REGION 2

Coastal Wetlands Planning Protection & Restoration Act

22nd Priority Project List

Region 2

Regional Planning Team Meeting

January 26, 2012
New Orleans, LA

1. Welcome and Introductions

- RPT Region 2 Leader: Brad Inman - USACE

Announcements

- PPL 22 Selection Process Packages

- PPL 22 RPT meetings to accept project nominees:
  - Region IV, Vermilion LSU Ag Center, Jan. 24, 2012, 1:00 pm
  - Region III, Morgan City Auditorium (W Concourse), Jan. 25, 2012, 9:00 am
  - **Region II, New Orleans Corps of Engineers, Jan. 26, 2012, 9:00 am**
  - Region I, New Orleans Corps of Engineers, Jan. 26, 2012, 1:00 pm

- Coastwide Voting Meeting to select project nominees for all basins:
  - February 15, 2012, 10:00 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 Coastwide Voting Meeting.

- CWPPRA agencies will be assigned responsibilities for preparing nominee fact sheets after the Coastwide Voting Meeting.

Region 2 Parishes

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

2. PPL 22 Process and Ground Rules

RPT Meetings

- Jan. 24-26, 2012 to accept project and demo proposals in 4 coastal regions broken into 9 basins (no limit on number of projects that can be proposed).
- Project proposals should support a Coast 2050 Regional or Coastwide Strategy.
- A project can only be nominated in one basin (except for coastwide projects – more info on coastwide projects after the following "RPT Meetings" slide).
- Proposals that cross multiple basins, excluding coastwide projects, shall be nominated in one basin only, based on the majority area of project influence.
- Coastwide projects apply across basin boundaries; their benefits are not tied to one basin. They can be nominated from any basin and can be presented in all RPT meetings.

RPT Meetings

- Project presenters can split multi-basin or coastwide projects into multiple individual projects. This must occur during the RPT meeting where the project is first presented. If a presenter does not choose a basin from which to propose a project, the RPT leaders, in conjunction with the CWPRPA Planning & Evaluation (P&E) Committee, will decide collectively after the RPT meetings but before the Coastwide Voting Meeting.
- Public comments on project proposals will be accepted orally during the RPT meetings and in writing by February 3, 2012.
- Limit project proposals to 3 to 5 minutes.
- Limit comments/questions during meeting to PPL 22 subject proposals and processes.

Coastwide Voting Meeting

- Feb. 15, 2012: Coastwide Voting Meeting
- RPTs, consisting of CWPPRA agencies & coastal parishes, will select 2 nominees per basin, except 3 each in Barataria, Terrebonne, & Pontchartrain, and 1 in the Atchafalaya, plus 6 demos. If proposed, 1 coastwide may be chosen for inclusion as a nominee.
- Selection will be by consensus if possible. If not, CWPPRA agencies and parishes will submit ranked votes by basin.
- Parishes vote only in basins they occupy. Parishes vote on all demonstration and coastwide projects.
- No public comments will be allowed during the Coastwide Voting Meeting (public comments will be heard today & written comments should be submitted by 2/3/2012 to the CWPPRA Program Manager, Mr. Brad Inman – POC details on next to last slide).

Nominee Project Evaluations

- Following the Coastwide Voting Meeting, an agency will be assigned to each project to prepare a Nominee Project factsheet (1 page + map).
- CWPPRA Engineering & Environmental Workgroups review draft features and assign preliminary cost and benefit ranges.
- Work groups will also review demo & coastwide projects and verify that they meet PPL 22 criteria.
- CWPPRA Planning and Evaluation Committee prepares cost/benefit summary matrix for Technical Committee.

PPL 22 Candidate Project Selection

- CWPPRA Technical Committee meeting, April 19, 2012 at 9:30 am, New Orleans District Corps of Engineers.
- Technical Committee ranks nominees and votes to select 10 candidate projects and up to 3 demos.
- Written public comments should be submitted to Corps of Engineers prior to Tech Comm meeting by April 2, 2012.
- Public comments also accepted orally during meeting.
- Technical Committee will assign CWPPRA agencies to develop Phase 0 candidate projects.

