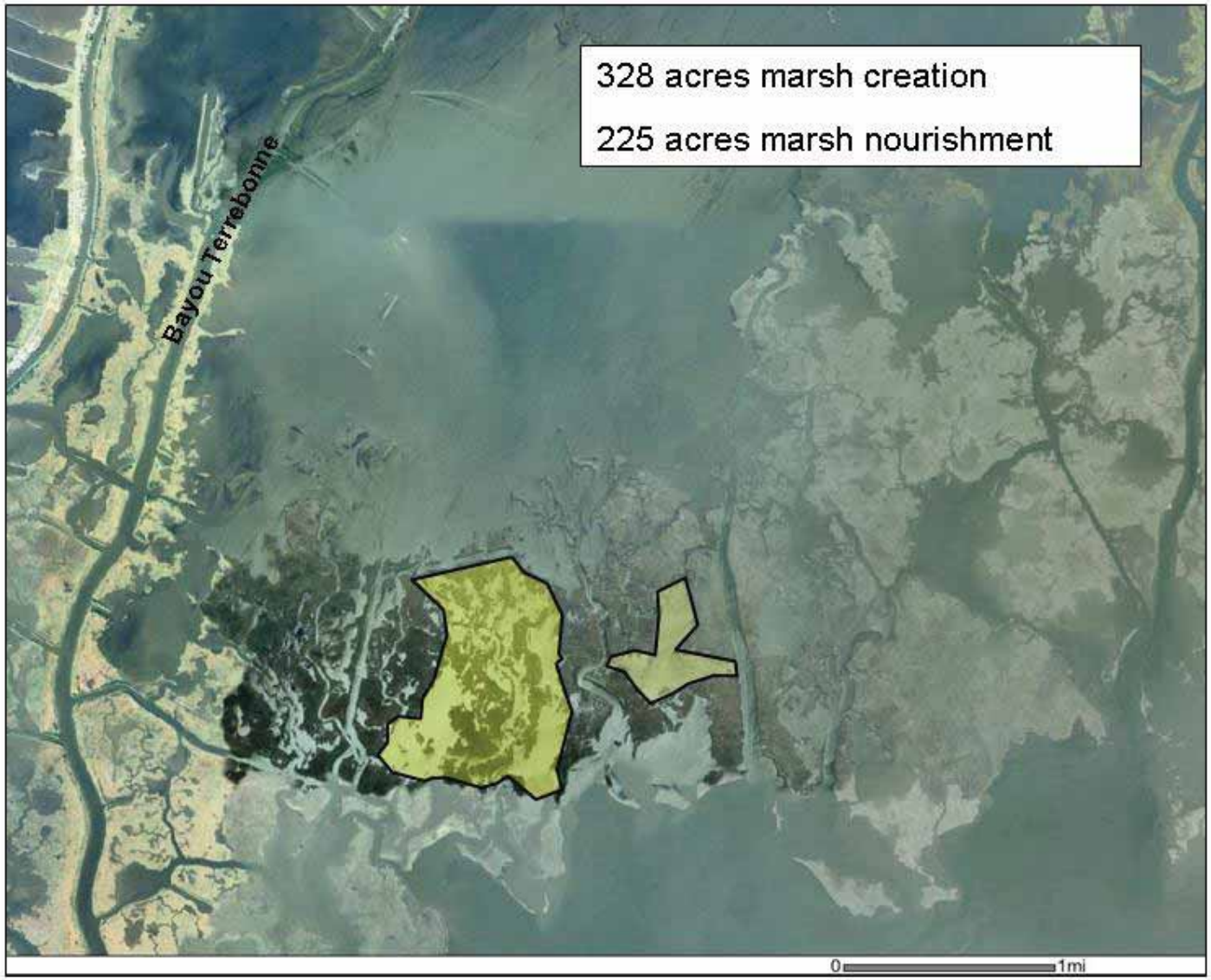
Preliminary Construction Costs:

Construction costs are estimated at $25.9 including 25% contingency.

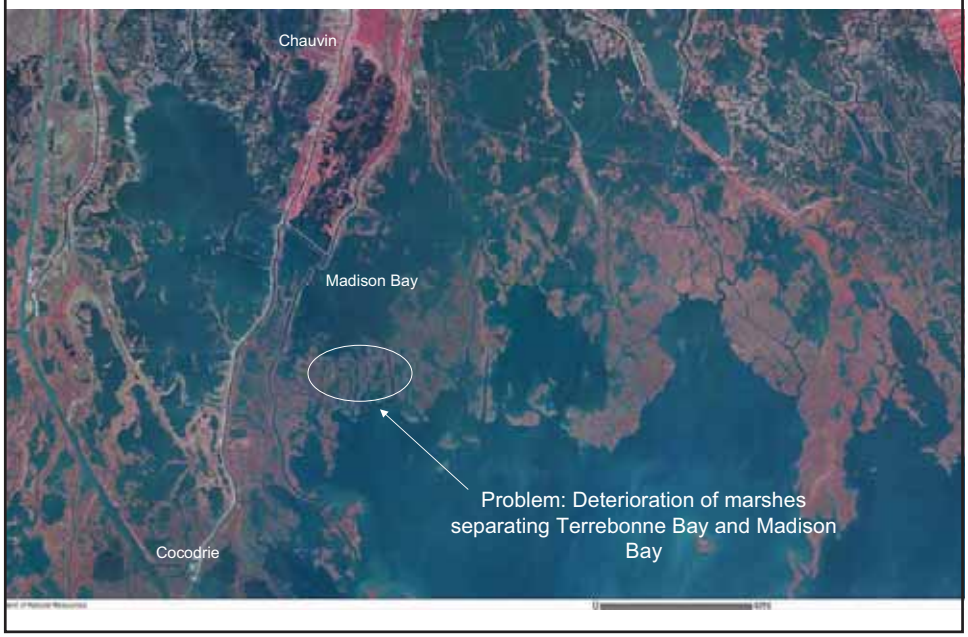
Preparer(s) of Fact Sheet:

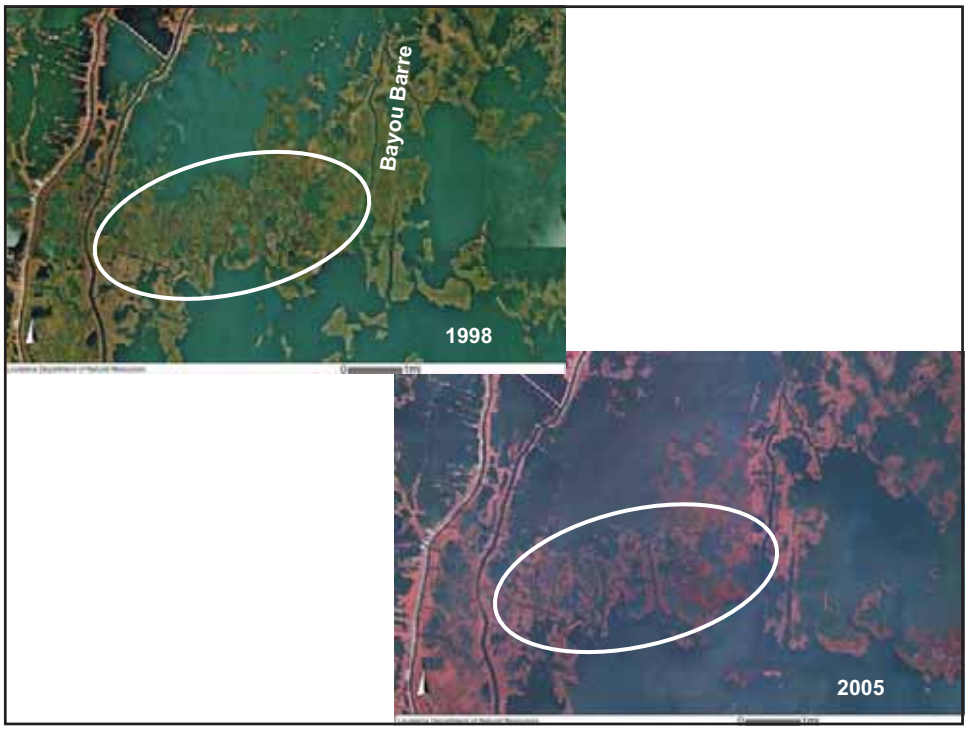
Rachel Sweeney, NOAA, 225.389.0508 ext 206, rachel.sweeney@noaa.gov

Lake Barre Marsh Creation

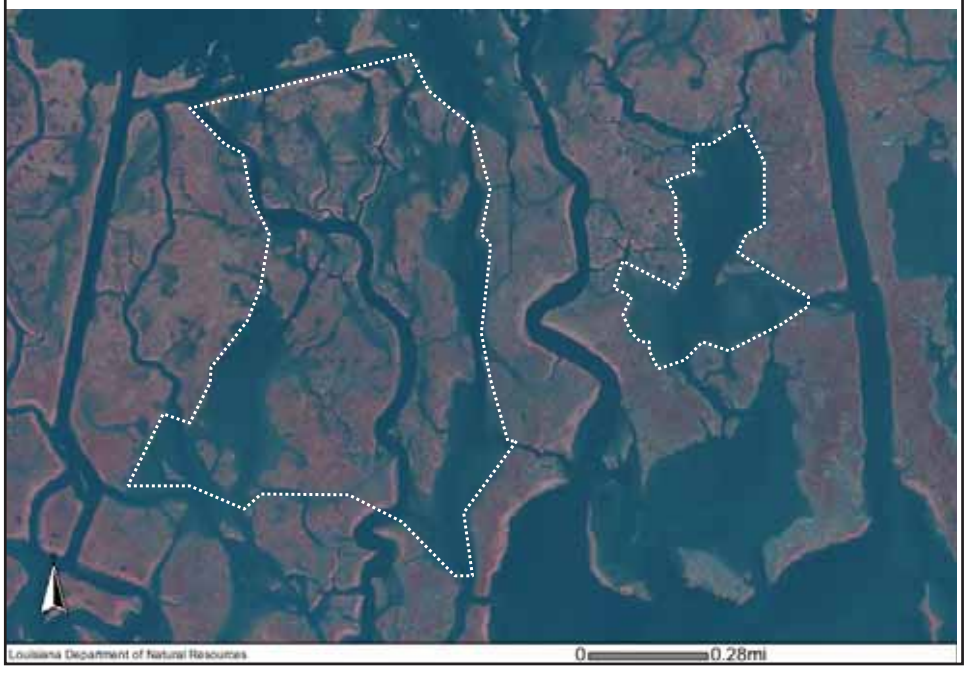


Lake Barre Marsh Creation

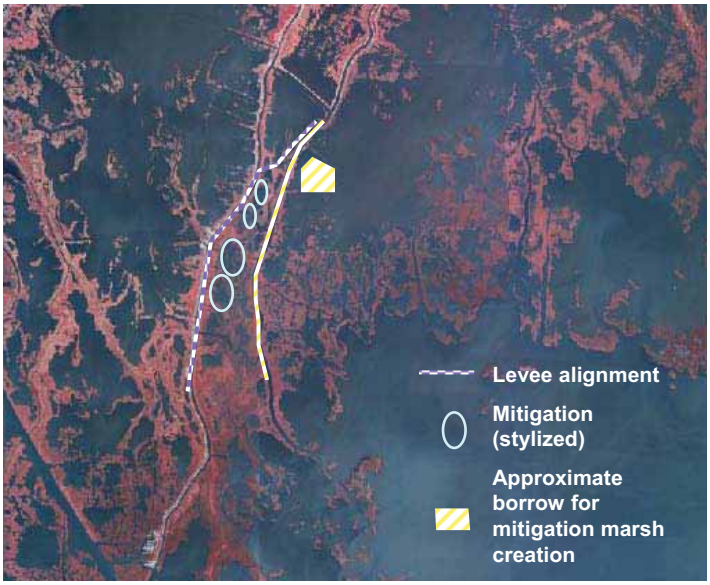


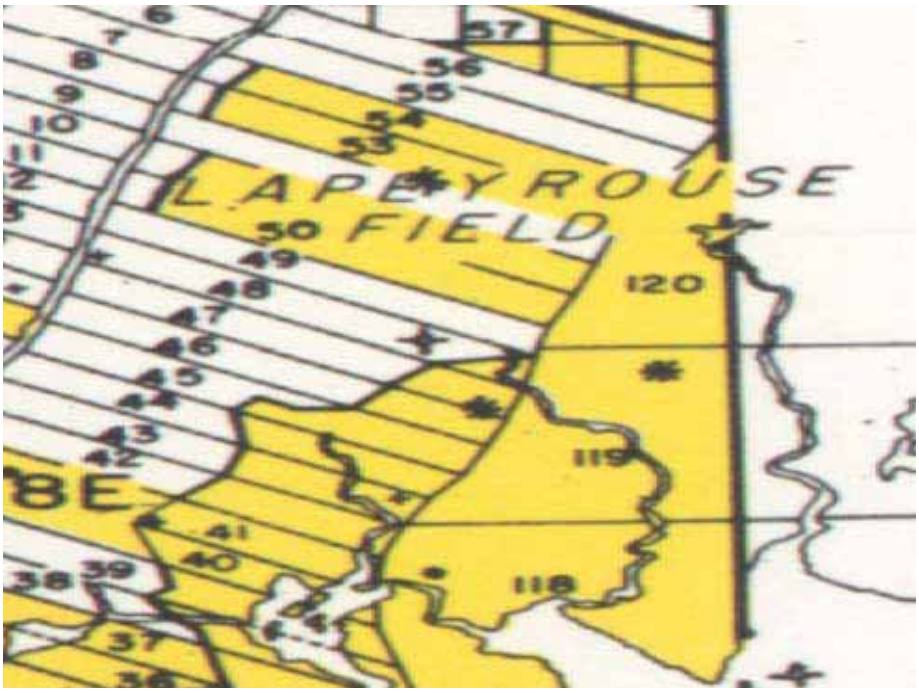


Lake Barre Marsh Creation



M2G, Reach H alignment and mitigation




LAPEYROUSE
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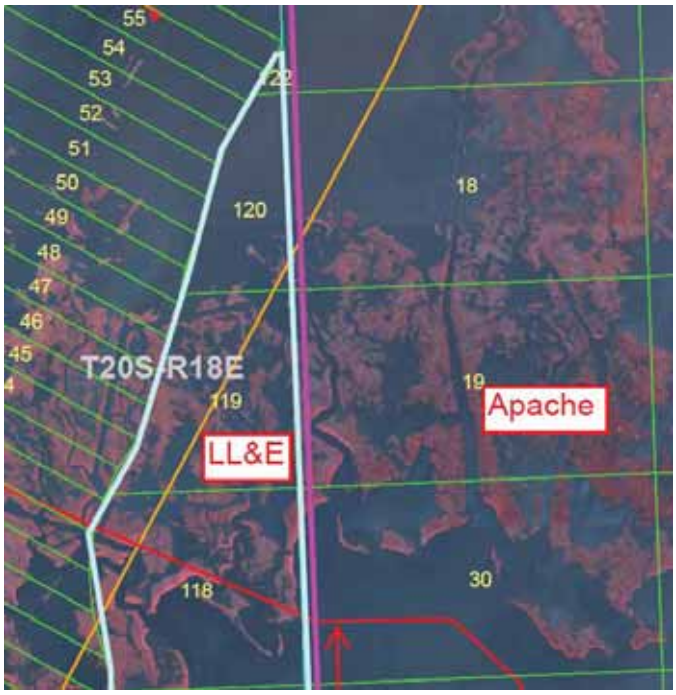
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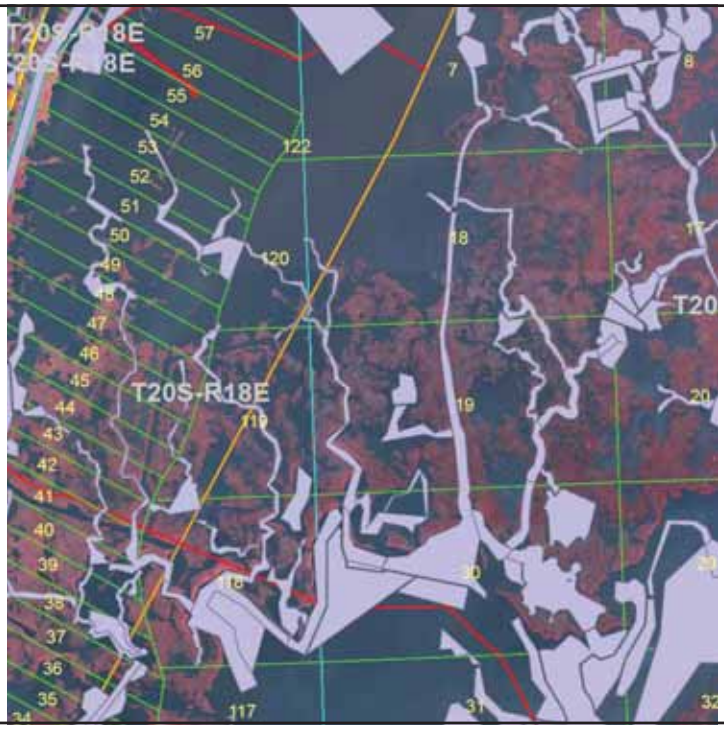
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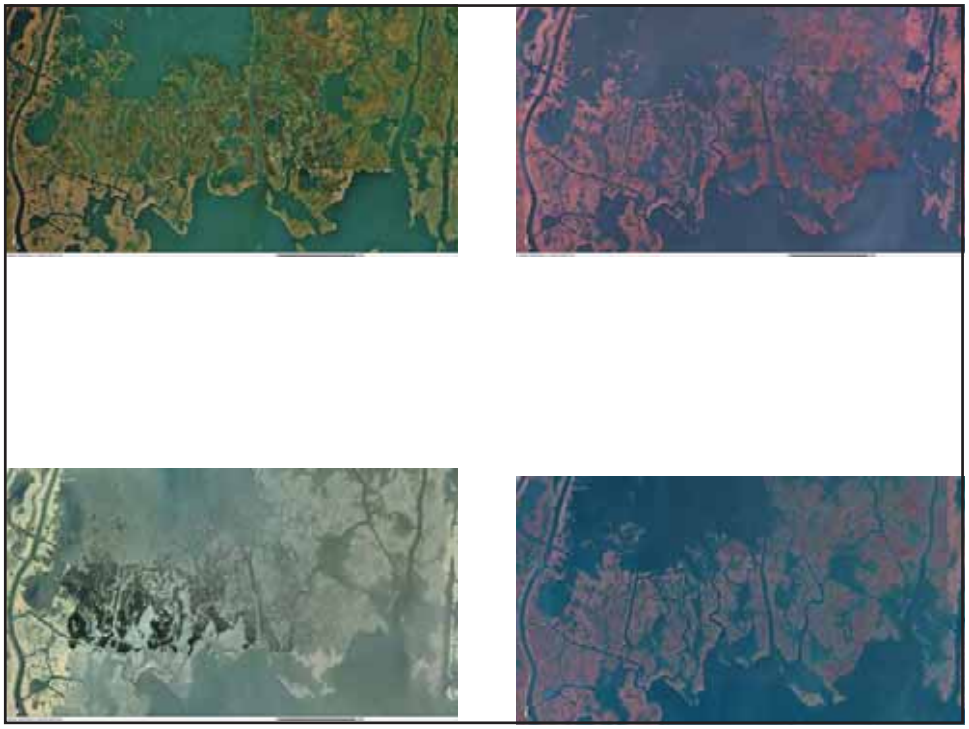


Louisiana Department of Natural Resources
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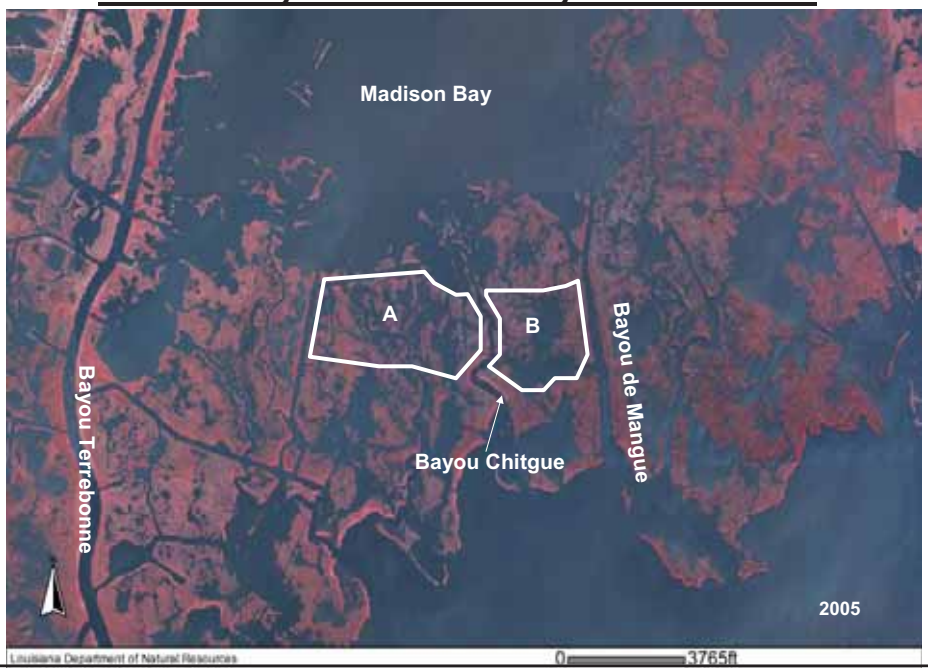
6343ft

Madison Bay – Terrebonne Bay Marsh Creation



R3-TE-06-Bayou Terrebonne Diversion Project

R3-TE-06

PPL 20 PROJECT NOMINEE FACT SHEET
1/27/2010

Project Name
Bayou Terrebonne Diversion Project

Coast 2050 Strategy
Enhance Atchafalaya River influence to Terrebonne Basin marshes

Project Location
Region 3, Terrebonne Basin, Terrebonne Parish, Bayou Terrebonne at Montegut

Problem
The Central and Eastern Terrebonne marshes are greatly deprived of freshwater, nutrients and sediments from riverine sources. Consequently, subsidence and saltwater intrusion have resulted in high rates of land loss. More recently, efforts have been underway to try to optimize freshwater flows to some of these areas where possible; however, the sources of freshwater are greatly limited. The Gulf Intracoastal Waterway (GIWW) has been recognized as a lateral source of freshwater from the Atchafalaya River extending from west to east across the entire Terrebonne Basin. This resource provides the potential to reroute freshwater to the Central and East Terrebonne marshes.

Proposed Project Features
The project will construct a freshwater diversion to move freshwater, nutrients and sediments originating largely from the Atchafalaya River via the GIWW and Bayou Terrebonne into the Montegut Unit marshes in Central Terrebonne. The project will include a construction of a diversion structure to manage freshwater flow through an underground conduit a distance of approximately 1200 ft from the bayou to the northern extent of the marsh.

Goals
To convey freshwater, nutrients and sediments from the Atchafalaya River east via the GIWW and Bayou Terrebonne into the Central Terrebonne marshes.

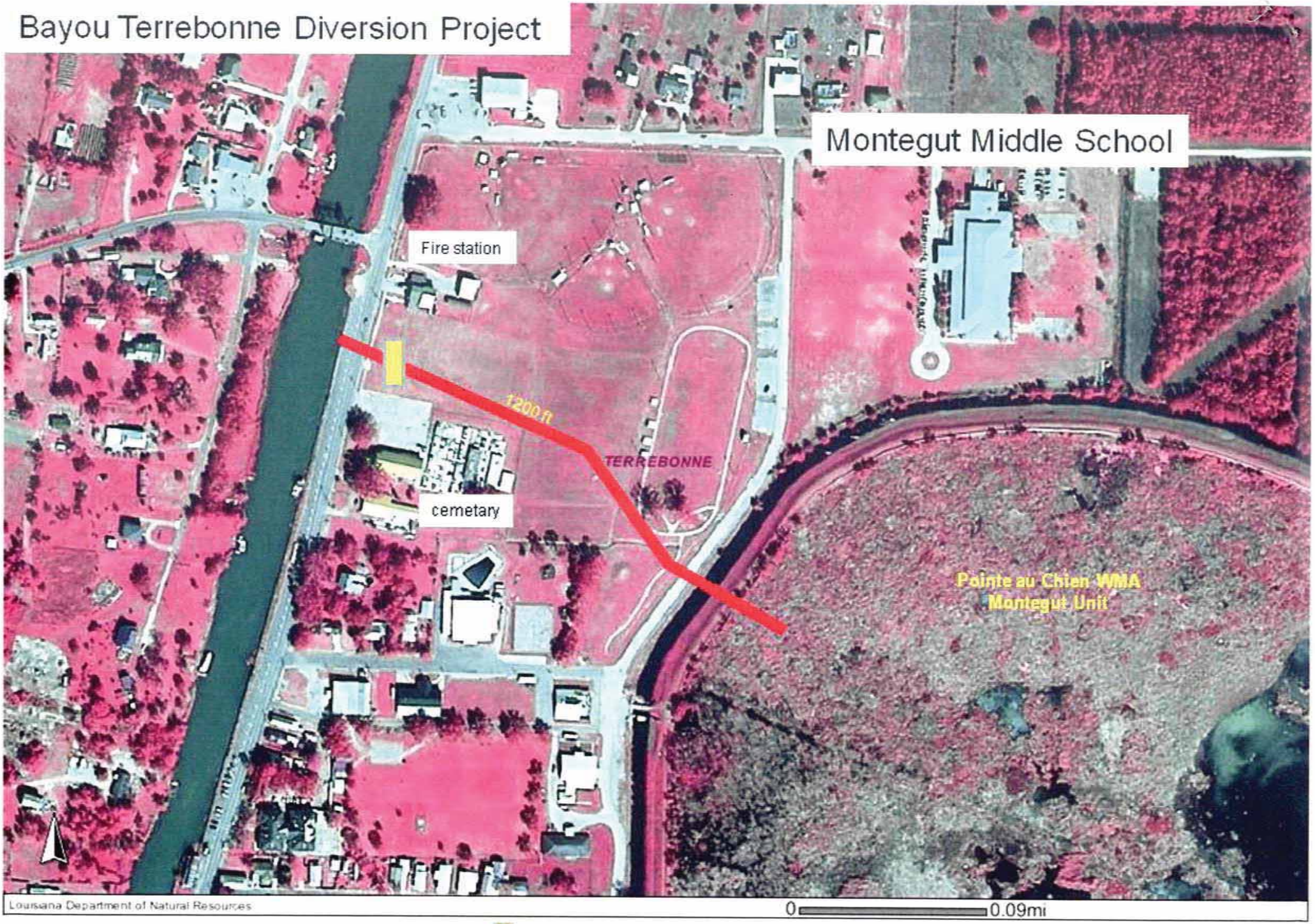
Preliminary Project Benefits
The benefits from this project will be generated from the positive effects of additional nutrients and sediment introduced to a highly deprived marsh area and concurrently reduce salinities to promote more vigorous plant production. Preliminary estimates are that the project will result in approximately 290 net acres of benefit.

Identification of Potential Issues
land rights, O&M

Preliminary Construction Costs
$8.5 million

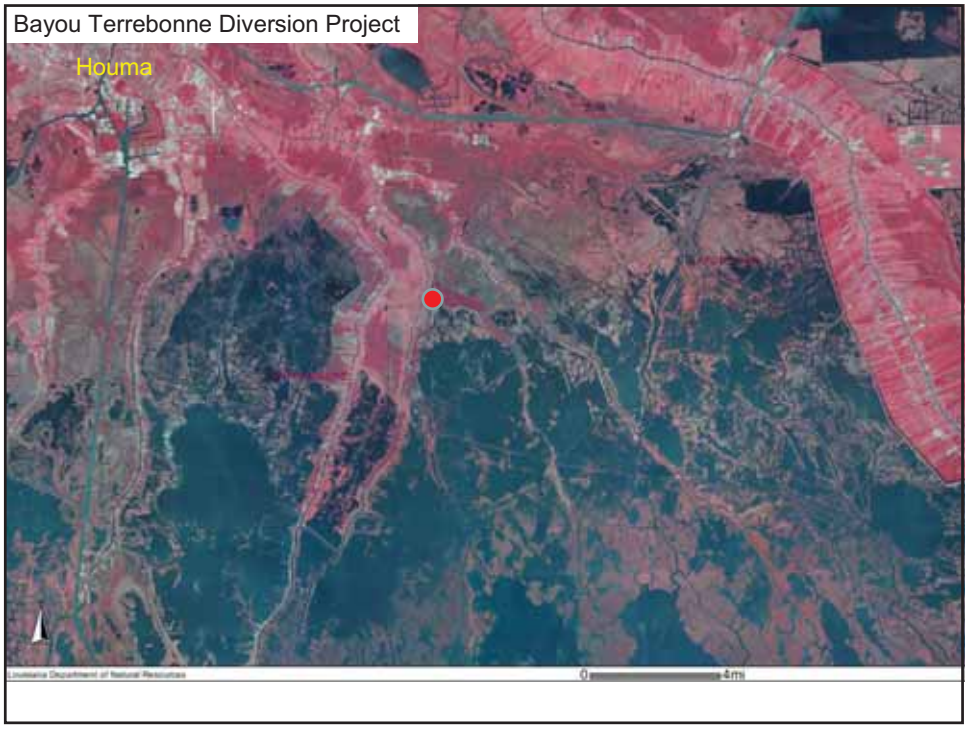
Preparer of Fact Sheet
Ron Boustany, NRCS, (337) 291-3067, ron.boustany@la.usda.gov