PPL 22 Candidate Project Evaluation

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

CWPPRA PPL 22 Selection

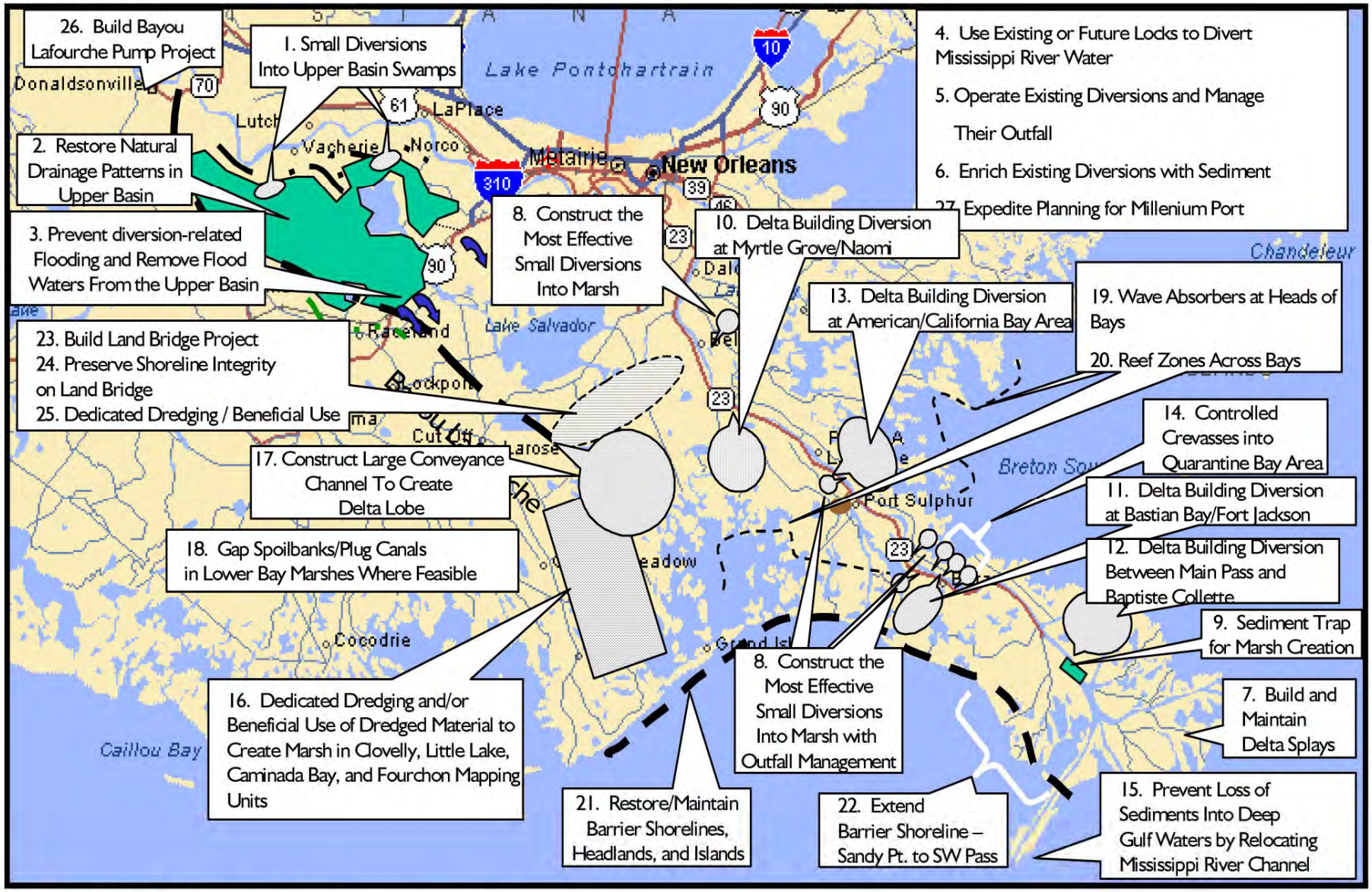
- 2 public meetings to present Phase 0 evaluation results:
  - Abbeville, Courthouse, Nov. 14, 2012, 7:00 pm
  - New Orleans, Corps of Engineers, Nov. 15, 2012, 7:00 pm
- Technical Committee votes to select up to 4 candidate projects and up to 1 demo to recommend for Phase 1.
  - Dec. 12, 2012, Baton Rouge, 9:30 am
- Task Force final decision to select PPL 22 in January 2013.

3. Region 2 Coast 2050 Regional Strategies

Coastwide 2050 Strategies

- Projects nominated should be consistent with the Coast 2050 Regional Ecosystem or Coastwide Strategies

CWPPRA



Coast 2050 Region 2 regional ecosystem strategies.