Bayou Terrebonne Diversion Project

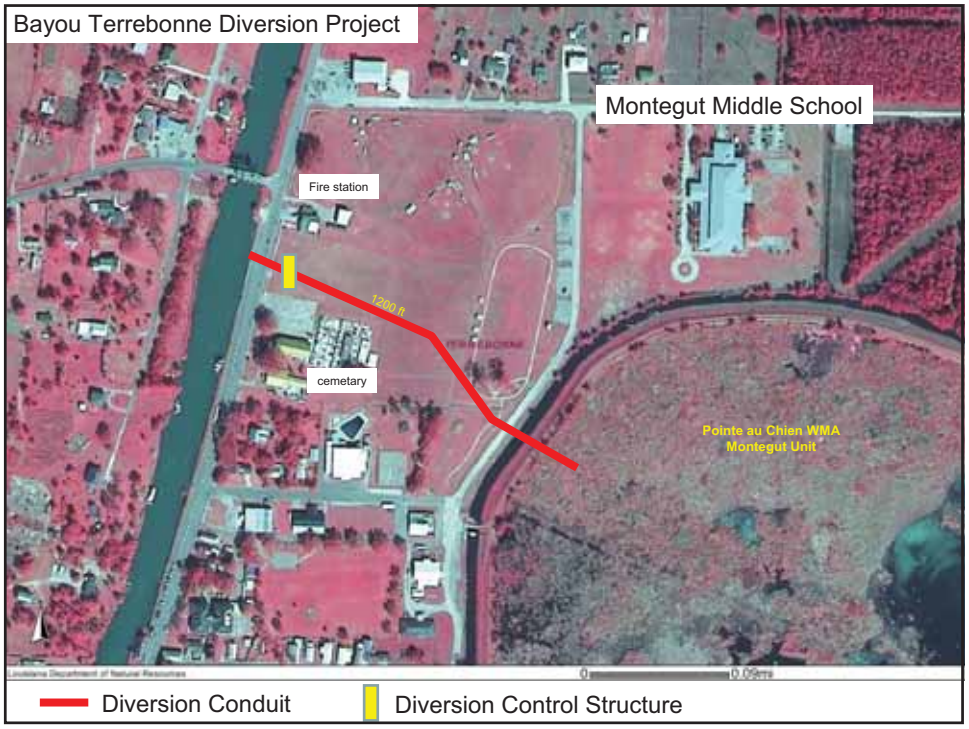


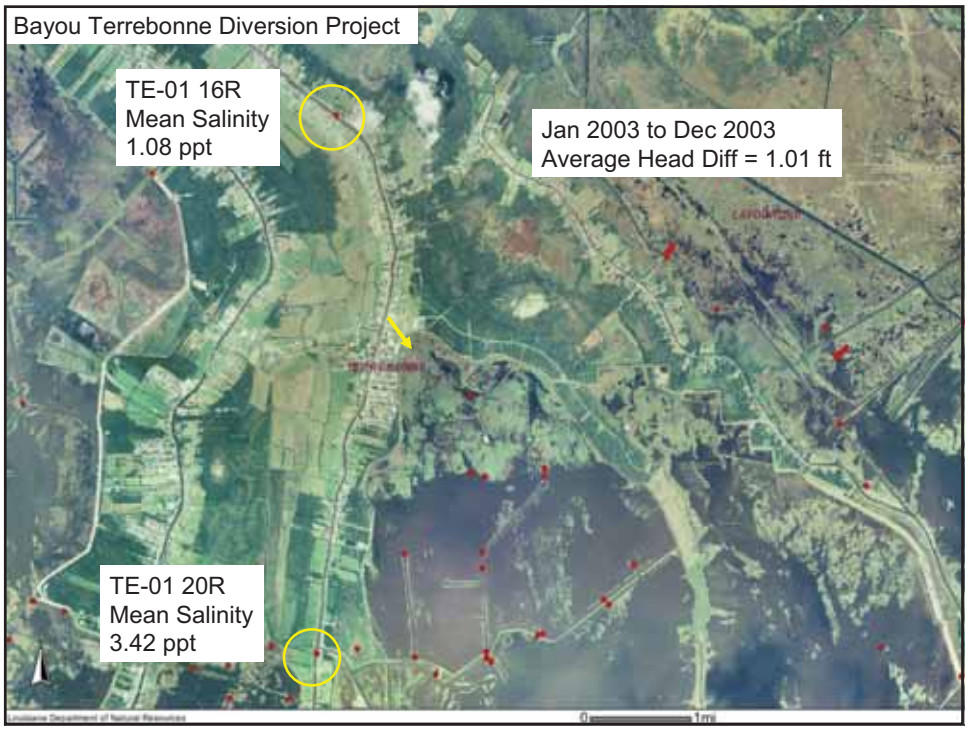
Diversion Conduit

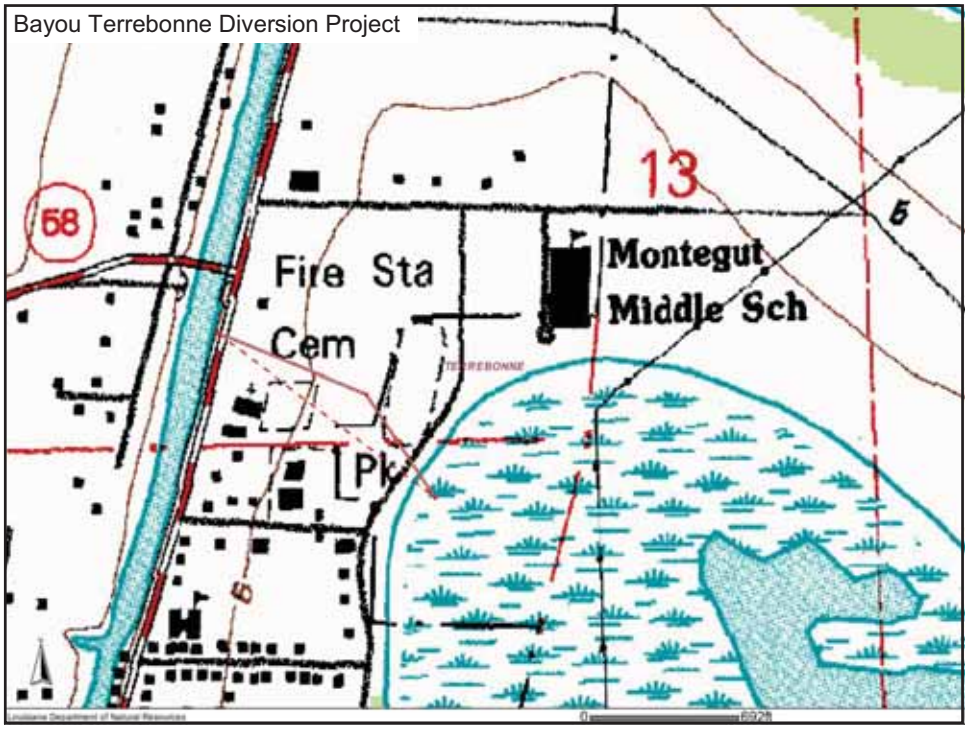
Diversion Control Structure

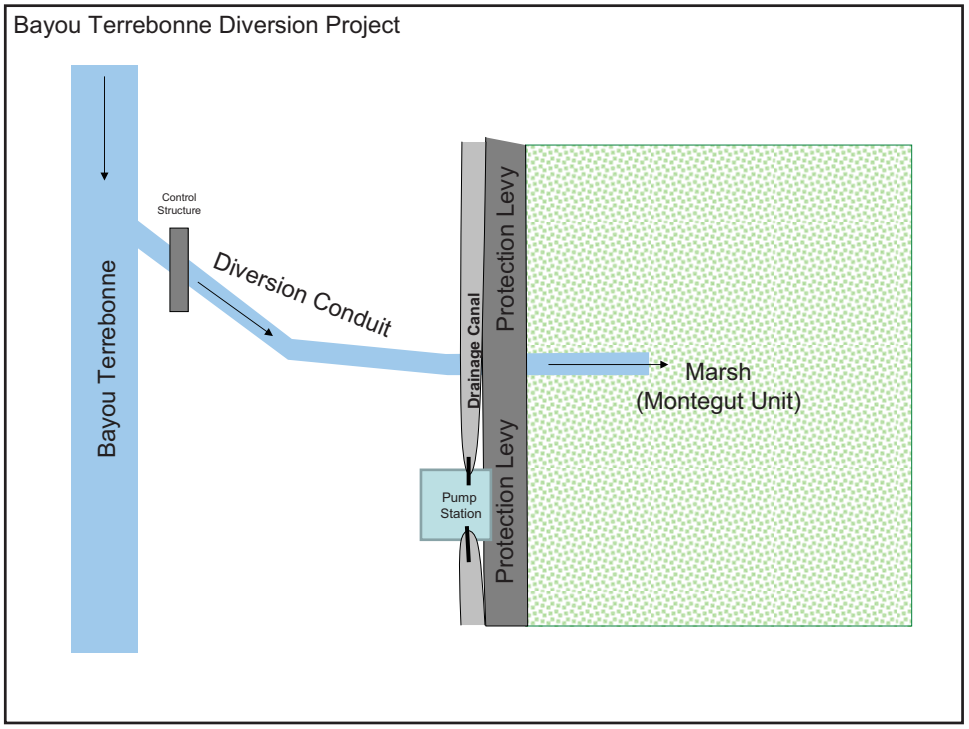

Bayou Terrebonne Diversion Project
Houma


Bayou Terrebonne Diversion Project

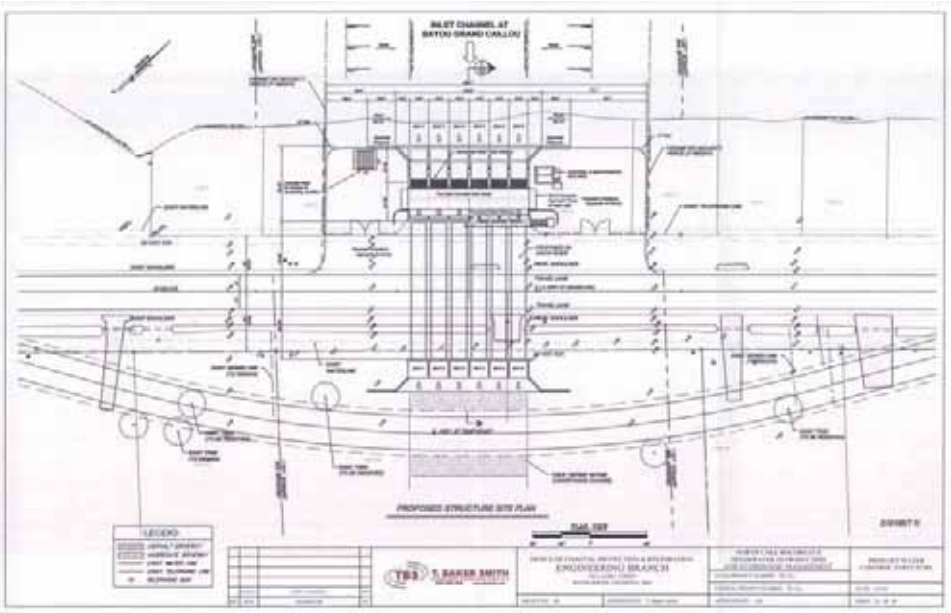

Bayou Terrebonne Diversion Project
Montegut Middle School
Fire station
1200 ft
cemetary
Pointe au Chien WMA
Montegut Unit
Diversion Conduit
Diversion Control Structure

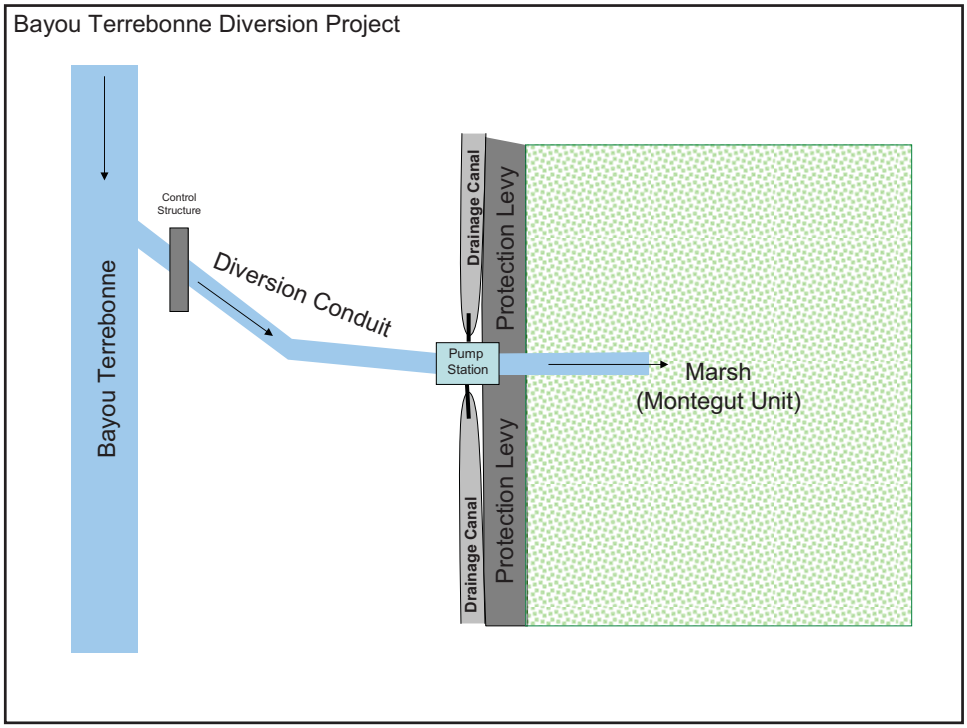

Bayou Terrebonne Diversion Project
TE-01 16R
Mean Salinity
1.08 ppt
Jan 2003 to Dec 2003
Average Head Diff = 1.01 ft
TE-01 20R
Mean Salinity
3.42 ppt


Bayou Terrebonne Diversion Project
13
58
Fire Sta
Cem
Montegut
Middle Sch
Pk


Bayou Terrebonne Diversion Project
Control Structure
Diversion Conduit
Bayou Terrebonne
Drainage Canal
Protection Levy
Protection Levy
Pump Station
Marsh
(Montegut Unit)

Bayou Terrebonne Diversion Project




Bayou Terrebonne Diversion Project
Bayou Terrebonne
Control Structure
Diversion Conduit
Drainage Canal
Protection Levy
Pump Station
Marsh
(Montegut Unit)
Drainage Canal
Protection Levy

R3-TE-07- North Catfish Lake Shoreline Protection

RE-TE-07

PPL 20 PROJECT NOMINEE FACT SHEET
1/27/2010

Project Name
North Catfish Lake Shoreline Protection

Coast 2050 Strategy
Protect Bay and Lake and Gulf shorelines

Project Location
Region 3, Terrebonne Basin, Lafourche Parish, north shore of Catfish Lake

Problem
The north shore of Catfish Lake has experienced average shoreline erosion of 28 ft per year with some areas losing as much as 55 ft per year. Interior marsh loss has also created a large pond on the east side of the lake shoreline that threatens to breach and greatly accelerate wetland loss in the area.

Proposed Project Features
The project will construct 20,000 linear feet shoreline protection along the north shore of Catfish Lake using rock-filled gabion mattress – a technique recently applied with documented success in the TE-45 CWPPRA demonstration project. This method has been proven to greatly minimize complications related to oyster leases and oil and gas infrastructure both of which are present in the project area. The method involves minimal disturbance to surface features and can be installed over existing utility infrastructure.

Goals
The goal of the project is to stop shoreline erosion on the northern half of the Catfish Lake.

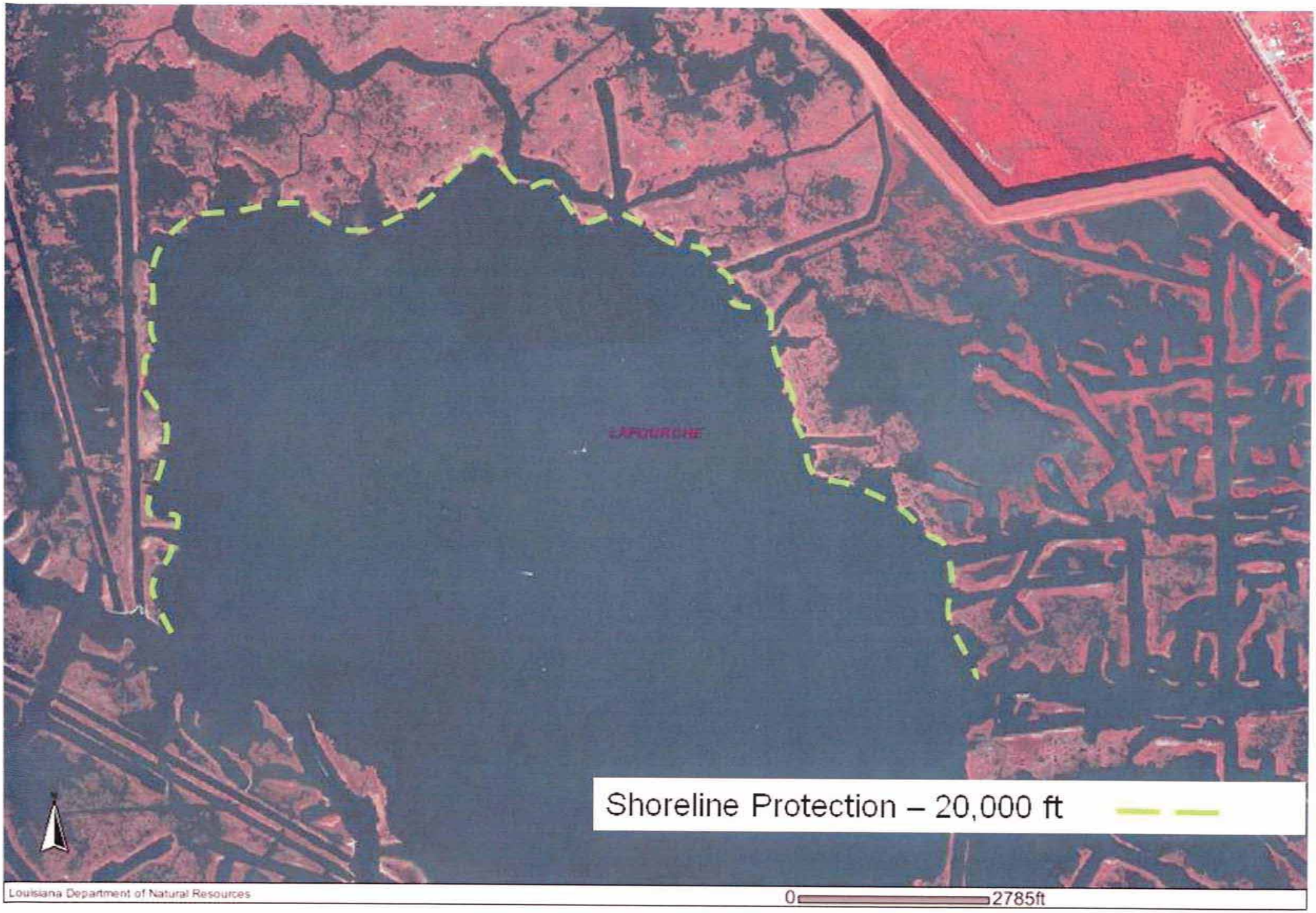
Preliminary Project Benefits
The shoreline protection will stop 27.7 ft of average annual erosion across 20,000 linear feet, which is equivalent to 12.8 acres per year or 257 acres over 20 years.

Identification of Potential Issues
The proposed project has the following potential issues: oysters, land rights, O&M, utilities/pipelines.

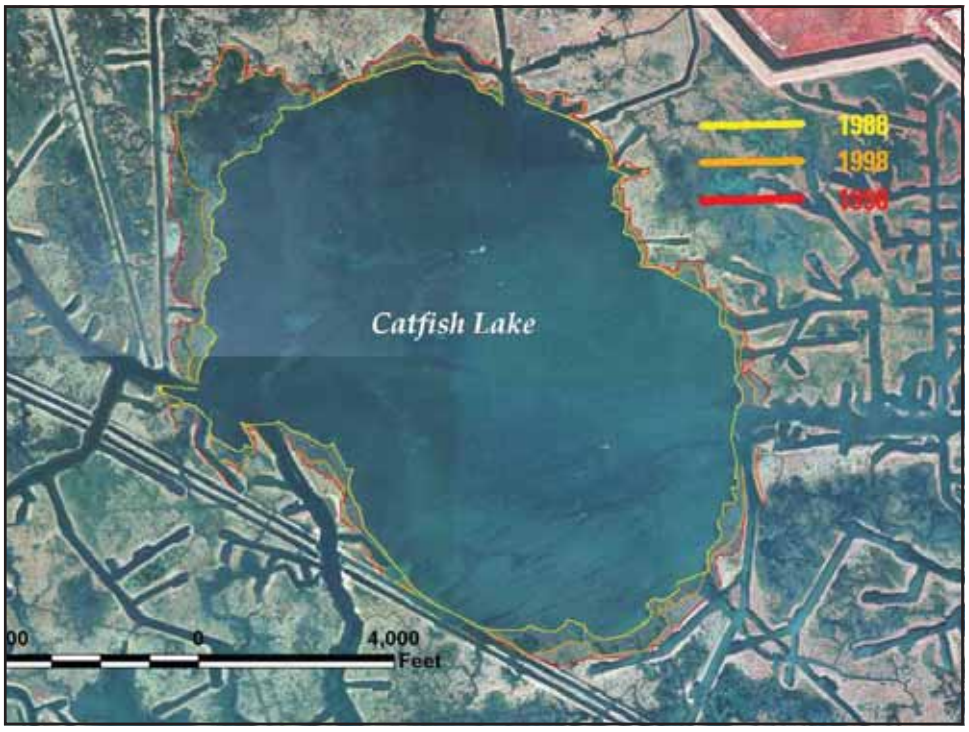
Preliminary Construction Costs
$7.5 million

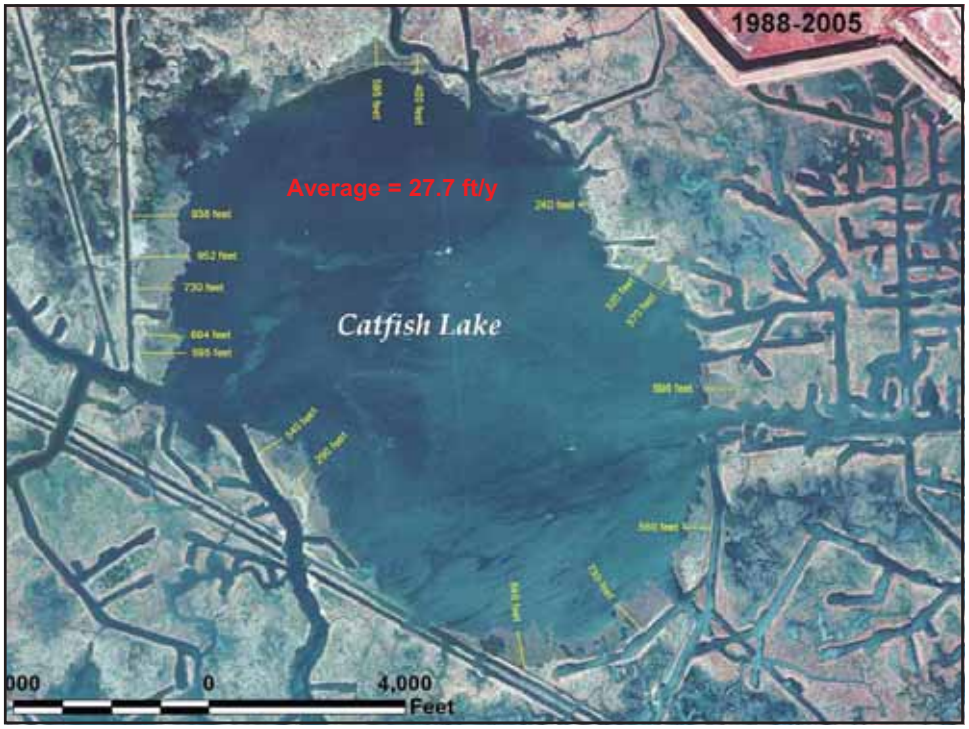
Preparer of Fact Sheet
Ron Boustany, NRCS, (337) 291-3067, ron.boustany@la.usda.gov

Catfish Lake Shoreline Protection

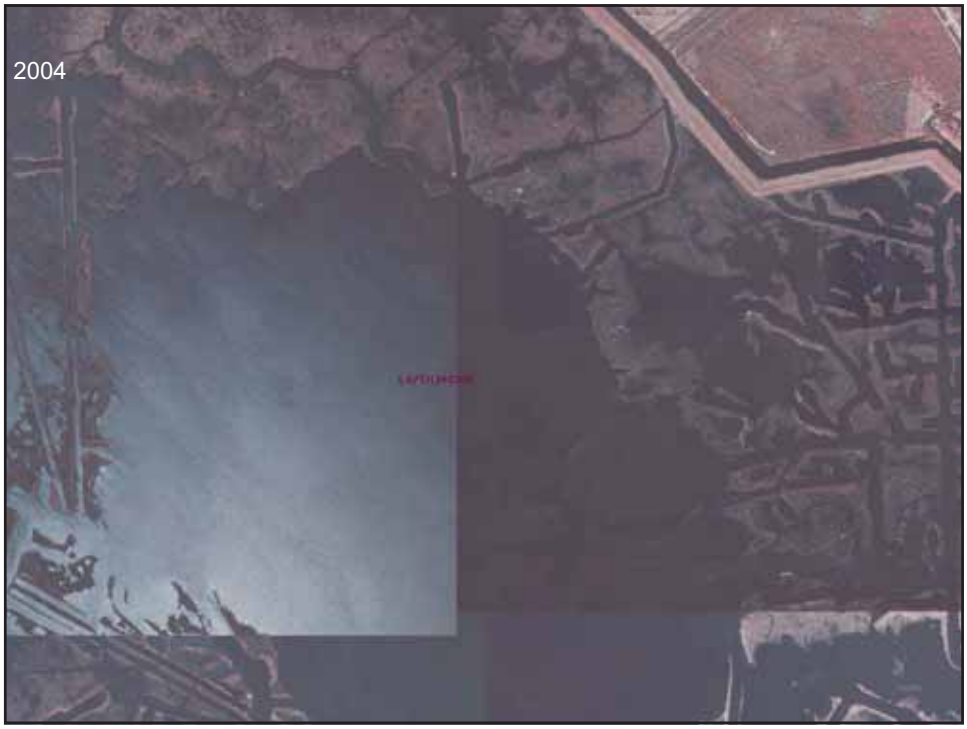


Catfish Lake Shoreline Protection
PPL 20




1988-2005
Average = 27.7 ft/y
Catfish Lake
0
4,000
Feet


1998



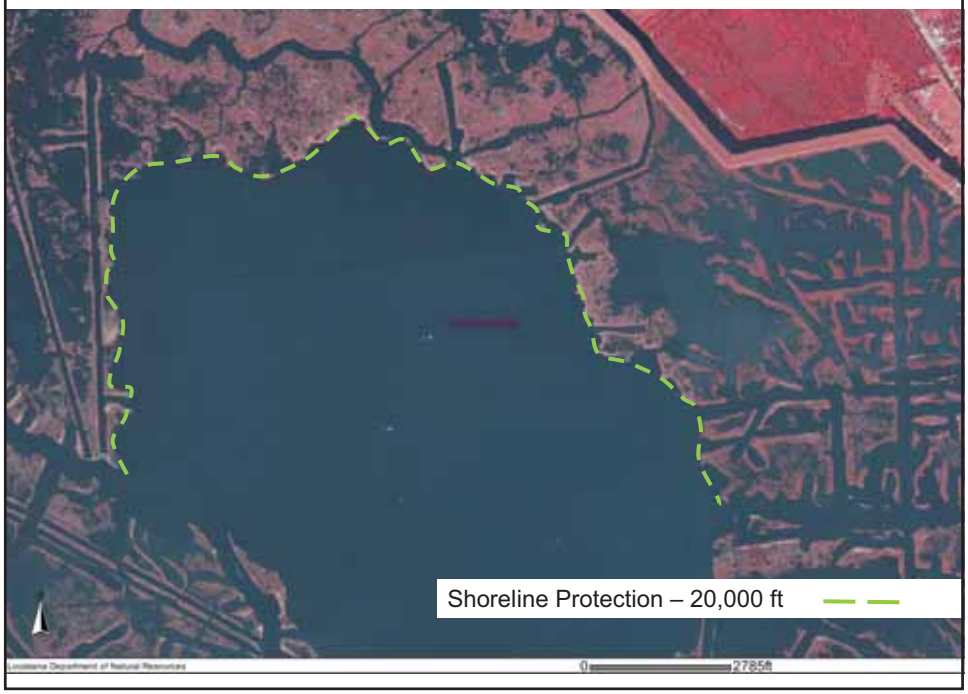
2004

2005

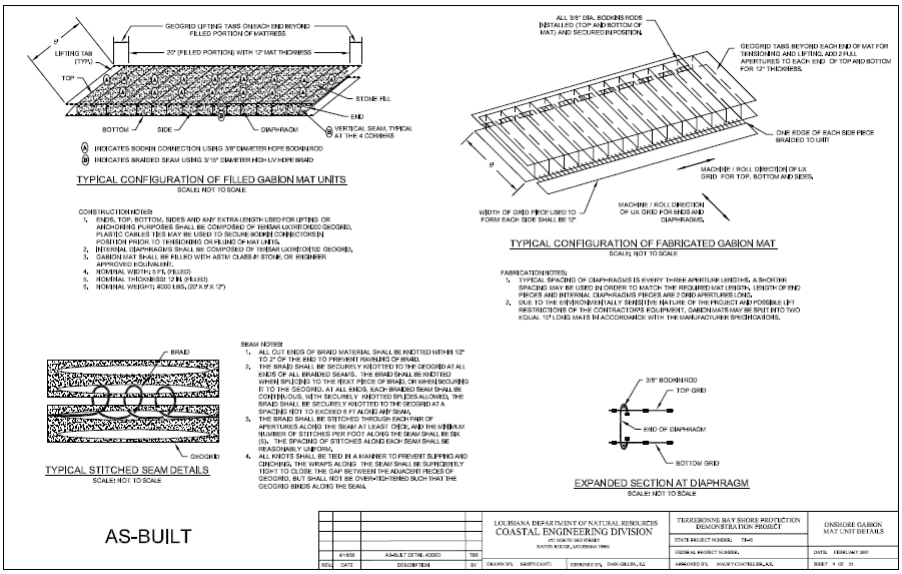

2007


2008

Catfish Lake Shoreline Protection



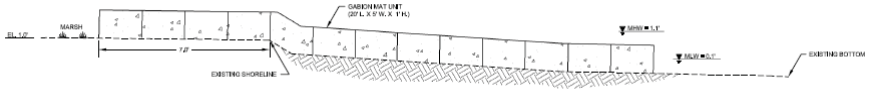
Rock Gabion Mattress



TE-45 CWPPRA Demonstration Project

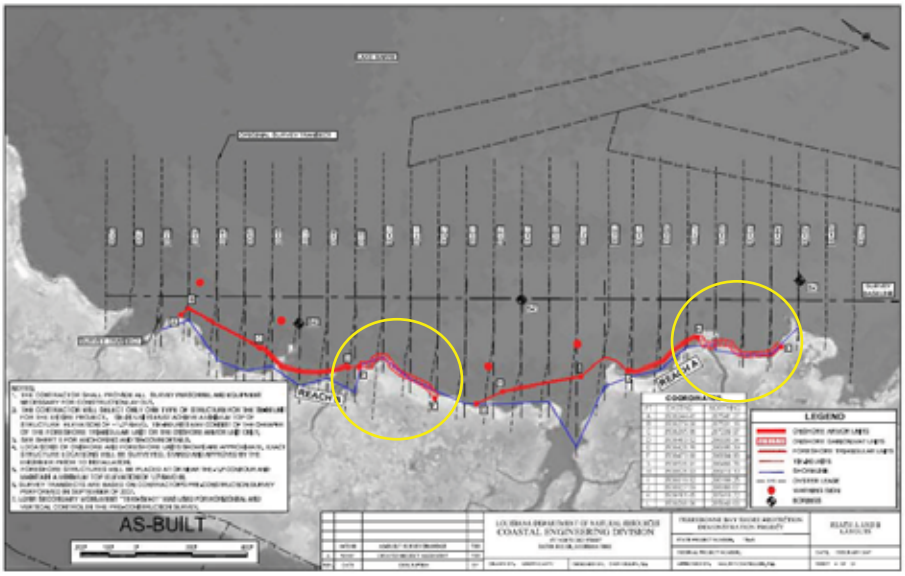
Installation of Gabion Mats (one of the three techniques being used on this project) along the north shore of Lake Barre.

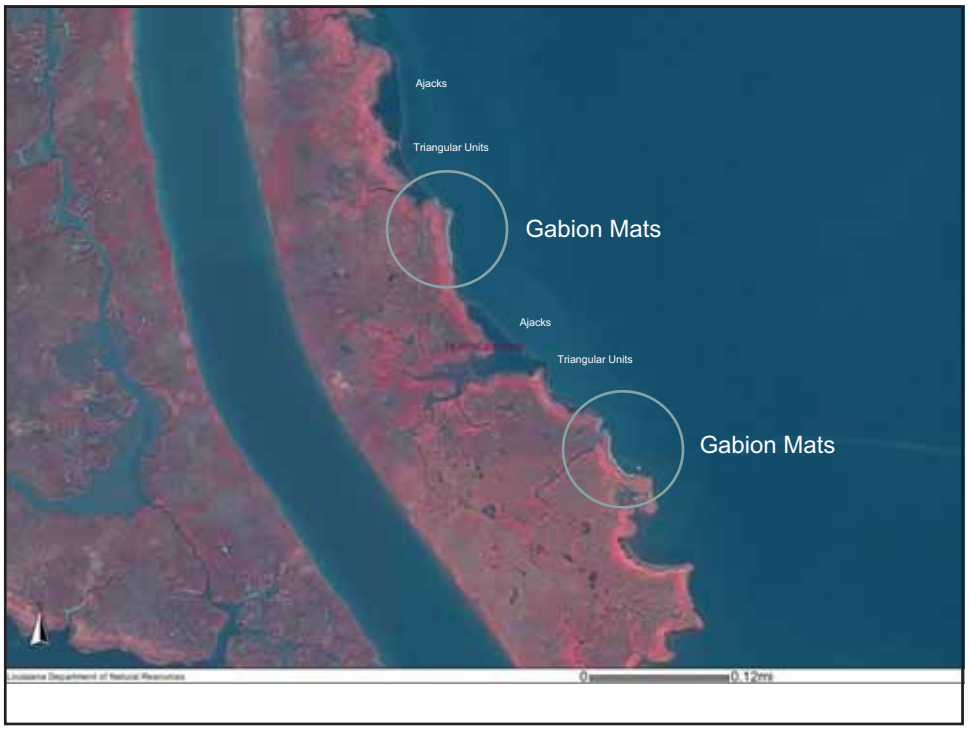
Installed Gabion Mats along the north shore of Lake Barre.

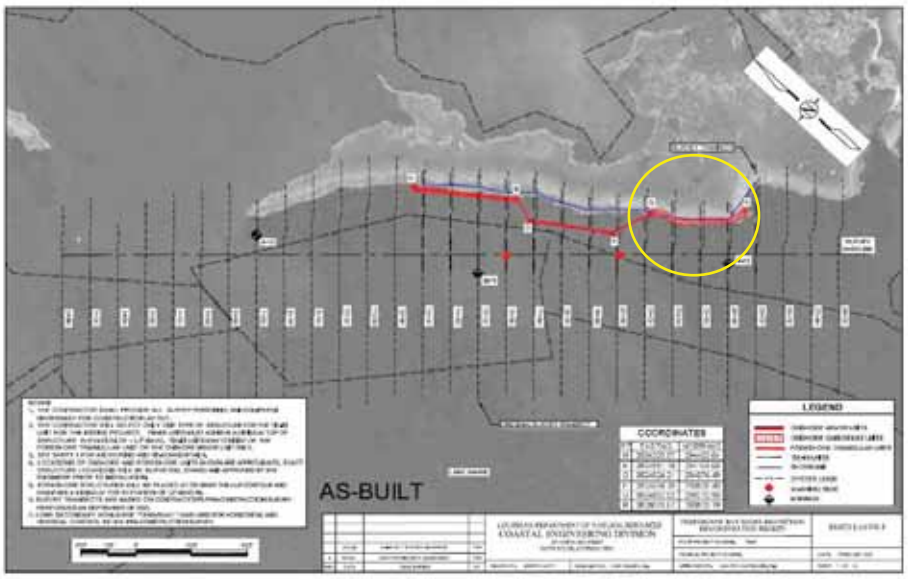


TYPICAL ONSHORE GABION MAT UNIT

NOT TO SCALE


AS-BUILT
LEGEND


Ajacks
Triangular Units
Gabion Mats
Ajacks
Triangular Units
Gabion Mats
0 0.12mi


AS-BUILT
COORDINATES
LEGEND


Ajacks
Triangular Units
Gabion Mats
0 0.064mi

R3-TE-08-St. Louis Canal Freshwater Introduction Project

RE-TE-08

PPL 20 PROJECT NOMINEE FACT SHEET
1/27/2010

Project Name
St. Louis Canal Freshwater Introduction Project

Coast 2050 Strategy
Enhance Atchafalaya River influence to Terrebonne Basin marshes

Project Location
Region 3, Terrebonne Basin, Lafourche Parish, St. Louis Canal at Grand Bois

Problem
The Central and Eastern Terrebonne marshes are greatly deprived of freshwater, nutrients and sediments from riverine sources. Consequently, subsidence and saltwater intrusion have resulted in high rates of land loss. More recently, efforts have been underway to try to optimize freshwater flows to some of these areas where possible; however, the sources of freshwater are greatly limited. The Gulf Intracoastal Waterway (GIWW) has been recognized as a lateral source of freshwater from the Atchafalaya River extending from west to east across the entire Terrebonne Basin. This resource provides the potential to reroute freshwater to the Central and East Terrebonne marshes.

Proposed Project Features
The project will replace two water control structures in the northern section of the St. Louis Canal near Grand Bois which currently block water flow from north to south to provide freshwater from the GIWW to Central and East Terrebonne marshes. The project will also perform channel improvement of the St. Louis Canal to optimize flow efficiency through the channel.

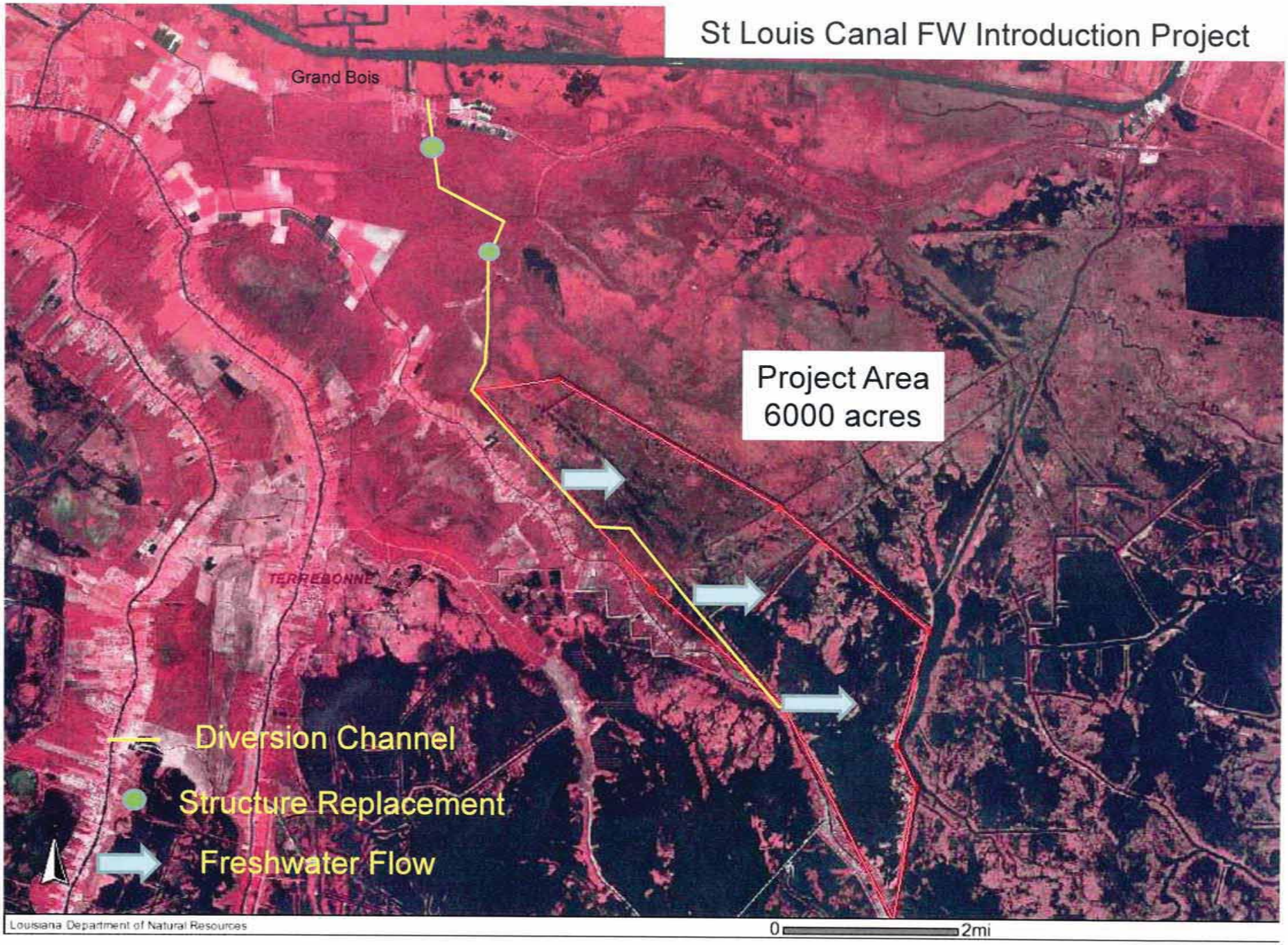
Goals
To convey freshwater, nutrients and sediments from the Atchafalaya River east via the GIWW into the Central Terrebonne marshes.

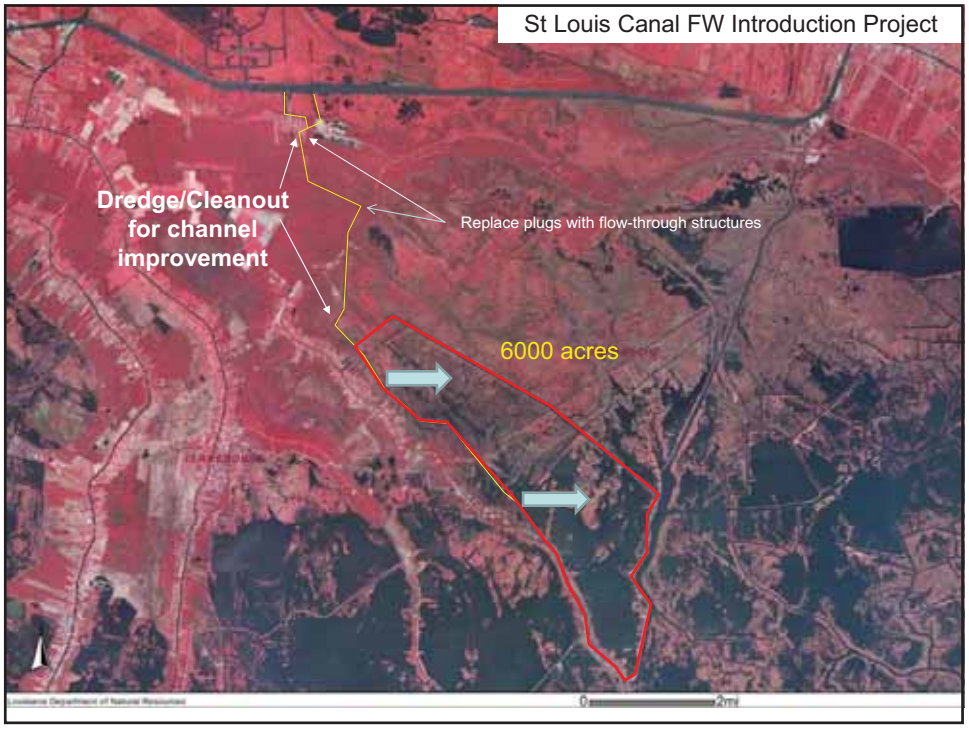
Preliminary Project Benefits
The benefits from this project will be generated from the positive effects of additional nutrients and sediment introduced to a highly deprived marsh area and concurrently reduce salinities to promote more vigorous plant production. Preliminary estimates are that the project will result in approximately 280 net acres of benefit.