4. PPL 22 Project Nominations

Coastwide Projects

- Proposes a technique applicable across the coast (e.g. vegetative planting)
- Nominated at any RPT meeting
- All coastal parishes & agencies will vote on selection of coastwide nominee
- Only one coastwide nominee may be selected from the coastwide nominee pool at the Coastwide Voting Meeting on February 15, 2012
- The Technical Committee may or may not select a coastwide project in April 2012.

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 validate that demos fit CWPPRA Standing Operating Procedures criteria and select sites for proposed demonstration projects.
- The RPTs select 6 demos at the Feb. 15 Coastwide Voting Meeting.
- The Technical Committee selects up to 3 demos in April 2o12.
- Previous demo candidates must be ***re-nominated*** for PPL 22.

5. Announcement of Coastwide Voting Meeting

Coastwide Voting Meeting

- **Feb. 15, 2012**: meet in Baton Rouge to choose 2 project nominees per basin (except will choose 3 in Barataria, Terrebonne, & Pontchartrain Basins and 1 in Atchafalaya basin). If only 1 project is nominated for Mississippi River Basin, 3 nominees will be assigned to Breton Sound Basin. Plus, 1 coastwide project and 6 demos may be selected.
- Parishes of each basin are asked to ***identify who will vote*** at the Coastwide Voting Meeting **TODAY**.
- 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 will be accepted at the Coastwide Voting Meeting (public comments will be heard today and written comments must be submitted by 2/3/2012).

Coastwide Voting Meeting

- Each officially designated parish representative, each Federal agency, and the State (CPRA) 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.

Coastwide Voting Meeting: Coastwide Category

- The two nominees per basin (three each in Barataria, Terrebonne & Pontchartrain Basins, three in Breton Sound Basin if only one in Mississippi River Basin, and one in Atchafalaya Basin) receiving the highest vote will be included in the list of 20 nominee projects. If a coastwide project is selected, the total will increase to 21 nominees.
- All demo projects will be voted upon in same manner with one coastwide ballot.
- 15 minutes will be allowed for voting in each basin as well as for demos and coastwide projects.

6. Announcements of Upcoming Meetings

PPL 22 Upcoming Meetings

- **Coastwide Voting Mtg, Feb. 15, 2012, Baton Rouge**
  - 20 basin-project nominees, 1 coastwide nominee, and 6 demos selected
- **Technical Committee Mtg, Apr. 19, 2012, New Orleans**
  - Selection of 10 candidates and up to 3 demos
- **PPL Public Comment Mtgs**
  - Nov. 14, 2012, Abbeville
  - Nov. 15, 2012, New Orleans
- **Technical Committee Mtg, Dec. 12, 2012, New Orleans**
  - Recommend up to 4 projects for Phase 1 funding
- **Task Force Mtg, Jan. 2013, New Orleans**
  - Final Selection of projects for Phase 1 funding

Written Comments

- Send written comments on projects & demos proposed today to the CWPPRA program manager
- **Deadline: February 3, 2012**

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

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

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

ATTENDANCE RECORD

DATE	SPONSORING ORGANIZATION	LOCATION
January 26, 2012 9:00 A.M.	COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT	U.S. Army Corps of Engineers District Assembly Room 7400 Leake Ave. New Orleans, LA

PURPOSE

MEETING OF THE REGIONAL PLANNING TEAM REGION II

PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER/EMAIL
ARCHIE CHAISSON	LAFOURCHE PARISH GOVT	985 632-4666
JASON KROLL	CIVIL ENGINEER NRCS	225 389-0347
Quin Kinler	NRCS	225-382-2047
Jennifer Vade	ULL	337 482 6966
Aaron Hoff	USEPA	214.665.7319
Ken Teague	EPA	214-665-6687
Chris Llewellyn	EPA	214-665-7239
Kasey Dorr	RCI	985-643-2427 Kdorr@rotoloconsultants.com
Kodi Collins	CPRA	225-342-4106 Kodi.collins@la.gov
Mark Leadon	CPRA	225.342.1286 mark.leadon@la.gov
Sydney Dobson	CPRA	225 342 5374 Sydney.dobson@la.gov
Chris Allen	CPRA	225 342 4736 chris.allen@la.gov
Stuart Brown	CPRA	225-342-4596 Stuart.brown@la.gov
Juli Kemp	Gulf CPR	225-665-8825
Bryan Kemp	Gulf CPR	gcprhay@gmail.com
Jane Offing Rowan	Normandeau	jrowan@normandeau.com
Susan Hennington	COE	susan.m.henington@usace.army.mil
Ordis Smith	Conoco Phillips	985-853-3018
Whitney Thompson	CPE-Shaw	225-932-2568 whitney.thompson@shawgrp.com
Angela Trahan	USFWS angela_trahan@fws.gov	337 291 3137
Kevin Roy	USFWS	337-291-3120
Todd Baker	LDWF	337 373 0032