Identification of Potential Issues
Land rights and O&M

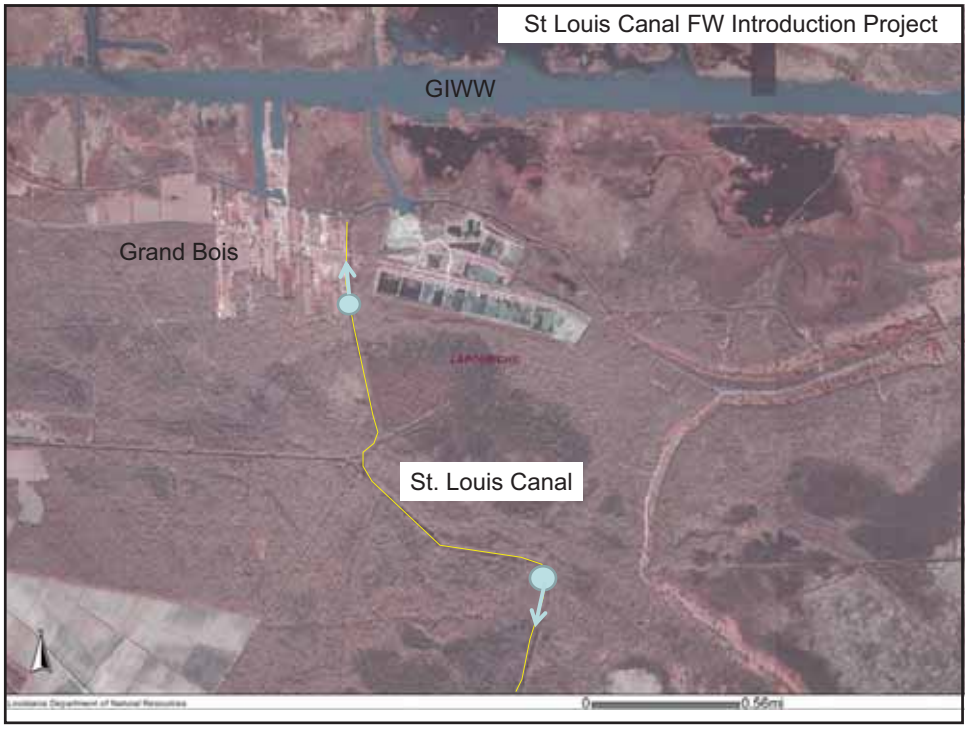
Preliminary Construction Costs
$3.5 million

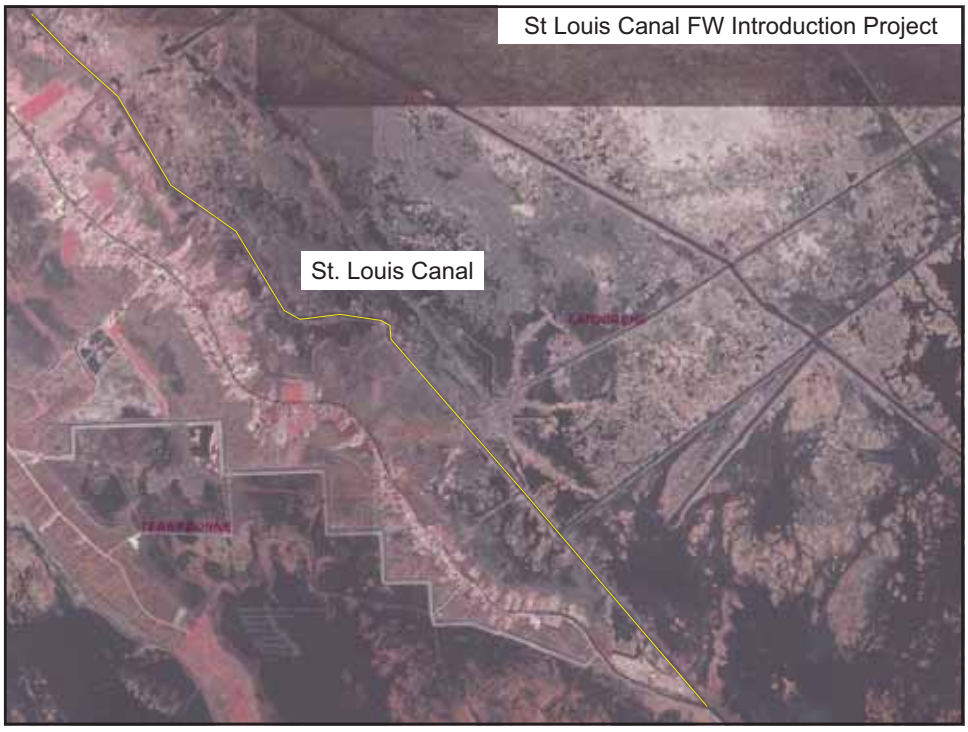
Preparer of Fact Sheet
Ron Boustany, NRCS, (337) 291-3067, ron.boustany@la.usda.gov

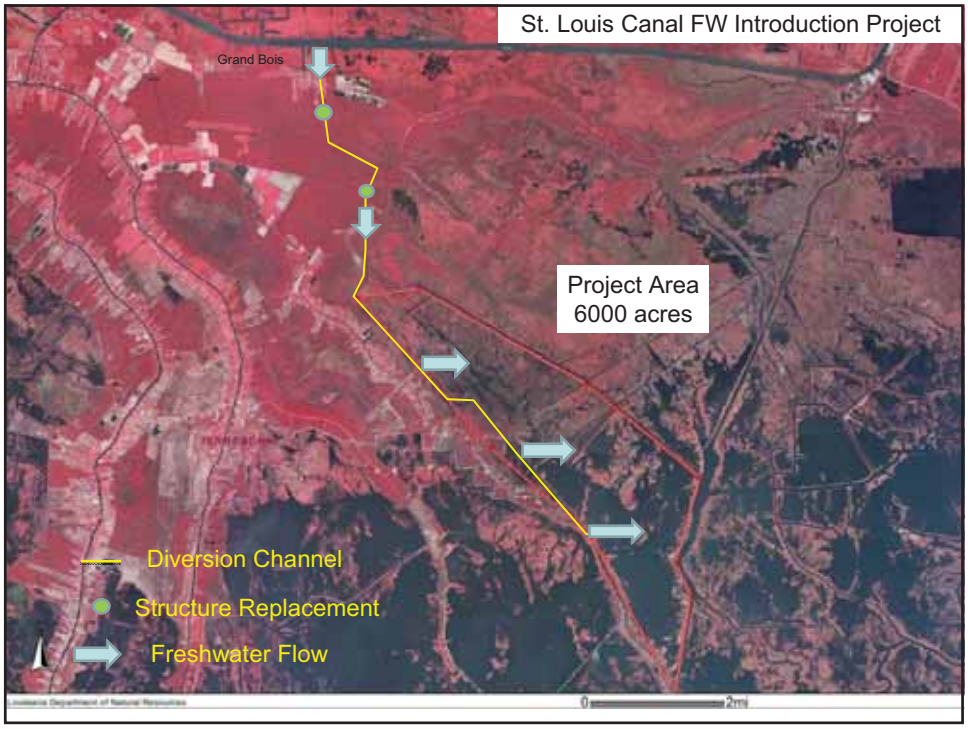

St Louis Canal FW Introduction Project
Grand Bois
Project Area
6000 acres
TERREBONNE
Diversion Channel
Structure Replacement
Freshwater Flow
Louisiana Department of Natural Resources
0
2mi


St Louis Canal FW Introduction Project
Dredge/Cleanout for channel improvement
Replace plugs with flow-through structures
6000 acres


St Louis Canal FW Introduction Project
GIWW


St Louis Canal FW Introduction Project
GIWW
Grand Bois
St. Louis Canal


St Louis Canal FW Introduction Project
St. Louis Canal



View from S plug

S plug

View North from N plug

R3-TE-09-Bayou Dularge Freshwater Introduction and Terracing Project

PPL-20 Project Nominee Fact Sheet

Project Name:
Bayou Dularge Freshwater Introduction and Terracing Project

Coast 2050 Strategy:
Coastwide strategy: Management of pump outfall for wetland benefits
Regional strategy: Construct small diversions with outfall management
Regional strategy: Dedicated delivery of sediment for marsh building by any means feasible

Project Location:
Region 3. Terrebonne Basin, Terrebonne Parish. The project is located in the northwest and southeast open water areas adjacent to Falgout Canal and Bayou Dularge.

Problem:
Wetlands within the Terrebonne Basin are experiencing some of the most drastic land loss rates in the state. Suffering from a combination of subsidence, salt water intrusion, and lack of sediment, freshwater, and nutrient input, these areas are in a perpetual state of decline unless action is taken to reverse these conditions. Numerous river diversions and siphons have been constructed to replenish failing wetlands; however, these projects are costly and not available to all areas of the coast. With much of south Louisiana under forced drainage, there are numerous opportunities to optimize both drainage and the beneficial discharge of collected stormwater by retrofitting existing pumping stations. Stormwater discharge is mainly pumped into canals dredged adjacent to pumping stations specifically to facilitate drainage. Stormwater, containing freshwater and to some extent nutrients, is then channelized and diffused into large open receiving bays. Currently, the D18 structure discharges a maximum of 200 cfs into a marina that flows into Falgout Canal and into Lake Decade. This area is already mostly fresh-intermediate, and benefits from stormwater is largely diffused by an already mostly fresh Falgout Canal. The proposed project area currently has very little opportunity to receive fresh water and most of the land loss in this unit was from salt water that moved in from storms with no abatement from freshwater sources. Fresh stormwater would be redirected into these wetlands which would serve as a dedicated source of freshwater into stressed marshes.

Proposed Project Features:
The project will include two features, 1) 130,000 linear feet of earthen terracing in the open water areas flanking Bayou Dularge and Falgout Canal, and 2) siphoning freshwater from Mormand Canal into pump station D18 and re-routing 300 cfs of the stormwater discharge north into the terracing field. Coordination with parish drainage personnel has been part of this preliminary process and initial site scoping, and will be closely continued throughout each phase of project selection.

Preliminary Project Benefits:
The intent of this project is to create marsh via earthen terracing and to divert freshwater into marshes that are currently stressed. The terrace field is approximately 1,045 acres, with a direct benefit to approximately 250 acres of emergent marsh.

Identification of Potential Issues:
Beneficially redirecting stormwater drainage is a known technique and has been previously applied and studied in south Louisiana. Since this is stormwater only, no water quality issues with the Dept. of Environmental Quality are expected. The parish and main landowner have been contacted and have indicated no issues with the project concept. The project would avoid Morganza levee features.

Preliminary Construction Costs:
Preliminary construction cost estimate plus 25% contingency is $7,100,000.

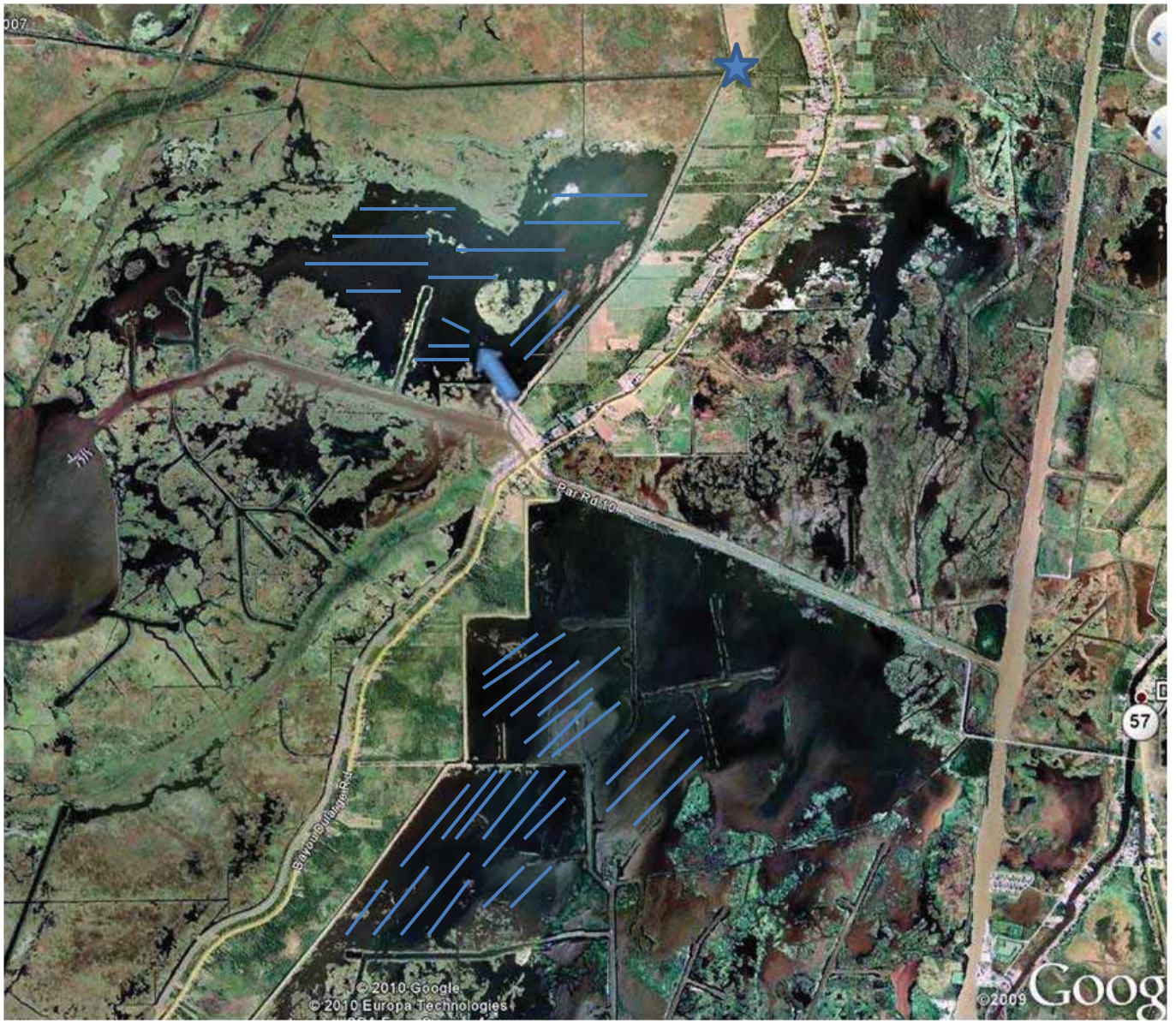
Preparer of Fact Sheet:
Cheryl Brodnax, NOAA NMFS, (225) 578-7923, cheryl.brodnax@noaa.gov

PPL-20 Nominee: Bayou Dularge Freshwater Introduction and Terracing Project

Siphon Location

Freshwater Redirect (Pump station D18)

Conceptual terrace locations



R3-TE-10-Terrebonne Bay Marsh Creation-Nourishment Project

R3-TE ~~09~~ 10

PPL19 PROJECT NOMINEE FACT SHEET
January 27, 2010

Project Name:
Terrebonne Bay Marsh Creation-Nourishment Project

Coast 2050 Strategy:
Coastwide Strategy: Maintenance of Bay and Lake Shoreline Integrity
Region 3 Strategy #8; Dedicated Dredging for Wetland Creation, #11- Maintain shoreline integrity of marshes adjacent to Caillou, Terrebonne, and Timbalier Bays

Project Location:
Region 3, Terrebonne Basin, Terrebonne Parish. Beginning on the southernmost contiguous point along the east bank of Bayou Terrebonne, continuing east along the northern shoreline of Terrebonne Bay and ending at Bayou Chitique.

Problem:
Emergent marshes north of Terrebonne Bay have been eroding as fast or faster than almost any other marshes along coastal Louisiana with high interior landloss rates calculated to be 2% per year and moderate shoreline erosion rates calculated to be 5.9 ft per year. Reasons for this include a lack of sediment input and a limited supply of freshwater coupled with past dredging of oil and gas canals. This rapid loss of land has dramatically increased the tidal prism north of Terrebonne Bay and directly contributes to the ongoing flooding problems of many communities along Bayou Terrebonne including the town of Montegut. This rapidly increasing tidal prism is likely accelerating the interior marsh loss rates for those marshes directly north of Terrebonne Bay. These marshes also serve to slow the progress of high saline waters that threaten the lower saline marshes north and west of Madison Bay and even in Lake Boudreaux.

Goals:
The goal of this project would be to start reducing the tidal prism that has been increasing for many years. This overall goal would be realized by strengthening the northern shoreline of Terrebonne Bay, creating and nourishing the emergent marshes just north of Terrebonne Bay. All these components of the project would work synergistically to reduce water exchange between Terrebonne Bay and interior lakes during normal tidal events and small storm events
Specific goals: 1) Reduce shoreline erosion along 16,800 ft of the northern shoreline of Terrebonne Bay. 2) Create 235 ac of emergent marsh in shallow open waters and nourish an additional 550 ac of emergent marsh.

Proposed Solutions:
This project would propose to strengthen approximately 16,800 ft of shoreline along the northern bank of Terrebonne Bay by creating a high marsh along the shoreline and plant with *Spartina alternaflora*. North of the shoreline, 235 acres of emergent marsh would be created in shallow open water and 550 acres of emergent marsh would be nourished by hydraulic dredge. Dredge material would be placed to a height of +1.5 NAVD 88 in the interior marshes and +2.0 along the shoreline. All constructed containment dikes would be sufficiently gapped or degraded no later than 3 years post construction to allow for fisheries access. This could be one part of a

phased comprehensive plan to protect the northern shoreline of Terrebonne Bay from further erosion. The project would also work synergistically with the previously constructed CWPPRA Terrebonne Bay Demonstration Project (TE-45) which is adjacent to this proposed project.

Preliminary Project Benefits:

1) *What is the total acreage benefited both directly and indirectly?* Acres directly benefited by this project would be 785 acres of marsh. This would include the nourishment of 16,800 ft. of project area shoreline, reducing the shoreline erosion rates by 25% from an average of 5.91 ft/yr (3 to 8 feet per year USGS - PPL 18) to 4.43 ft/yr. This project would also create 235 acres of marsh and nourish 550 acres of emergent marsh, reducing interior land loss rates 50% from 2.05% to 1.02% per year. Additional indirect benefits would be realized through the reduction of wind induced waves in the interior marsh ponds and a reduction of the tidal prism which could also reduce interior land loss rates affecting surrounding marshes.

2) *How many acres of wetlands will be protected/created over the project life?* This project would create/nourish approximately 639 ac of emergent marsh over the 20 year project life.