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 II

PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER/EMAIL
Shane Granier	Bio Mgr LDWF	504 284 5269 sgranier@wlf.la
Rob Bourgeois	LDWF - Fisheries	225 765 0765 rbourgeois@wlf.la.gov
Adrian Chavarria	EPA - Engineer	214-665-3103 achavarria.adrian@epa.gov
Tina Moore	APOLLO	409-833-3330 tmoore@apolloenviro.com
DAWN DAVIS	CPRA - LACES, COASTAL SCI	225 342-4633 DAWN.DAVIS@LA.GOV
Marnie Winter	Jeff. Parish	mwinter@jeffparish.net
Julie Whitbeck	Jean Lafitte NHP&P / NPS	julie_whitbeck@nps.gov 504-717-9811
William F. Simmons	citizen	832/858-7104
Summer Langlois	CPRA - CRS	225-342-1594 summer.langlois@la.gov
ANGELA O'BYRNE	PRESIDENT, PEREZ APC	aobyrne@e-perez.com 504 584 5100
Brandon Adams	Perez APC	badams@e-perez.com 504 584-5100
Scott Eustis	Wetland Specialist, Gulf Restoration Network	504 525 1528 x212
PATRICK WILLIAM	NOAA / NMFS	225-389-0508
Kim Clements	NOAA / Fish Biologist	225-389-0508
SETH DOMANGUE	Project Mgr / Matrix New World	225 939 8032
Margo Moss	" "	504 319 1575
Mel Landry	NOAA	225-578-7667
Gilbert M. Kimble	PPG	504 912-5923
Marietta Greene	Madison Land Co Inc	504 454-0707
James Harris	USFWS	
Nathan Dayan	USACE	504-882-2530
Dusty Pate	NPS	504 589 3882 x 119 hayden_pate@nps.gov

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PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER/EMAIL
Charles Sasser	LSU	225 578 6375
Phillip Parker	NOAA-NMFS	225-578-8341 phillip.parker@noaa.gov
Charles Allen	City of NOLA	504-658-4074 ceallen@nola.gov
Amanda Moore	NWF	225 229 1994 moore@nwf.org
Randy Caire	R Caire	985-785-2036
David Eber	CSED	504-307-5498
~~Jeff Foshee~~	~~E&E~~	~~225-298-5080/jfoshee@e~~

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JAN 88

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Region 2 – BARATARIA BASIN

Project Number	Project Proposals
R2-BA-01	Couba Island Armored Terrace Project
R2-BA-02	Bayou Dupont Sediment Delivery – Marsh Creation 3
R2-BA-03	West Pointe a la Hache Marsh Creation South
R2- BA-04	Freshwater Introduction into North of Lac des Allemands
R2- BA-05	Bayou Villars Shoreline Stabilization
R2- BA-06	Caminada Headlands Back Barrier Marsh Creation
R2- BA-07	South Lake Salvador Shoreline Restoration and Protection
R2- BA-08	Northeast Turtle bay Marsh Creation and Critical Area Shoreline Protection
R2- BA-09	Bayou L'Ours Marsh Creation
R2-BA-10	Backfilling Canals in Jean Lafitte National Historical Park & Reserve
R2-BA-11	Bayou Grand Cheniere Marsh Ridge Restoration
R2-BA-12	Elmer's Island Restoration
R2-BA-13	Highway 1 Marsh Creation and Terracing
R2-BA-14	Grand Bayou Marsh Creation
R2-BA-15	Grand Pierre Barrier Island Restoration

Region 2 – BRETON SOUND BASIN

R2-BS-01	Wills Point Marsh Creation
R2-BS-02	White Ditch Marsh Creation
R2-BS-03	Delacroix Marsh Restoration
R2-BS-04	Terracing and Marsh Creation South of Big Mar

R2-BS-05	Monsecour Siphon
R2-BS-06	Breton Land Bridge Marsh Creation (West), River aux Chenes to Grand Lake
R2-BS-07	Lake Lery Marsh Creation and Terracing
R2-BS-08	Lonesome Island Restoration