3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life?* This project would initially create/nourish 785 acres of marsh and the interior loss rate of 2.05% per year would be reduced by 50% to 1.02% per year. This project would also seee a 25% reduction in the shoreline erosion rate along 16,800 ft. of shoreline from 5.91 ft/yr to 4.43 ft/yr. If the proposed project were to be constructed marsh loss rates would be expected to be reduced by 50% throughout the area of direct benefits 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 rime, Cheniers, etc?* This project would restore and help maintain the Terrebonne Bay shoreline as well as many other small lakes, marsh ponds, and bayous which their banks make-up many of the ridges in the marsh environment.

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

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration project?* This project would work with the recently constructed CWPPRA Terrebonne Bay Demonstration Project TE-45.

Identification of Potential Issues:

Pipelines and oyster leases are potential issues with this project.

Preliminary Construction Costs:

Construction costs area approximately $13.8 million with a 25% contingency the cost would be approximately $17.2 million.

Preparer(s) of Fact Sheet:

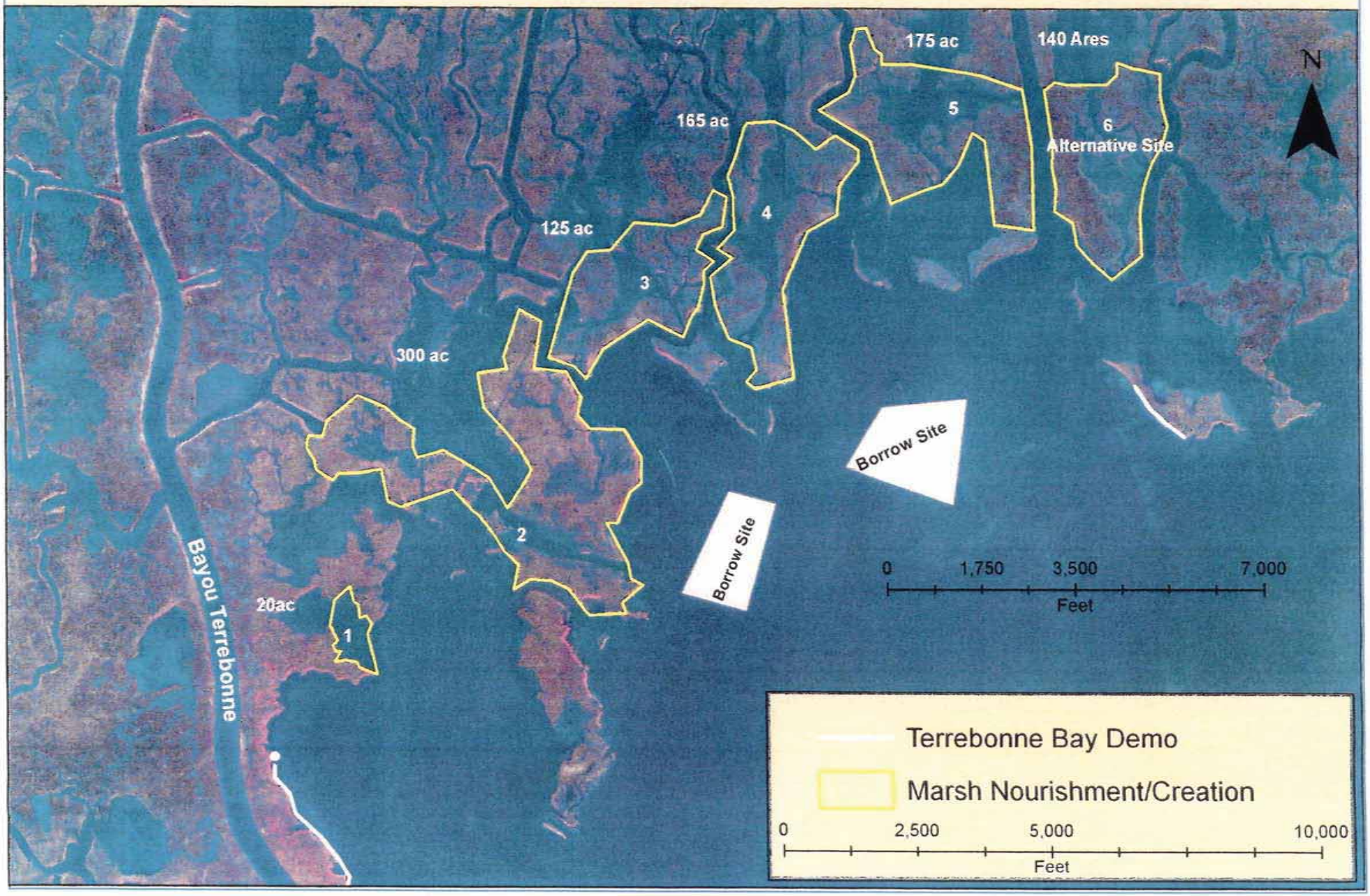
Robert Dubois, USFWS, (337) 291-3127, robert_dubois@fws.gov

U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

2008 DOQQ

Terrebonne Bay Marsh Creation and Marsh Nourishment Project



TERREBONNE BAY MARSH CREATION AND MARSH NOURISHMENT PROJECT


U.S. Fish & Wildlife Service
Louisiana Ecological Services Field Office
2005 DOQQ
Terrebonne Bay Marsh Creation and Marsh Nourishment Project
175 ac
140 Ares
165 ac
125 ac
300 ac
20ac
Alternative Site
Borrow Site
Borrow Site
Bayou Terrebonne
N
Terrebonne Bay Demo
Marsh Nourishment/Creation
0
2,500
5,000
10,000
Feet


U.S. Fish & Wildlife Service
Louisiana Ecological Services Field Office
2008 DOQQ
Terrebonne Bay Marsh Creation and Marsh Nourishment Project
175 ac
140 Ares
165 ac
125 ac
300 ac
20ac
Alternative Site
Borrow Site
Borrow Site
Bayou Terrebonne
N
Terrebonne Bay Demo
Marsh Nourishment/Creation
0
2,500
5,000
10,000
Feet

Project Area Problems:

- **This area has a high interior loss rate – 2.0%/yr.**
- **This area has a moderate shoreline erosion rate - 5.9 ft/yr.**
- **As marsh is lost through subsidence, the shoreline erosion rater should increase in the future.**
- **As this area continues to lose brackish marsh habitat through subsidence and shoreline erosion, the tidal prism north of the project area is increasing causing larger tide events near the town of Montegut.**

Specific goals:

- **1) Reduce shoreline erosion along 16,800 ft of the northern shoreline of Terrebonne Bay.**
- **2) Reduce the interior landloss along a portion on the southern shoreline of Terrebonne Bay**

Proposed Solution:

- **This project would strengthen approximately 16,800 ft of shoreline by creating a high marsh along the shoreline (+2.0) and would plant with *Spartina alternaflora*.**

- **North of the shoreline, 235 acres of emergent marsh would be created in shallow open water and 550 acres of emergent marsh would be nourished by hydraulic dredge. Dredge material would be placed to a height of +1.5.**

Summery

- Creating 235 acres ;Nourishing 550 acres

- Net Benefits of 271 acres at TY20

- Construction Cost of $13.8 Mill or
  $17 Mill with a 25% Contingency

- Part of a larger project to rehabilitate the landbridge located between Bayou Terrebonne and Bayou Lafourche

R3-TE-11- Bay Raccourci Shoreline Restoration and Marsh Creation

B R3-TE-110

PPL20 PROJECT NOMINEE FACT SHEET
January 27, 2010

Project Name:
Bay Raccourci Shoreline Restoration and Marsh Creation Project

Coast 2050 Strategy:
Region 3 Strategy #8- Dedicated delivery of sediment for marsh building by any feasible means Coastwide Strategy: Maintain bay and shoreline integrity; Vegetative plantings; #2: Maintain estuarine gradient to achieve diversity

Project Location:
Region 3, Mechant/de Cade Basin, Terrebonne Parish. This project is located north of Lake Mechant.

Problem:
High saline waters (during the summer and fall months) from Lake Mechant have directly contributed to the loss and/or conversion of much of the historically intermediate marshes to low salinity brackish marshes north of Lake Mechant. Much of the emergent marshes have converted to open water and as these marshes converted to open water increased fetch is now also accelerating interior marsh loss. The zone of intermediate marsh in this area is very narrow and is located directly north of Lake Mechant. This transition zone between brackish marsh and the very productive fresh marshes is a very unique zone that is becoming increasingly scarce along coastal Louisiana. The CWPPRA North Lake Mechant Project TE-44, which is currently under construction, will help retain that transition zone by strengthen critical marshes directly north of the Lake. It will also close some key water exchange points to further slow the movement of high saline waters north. The largest exchange point between Lake Mechant and the lower saline marshes north of the lake is Bayou Raccourci. Currently, water from the Lake enters Bayou Raccourci continuing north until it empties into Bay Raccourci, which is just a short distance from the lake. When the high saline water enters Bay Raccourci from Bayou Raccourci it effectively short circuits the TE-44 project and can flow unimpeded into the lower saline marshes in any direction. This project will help reduce the effects of that water exchange point which could not be addressed by the TE-44 project, by restoring the integrity of the Bay Raccourci shoreline through shoreline restoration and marsh creation.

Goals :
The goal of this project is to slow the northern movement of high saline water that enter the low brackish and intermediate marsh directly north of Bay Raccourci and try to retain that zone of intermediate marsh that historically ran south of Lake Decade and north of Bay Raccourci. *Specific goals*: 1) Create approximately 410 acres of intermediate/low brackish marsh around the perimeter of Bay Raccourci. 2) Restore approximately 23,500 linear feet of Bay Raccourci shoreline. 3) Plant the 25,500 ft of the newly restored Bay Raccourci shoreline.

Proposed Solutions:
This project would restore approximately 23,500 linear feet of Bay Raccourci shoreline which would effectively complete the restoration of that shoreline. Shoreline restoration would be accomplished by creating an earthen berm that would be built to a height of +2 ft NAVD 88 and have a 50 crown width. The bay side face of that berm would be planted with *Spartina alternaflora* to quickly establish marsh to minimize the initial erosion. Directly behind the

shoreline restoration approximately 410 ac of intermediate and low salinity brackish marsh would be created. That marsh would be created by dredging material from the bottom of either Lake Decade of Lake Mechant with a hydraulic dredge. Material would be pumped by a pipeline and placed in cells to a height of +1.5 ft NAVD 88. The material would be contained with earthen containment dikes which would be gaped or degraded no later than 3 years post construction.

Preliminary Project Benefits:

1) *What is the total acreage benefited both directly and indirectly*? 460 acres- The project area would benefit from the 410 acres of marsh that would be created and by filling an open water area with dredged material. An additional 50 acres would be created with a bucket dredge while creating the earthen berm for shoreline restoration. Indirect benefits could be realized from marshes to the west, north and east of the newly created marsh by reducing the salinity spikes that can be seen during the summer and fall months.

2) *How many acres of wetlands will be protected/created over the project life*? Approximately 304 acres of emergent marsh would be 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 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 Bay Raccourci shoreline would be considered a structural component of the coastal ecosystem, thus restoration of that shoreline fulfill that criteria.

5) *What is the net impact of the project on critical and non-critical infrastructure*? This project would protect numerous camps along Bayou Decade which would be considered non-critical infrastructure.

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 shoreline protection component of the Phase II approved Lake Decade project and the newly constructed TE-44-North Lake Mechant project to help reduce salinities within the project area.

Identification of Potential Issues:

There are no known issues associated with this project.

Preliminary Construction Costs:

Lump sum construction costs for this project are estimated to be approximately $14.5 million and $18 million with a 25% contingency.

Preparer(s) of Fact Sheet:

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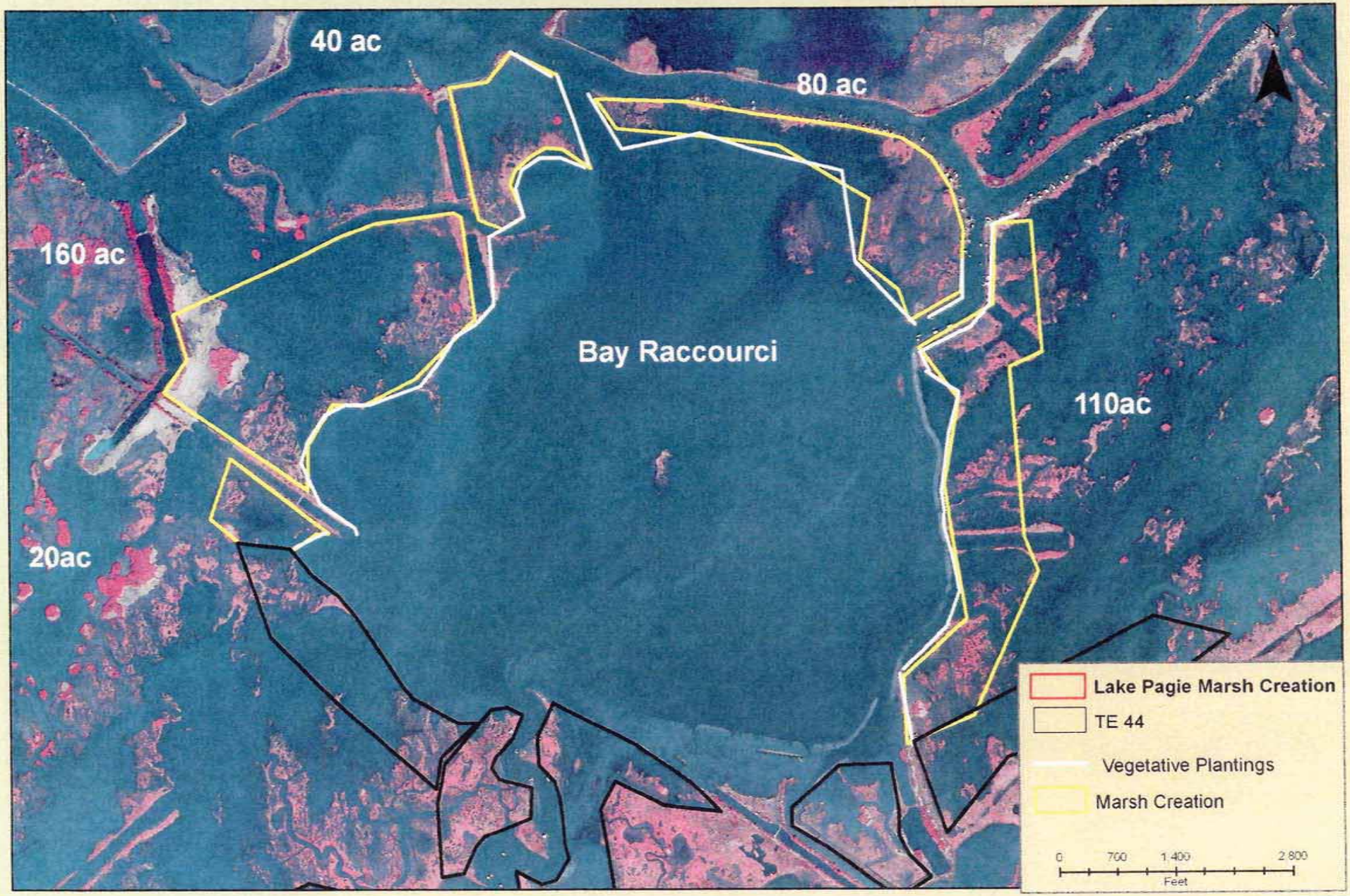
U.S. Fish & Wildlife Service - Louisana Ecological Services Field Office

2008 Bay Raccourci Marsh Creation and Shoreline Restoration Project



BAY RACCOURCI SHORELINE RESTORATION AND MARSH CREATION

Specific Goals:

- Create approximately 410 acres marsh through hydraulic dredge
- Restore 23,500 ft of Bay Raccourci Shoreline
- Plant 23,500 ft of newly restored shoreline

Solutions:

- Use hydraulic dredge to pump material from Lake Mechant to Bay Racourrci to create 410 acres of low salinity intermediate or brackish marsh. Material would be pumped to a height of +1.5 ft. NAVD 88
- Use bucket dredge to create 50 acres of higher marsh (+2.0 ft. NAVD 88) around the perimeter of the bay.
- Plant the perimeter marsh with S*partina alternaflora*

Summary:

- Create 410 acres interior marsh
- Create and plant 50 acres of perimeter marsh
- Total of 460 acres at TY 20 -300 acres
- Construction Costs $ 14.5 million; $18 million with 25% contingency
- Work synergistically with TE-44 and PPL 19 Lost Lake Project


U.S. Fish & Wildlife Service - Louisana Ecological Services Field Office
1998
Bay Raccourci Marsh Creation Project
40 ac
80 ac
160 ac
Bay Raccourci
110ac
20ac
Lake Pagie Marsh Creation
TE 44
Vegetative Plantings
Marsh Creation


U.S. Fish & Wildlife Service - Louisana Ecological Services Field Office
Bay Raccourci Shoreline Restoration and Marsh Creation Project
40 ac
80 ac
160 ac
110ac
20ac
Bay Raccourci
Lake Mechant
Lake Pagie Marsh Creation
TE 44
Vegetative Plantings
Marsh Creation

R3-TE-12-Raccoon Island West Protection and Restoration Project

PPL20 PROJECT NOMINEE FACT SHEET
January 27, 2010

Project Name:
Raccoon Island West Protection & Restoration Project

Coast 2050 Strategy:
Regional: [14.] Restore and maintain barrier islands and gulf shorelines
Mapping Unit: [33.] Isles Dernieres - Protect Bay/Gulf Shorelines

Project Location:
Region III, Terrebonne Basin, Terrebonne Parish, Isle Dernieres Barrier Islands

Problem:
The Isles Dernieres barrier island chain is experiencing some of the highest rates of erosion of any coastal region in the world. The western half of Raccoon Island is currently an emergent sand shoal which, for the last several years, has become ephemeral in nature. The shoal is either completely denuded of emergent material (completely submerged) or severely reduced in size each time a tropical event impacts the island. This lack of sustainability prevents the establishment of woody and herbaceous vegetation from colonizing and providing protection for that part of the island. Lack of vegetation also severely limits the habitat usage of critical avian and waterfowl species which have successfully adapted to the eastern half of the island.

Goals:
The goals of the project are to restore, provide protection, and enhance habitat conditions on the western area (i.e. sand shoal) of Raccoon Island.

Proposed Solutions:
Project features include the restoration of approx. 230 acres of dune to subtital habitat on top of the existing sand shoal via the placement of offshore dredged material; the construction of offshore, segmented rock breakwaters extending from existing breakwater #15 westward to the end of the newly created area and the building of a terminal groin at the end of the last proposed breakwater. Vegetative plantings, both herbaceous and woody, will follow the construction of the dune/beach platform.