Region 2 – MISSISSIPPI RIVER BASIN

R2-MR-01	Pass a Loutre Wildlife Management Area Marsh Creation Utilizing Gulf Saver Bags
R2-MR-02	Pass a Loutre Hydrologic Restoration
R2-MR-03	Pass a Loutre Crevasse

Region 2 – BARATARIA BASIN

R2-BA-01

Couba Island Armored Terrace Project

R2-BA-01

PPL 22Project Fact Sheet
January 2012

Project Name:
Couba Island Armored Terrace Project

Coast 2050 Strategy
Regional Strategy – Restore, Protecte and Maintain Bay, Lake, and Gulf Shorelines – Construct wave absorbers or low breakwaters at the head of Bays
Coastwide Strategy – Management of Bay/Lake Shoreline Integrity
Coastwide Strategy - Terracing

Project Location
Region 2, Barataria Basin, St. Charles Parish, Timken & Salvador Wildlife Management Areas, Between Lakes Salvador and Cataouatche.

Problem
The shorelines of Couba Island and Bayou Couba are experiencing significant erosion primarily from the erosive effects of prevailing southeast winds. Average erosion in the project area is between 800' and 160' between 1998 and 2008.

Proposed Project Features
This project will construct a series of large terraces along the southern shore of Couba Island and Bayou Couba. These terraces will be armored with rock on the out facing side to slow erosive effects of wind blown wave energy. Placement will be parallel to the shoreline and not or it or immediately adjacent to it. This will increase the amount of "soft" edge habitat which will benefit a wide variety of a wide fish and wildlife species.

Goals
The project goals are as follows:

- Maintain the existing lake shore of Couba Island and Bayou Couba
- Increase edge habitat for a wide variety of fish and wildlife species.
- Maintain barrier between Lake Cataouatche and Lake Salvador.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
   This project will benefit 3,050 acres of fresh marsh. This includes the integrity of Couba Island and a portion of the west bank of Bayou Couba.

2) *How many acres of wetlands will be protected/created over the project life?*
   3,050
3) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*
   This project will protect/preserve the lake rim and bayou shores of Couba Island and Bayou Couba.

4) *What is the net impact of the project on critical and non-critical infrastructure?*
   This project will not have a significant impact on critical or non-critical infrastructure. It may slow storm surges to the newly constructed hurricane protection projects to the north of the project area.
5) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
   This project is synergistic with the previous shore line protection projects on the north shore of Lake Salvador. It will also maintain the existing hydrology around the Davis Pond Diversion Project.

Identification of Potential Issues

There are a few pipelines and wells in the area that will need to be identified and worked around.

Preliminary Construction Costs

The anticipated construction cost, with contingency, is $15 to $25 million.

Preparer of Fact Sheet

Todd Baker, LDWF, (225) 281-2066, tbaker@wlf.la.gov
Shane Granier, LDWF, (504) 284-5267, sgranier@wlf.la.gov