Preliminary Project Benefits:
Approximately 230 acres of the western half of Raccoon Island will be restored to productive avian and waterfowl habitat. Of that acreage, approximately 20 acres will be dune habitat, 121 acres will become supratidal habitat, and 89 acres will comprise tidal/subtital habitat. An additional 26 acres of tidal and supratidal shoal area are expected to accrue between the proposed breakwaters and existing shoreline as a direct result of the segmented breakwaters. The rate of shoreline loss on the gulf side of the shoal is expected to cease along 50% of its length and reverse on the remaining 50%. The proposed project will have a significant synergistic effect on the existing Raccoon Island Shore Protection/Marsh Creation (TE-48) and Raccoon Island Demonstration (TE-29) Projects.

Identification of Potential Issues:
There are no potential issues anticipated with this proposed project.

Preliminary Construction Costs:
The anticipated construction cost, with contingency, is $32,100,000.

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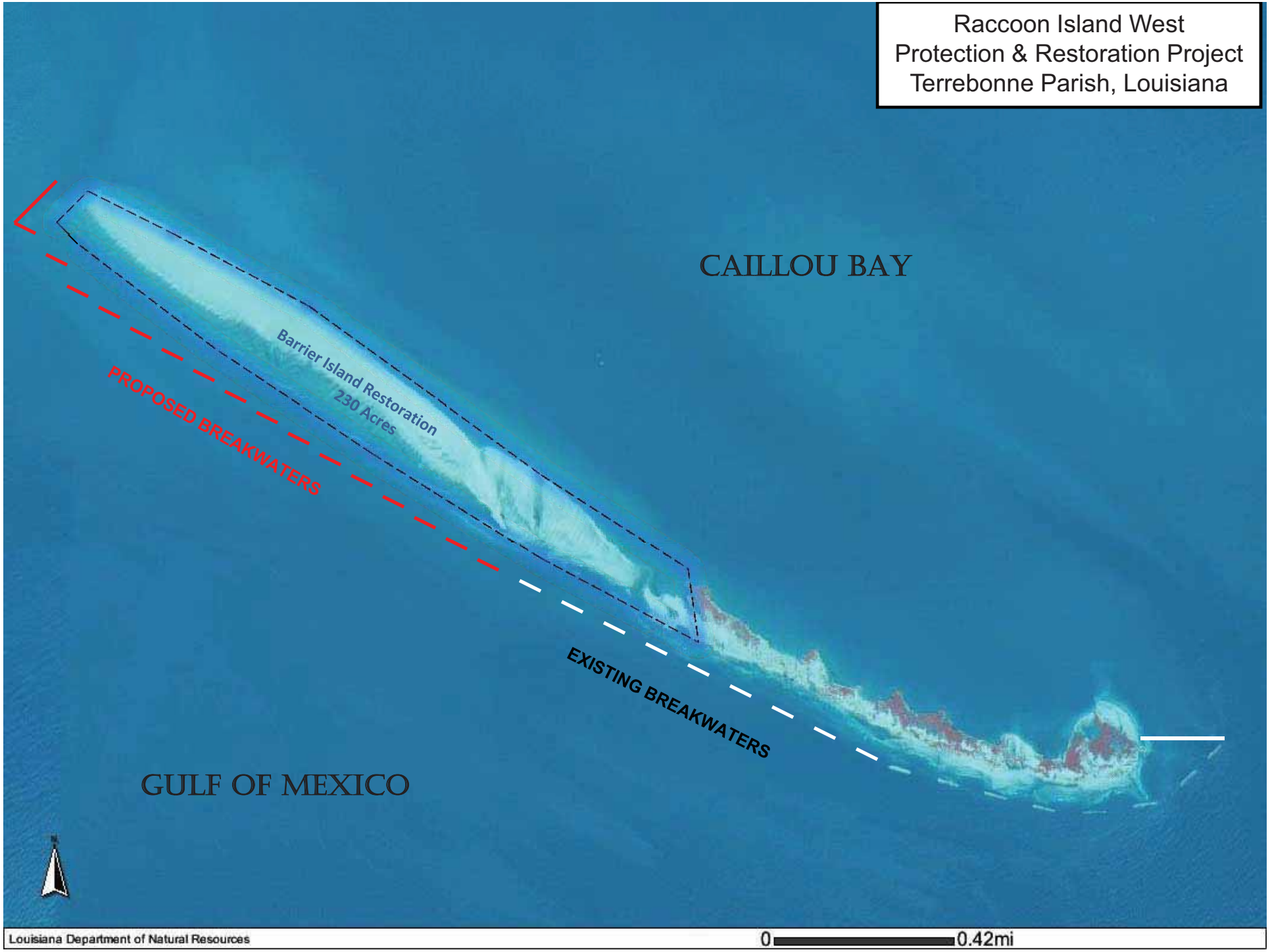
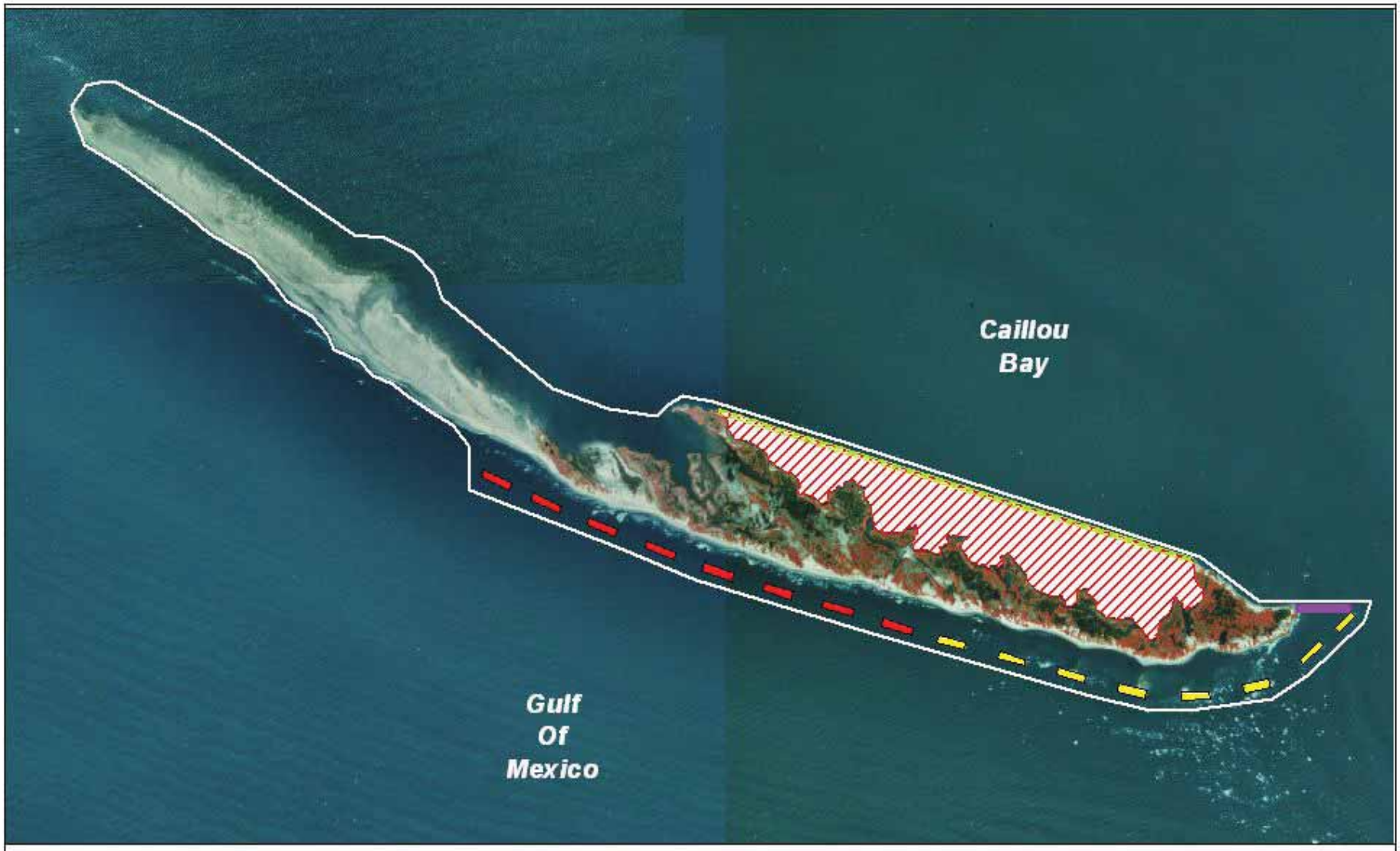

Raccoon Island West
Protection & Restoration Project
Terrebonne Parish, Louisiana
CAILLOU BAY
Barrier Island Restoration
230 Acres
PROPOSED BREAKWATERS
EXISTING BREAKWATERS
GULF OF MEXICO
Louisiana Department of Natural Resources
0
0.42mi

Raccoon Island West Protection & Restoration Project


Raccoon Island
Whiskey Island
Trinity Island
East Island
Isles Dernieres Barrier Islands
TE Basin – Terrebonne Parish
Louisiana Department of Natural Resources
0
17160ft



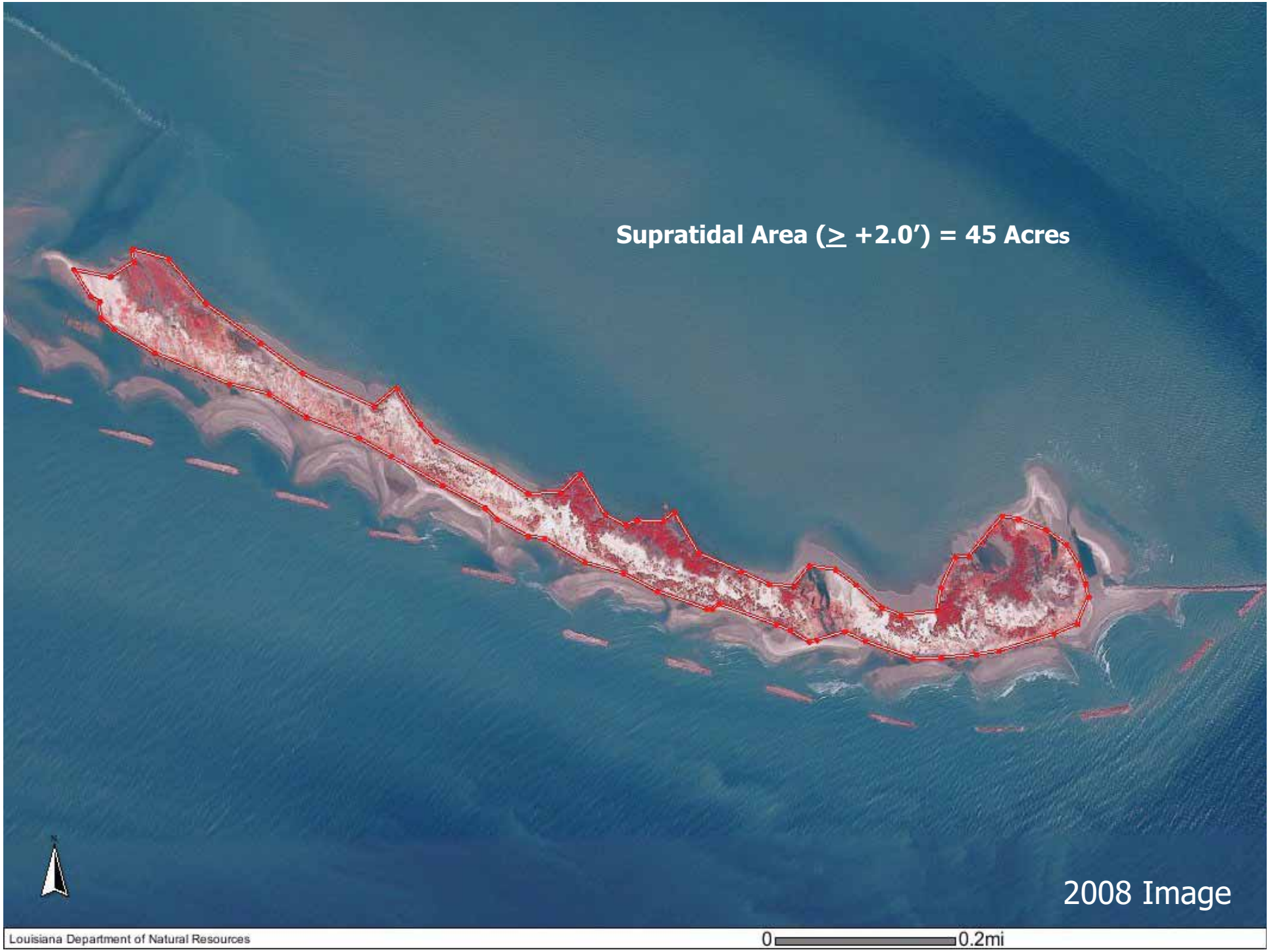
Legend

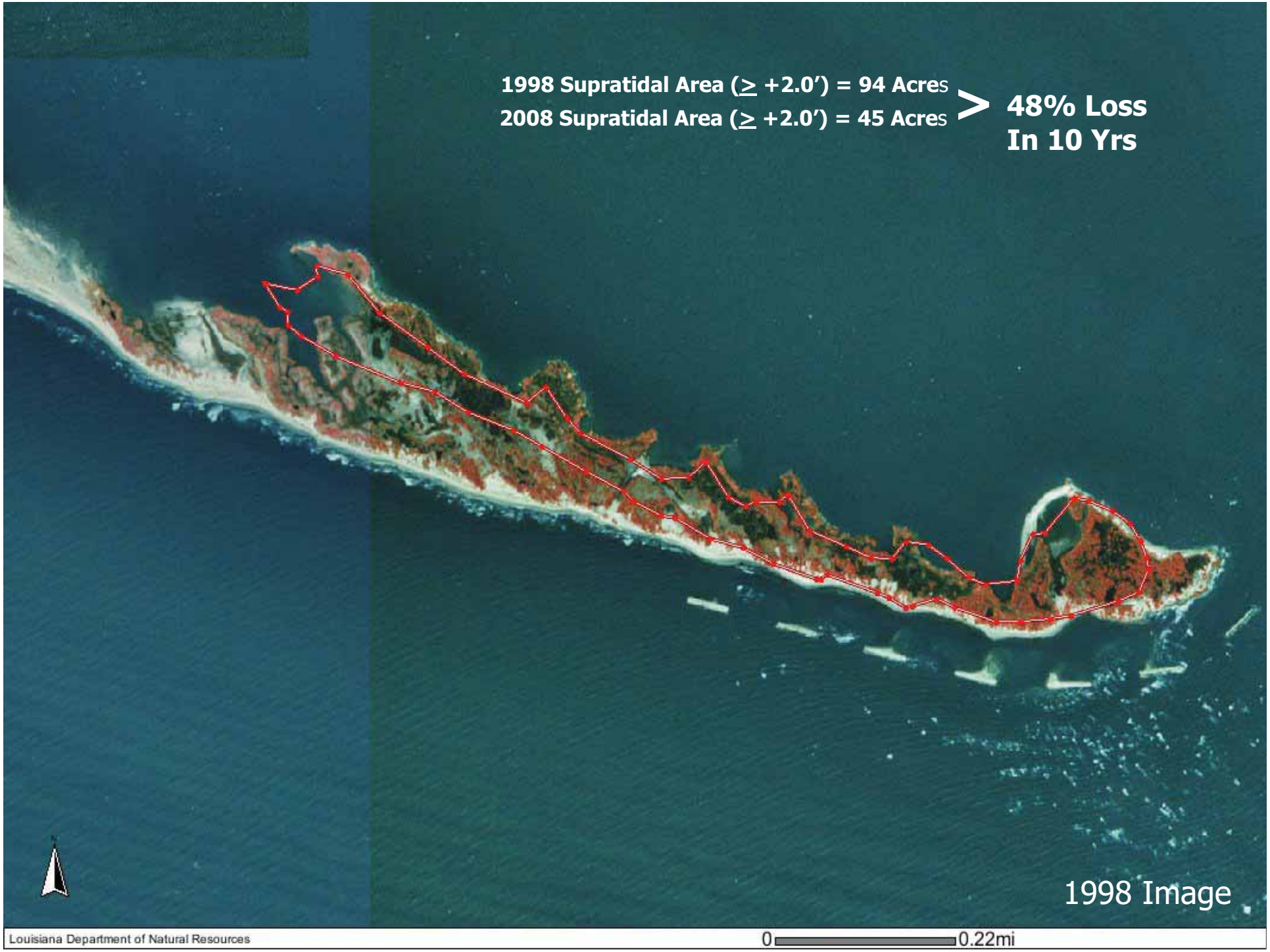
- Rehdner Dike
- Marsh Creation
- Existing Breakwaters
- Proposed Breakwaters
- Eastern Groin
- Project Boundary

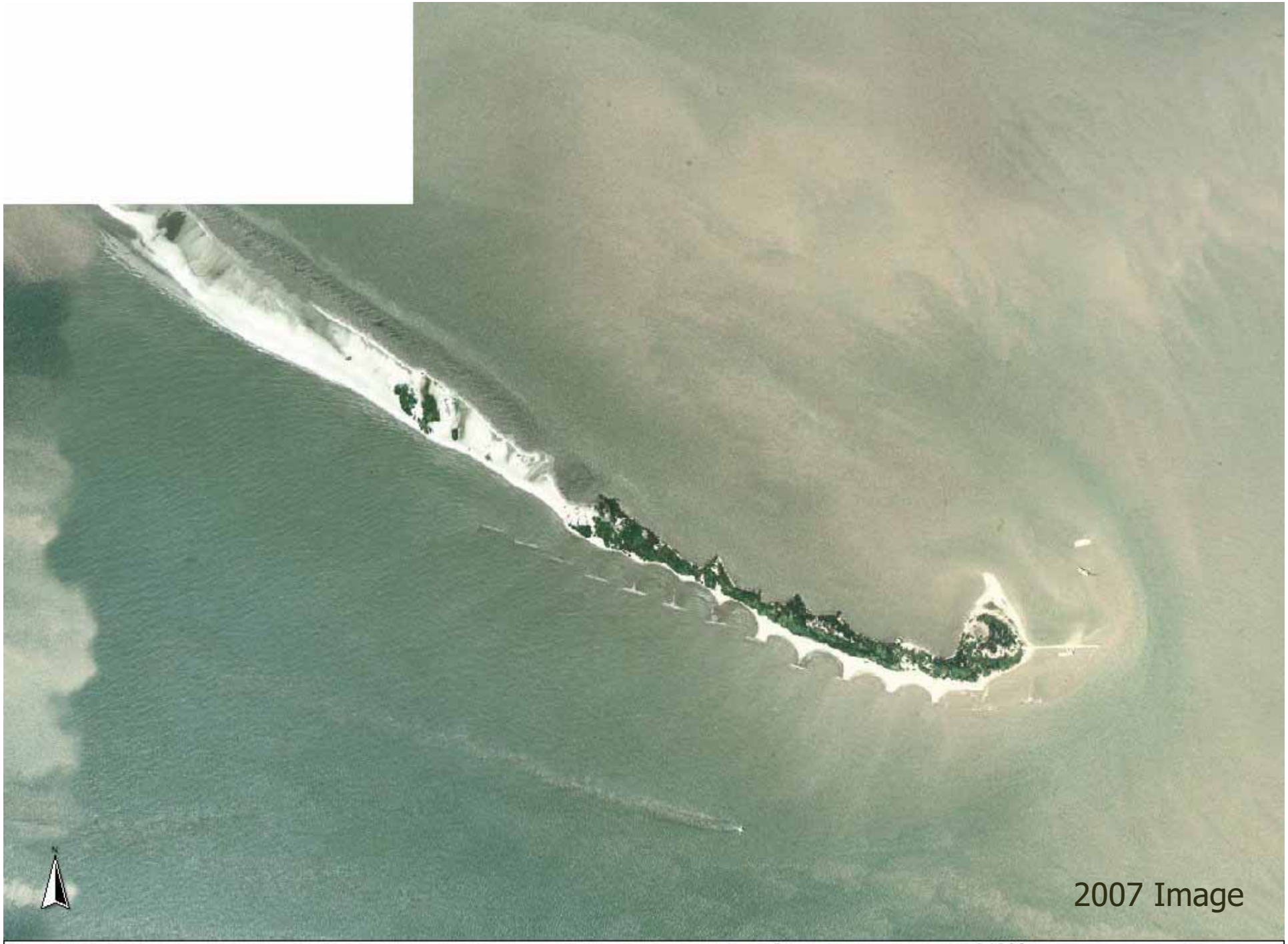
N

900 0 900 1800 Feet

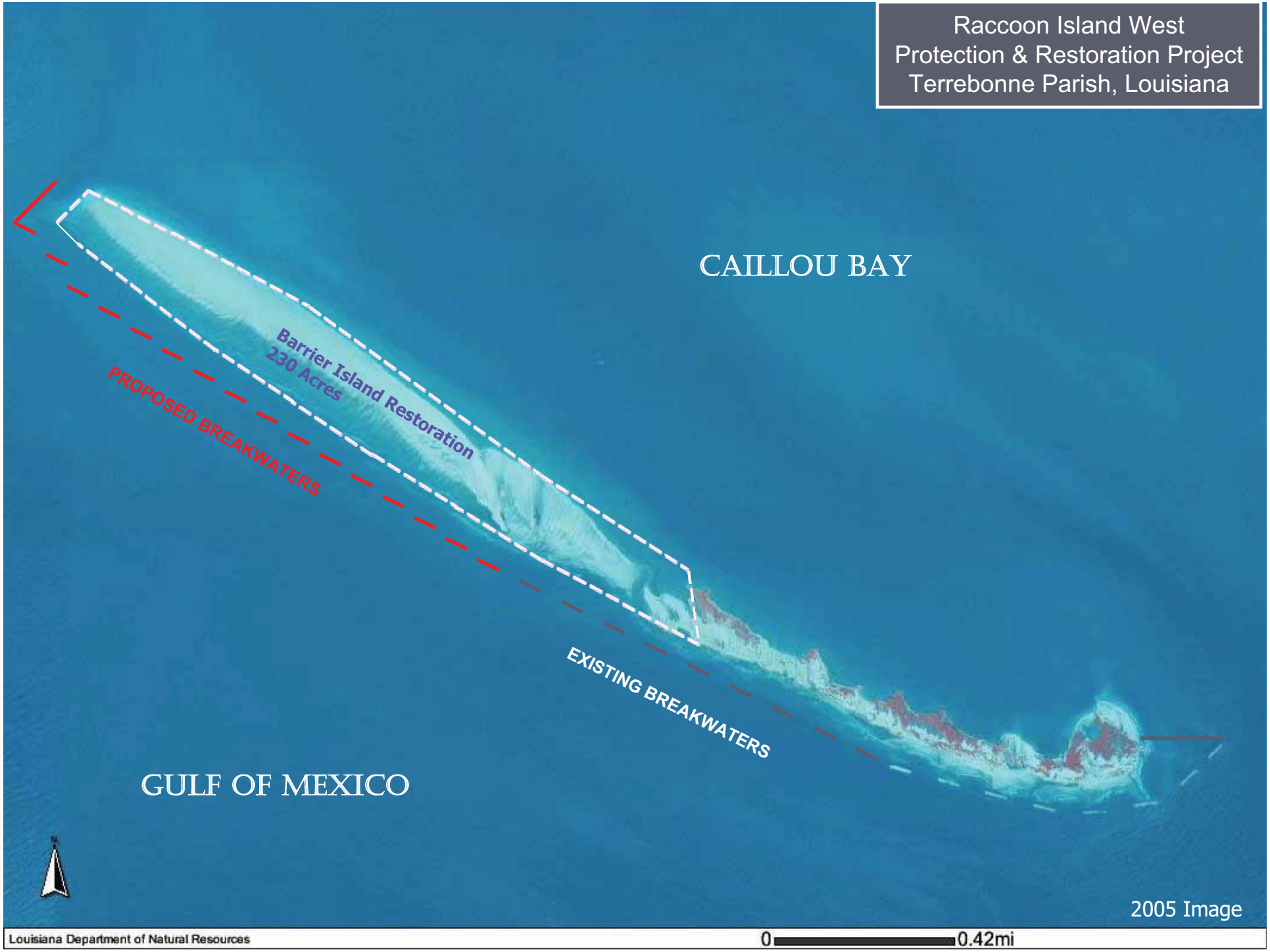
Raccoon Island SP/MC
TE-48
Terrebonne Parish, Louisiana


Supratidal Area (≥ +2.0') = 45 Acres
2008 Image
Louisiana Department of Natural Resources
0
0.2mi


1998 Supratidal Area (≥ +2.0') = 94 Acres
2008 Supratidal Area (≥ +2.0') = 45 Acres
> 48% Loss In 10 Yrs
1998 Image
Louisiana Department of Natural Resources
0
0.22mi


2007 Image
Louisiana Department of Natural Resources
0
2406ft


Raccoon Island West
Protection & Restoration Project
Terrebonne Parish, Louisiana
230 Acres BI Restoration
CAILLOU BAY
Barrier Island Restoration
Dune Habitat = 20 Ac
Supratidal Habitat = 121 Ac
Tidal Habitat = 45 Ac
Subtidal Habitat = 44 Ac
TOTAL 230 Ac
GULF OF MEXICO
2008 Image
Louisiana Department of Natural Resources
0
0.41mi


Raccoon Island West
Protection & Restoration Project
Terrebonne Parish, Louisiana
CAILLOU BAY
Barrier Island Restoration
230 Acres
PROPOSED BREAKWATERS
EXISTING BREAKWATERS
GULF OF MEXICO
2005 Image
Louisiana Department of Natural Resources
0
0.42mi

Significance of Raccoon Island

- Greatest species diversity of nesting colonial waterbirds found on any barrier island or rookery in the State of Louisiana.
- Home to the largest nesting colony of brown pelicans in Louisiana.
- The island is relatively isolated from human disturbance and lies a significant distance from the mainland allowing few if any predators.
- Island habitat provides a resting and refueling area for neotropical and shorebird species during their spring and fall migration across the gulf.

R3-TE-13-Whiskey Island Shoreline Protection and Enhancement

PPL20 PROJECT NOMINEE FACT SHEET
January 27, 2010

Project Name:
Whiskey Island Shoreline Protection and Enhancement

Coast 2050 Strategy:
Regional: [14.] Restore and maintain barrier islands and gulf shorelines
Mapping Unit: [33.] Isles Dernieres - Protect Bay/Gulf Shorelines

Project Location:
Region III, Terrebonne Basin, Terrebonne Parish, Isle Dernieres Barrier Islands

Problem:
The Isles Dernieres barrier island chain is experiencing some of the highest rates of erosion of any coastal region in the world. Whiskey Island is near center of the Isle Dernieres Barrier Islands and one of the only Louisiana barrier islands to provide immediate, adjacent protection to interior wetlands and oil and gas infrastructure. The hurricanes of 2005 and 2008 have considerably reduced the profile of the island which was artificially enhanced by the TE-27 Whiskey Island Restoration CWPPRA Project in 1998. Although the TE-27 Project reinforced the structural integrity and longevity of the island, gulf side and inland bay shoreline erosion continues to threaten the island's sustainability.

Goals:
The goals of the project are to provide protection and stabilize conditions on the gulf side of the island and provide a mechanism to recover lost subtital/intertidal/supratidal material as a result of impending storm events.

Proposed Solutions:
Project features will include the construction of offshore, segmented rock breakwaters extending from the western vegetated edge of the island to the eastern terminal end (~ 2.8 mi.). Past success with segmented breakwaters, as proven by the adjoining TE-48 Raccoon Island Project, has shown that this form of barrier island protection (in appropriate areas) is dramatically less expensive and less environmentally intrusive than alternatives used in the past. This type of protection is also one of the very few measures that provides a material recovery process throughout the life of the project.

Preliminary Project Benefits:
It is anticipated that approximately 407 acres of intertidal and dune areas of the island will be protected and directly benefit from this project. An additional 76 acres of tidal and supratidal beach area are expected to accrue between the proposed breakwaters and existing shoreline as a direct result of the segmented breakwaters. Of that acreage, approximately 25 - 35 % (19 - 27 ac) will revert to supratidal vegetative habitat over the life of the project. Thereby the rate of shoreline loss on the gulf side of the island is expected to reduce along 100% of its length and actually reverse directly behind the breakwaters. The proposed project will have a significant synergistic effect on the existing Whiskey Island Restoration (TE-27) and recently completed Whiskey Island Back Barrier Marsh Creation (TE-50) Projects.

Identification of Potential Issues:
There are no potential issues anticipated with this proposed project.

Preliminary Construction Costs:
The anticipated construction cost, with contingency, is $13,300,000.

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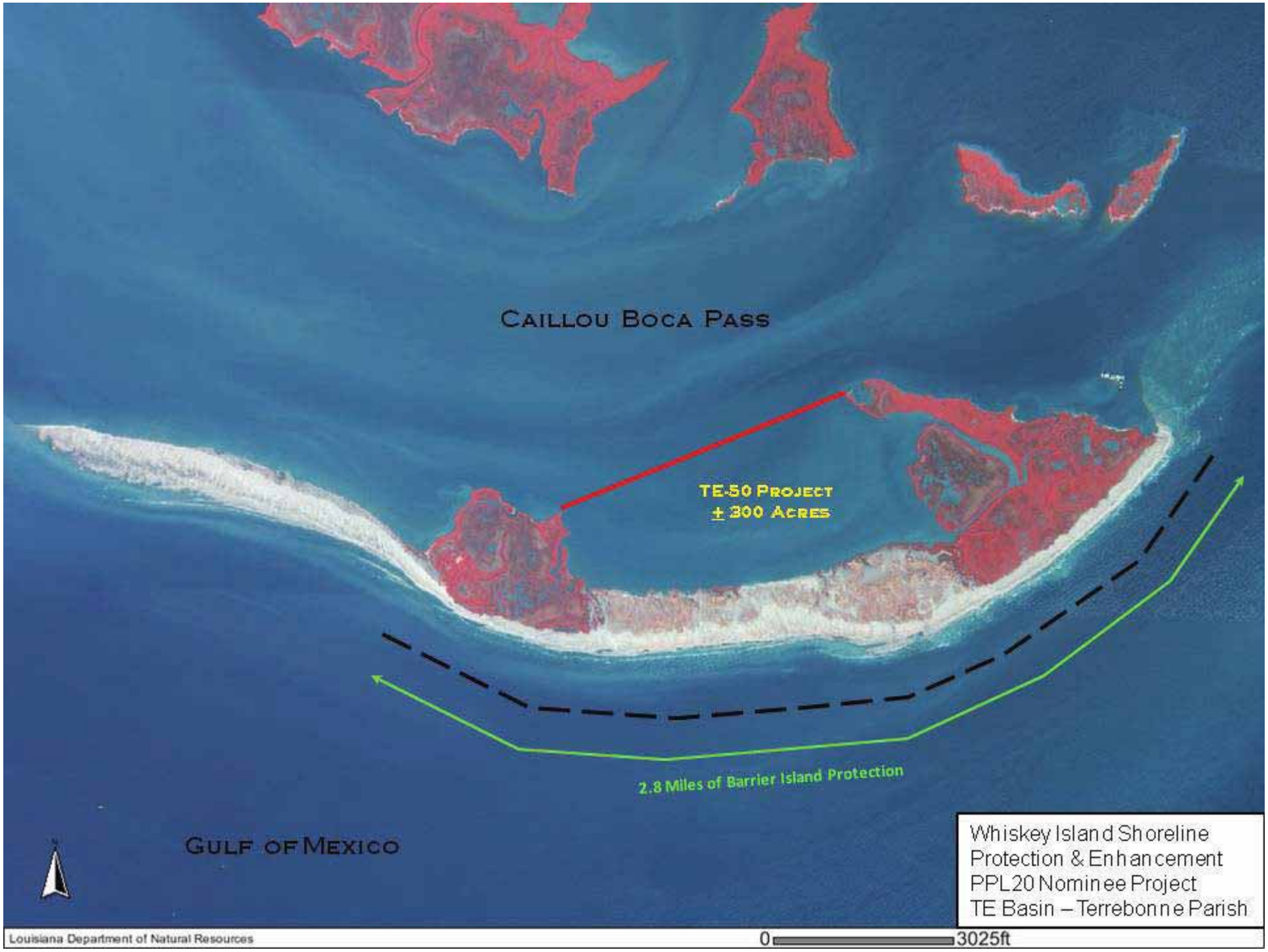
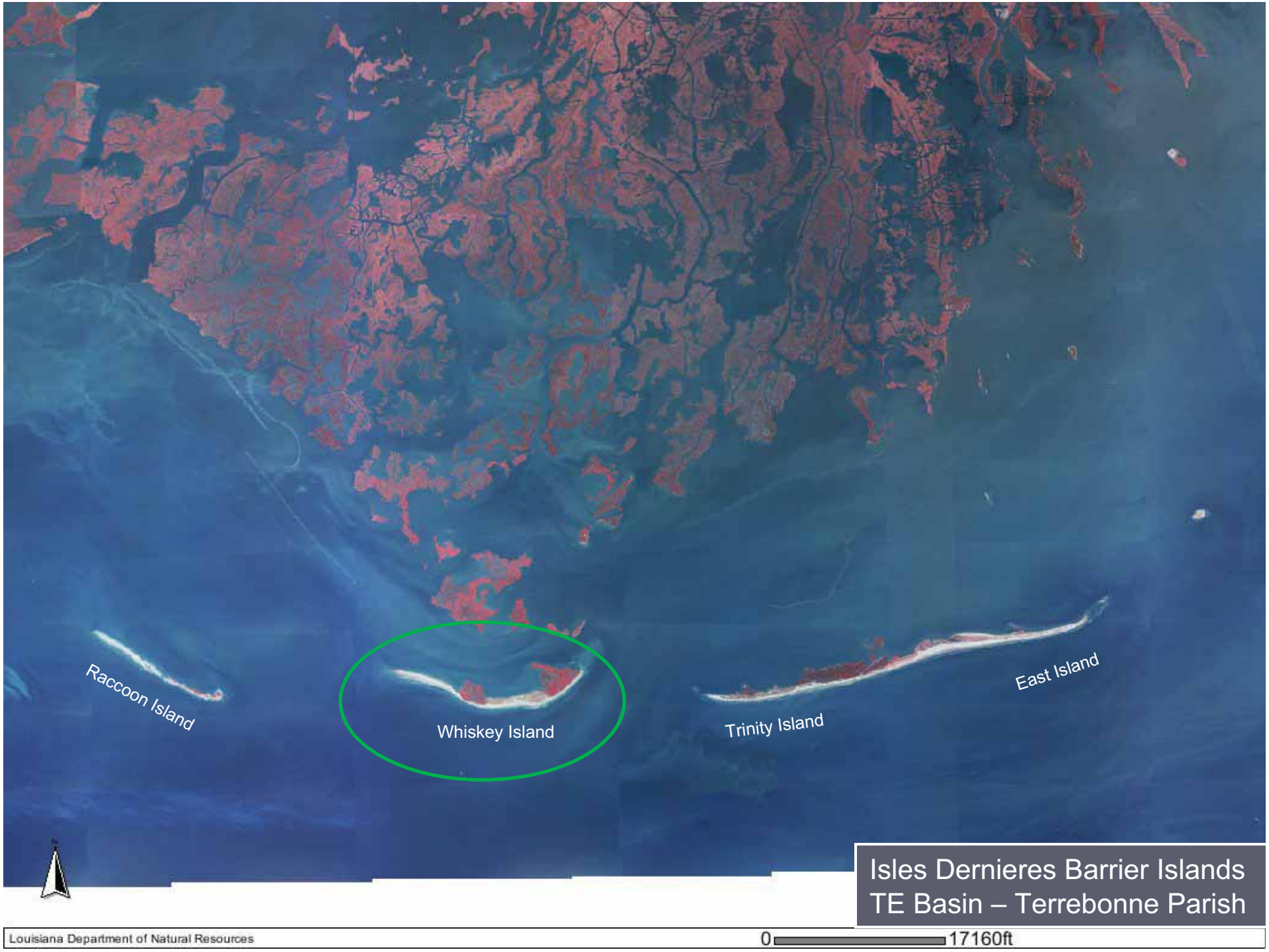

Caillou Boca Pass
TE-50 Project
± 300 Acres
2.8 Miles of Barrier Island Protection
Gulf of Mexico
Whiskey Island Shoreline
Protection & Enhancement
PPL20 Nominee Project
TE Basin – Terrebonne Parish
Louisiana Department of Natural Resources
0
3025ft

Whiskey Island shoreline Protection & Enhancement Project


Raccoon Island
Whiskey Island
Trinity Island
East Island
Isles Dernieres Barrier Islands
TE Basin – Terrebonne Parish
Louisiana Department of Natural Resources
0
17160ft


Caillou Boca Pass
TE-50 Project
± 300 Acres
TE-27 Project
± 660 Acres
2.8 Miles of Barrier Island Protection
Gulf of Mexico
Whiskey Island Shoreline Protection & Enhancement
PPL20 Nominee Project
TE Basin – Terrebonne Parish
Louisiana Department of Natural Resources
0
3025ft


DUNE
Photo Taken
10-22-2009


DUNE
Photo Taken
12-7-2009