Couba Island Armored Terrace Project

Couba Island Armored Terrace Project

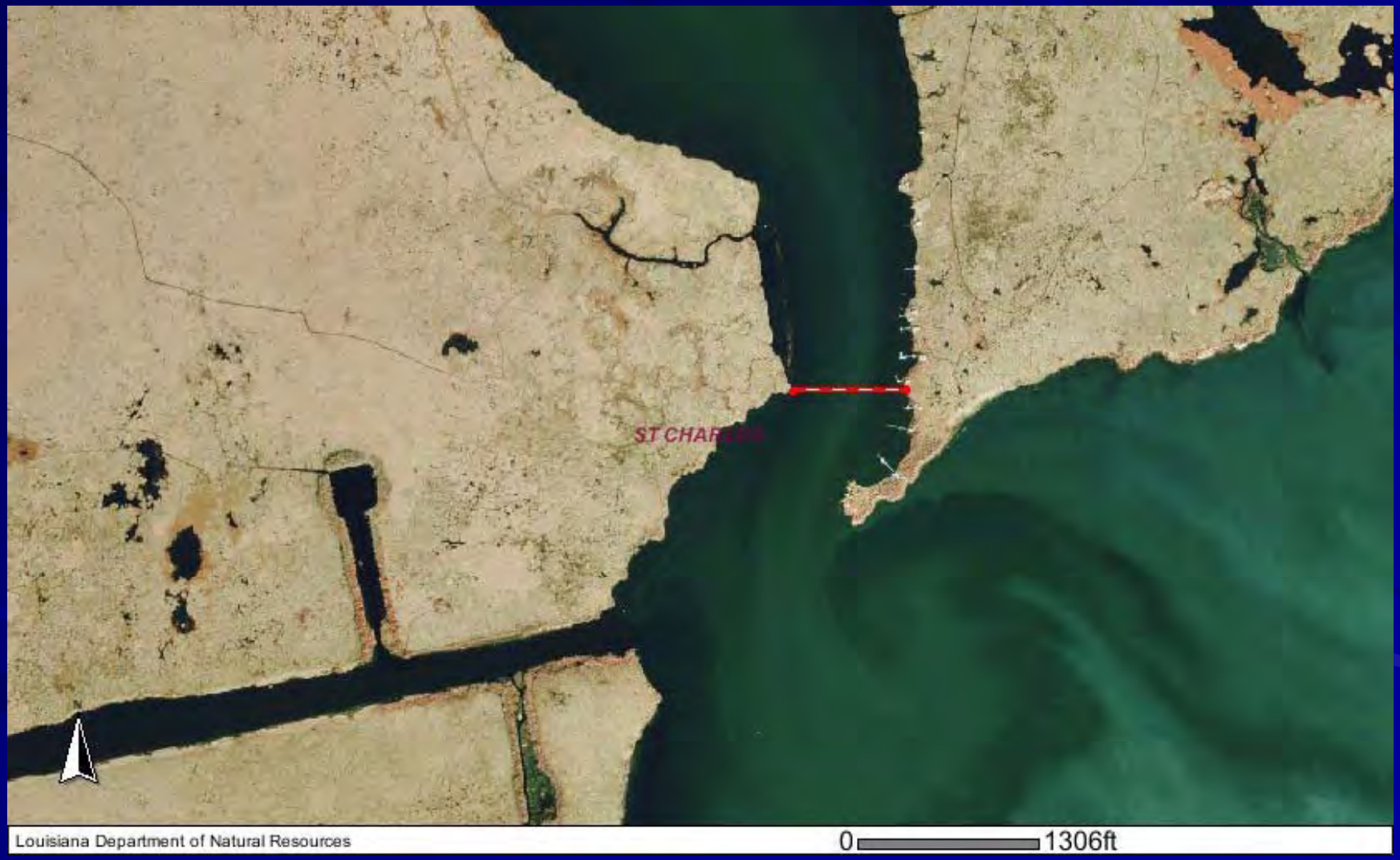
Problem

- Southern shoreline of Couba Island (Timken Wildlife Management Areas) is eroding 255’ over a 10 year period
- Erosion on the west is 350’ and the eastern portion by 160’ per decade
- Width in Bayou Couba has increased from 900’ to 1,800’ in the same time period

Couba Island 1998

2008 picture with 1998 Shoreline Highlighted

Bayou Couba 1998



Bayou Couba 2008

Solution

- Nearly 6 miles of earthen terraces along southern shore of Couba Island and east bank of Bayou Couba
- Terraces to be armored on the out facing slope
- Terraces constructed from on site material 30 to 40’ from the shoreline
- Suggested dimensions should be 30’ crown widths and final elevation of 4’
- 30’breaks in the terraces as needed but no less than every 250’
- Armor material to be rock.
- Project cost $15,000,000 to $25,000,000

artment of Natural Resources

0 1 mi

R2-BA-02

Bayou Dupont Sediment Delivery – Marsh Creation 3

R2-BA-02

PPL22 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name:
Bayou Dupont Sediment Delivery – Marsh Creation 3

Coast 2050 Strategy:
Coastwide Common Strategies: Dedicated dredging to create, restore, or protect wetlands; Off-shore and riverine sand and sediment resources.
Region 2 Regional Ecosystem Strategies: Restore and Sustain Marshes.

Project Location:
Region 2, Barataria Basin, Plaquemines and Jefferson Parishes.

Problem:
The wetlands in the Barataria Basin were historically nourished by the fresh water, sediment and nutrients delivered by the Mississippi River and the many distributary channels. Following the creation of levees along the lower river for flood control and navigation, these inputs ceased. In addition, numerous oil and gas canals in the area contributed significantly to wetland losses. Data suggests that from 1932 to 1990, the basin lost over 245,000 ac of marsh, and from 1978 to 1990, Barataria Basin experienced the highest rate of wetland loss along the entire coast.

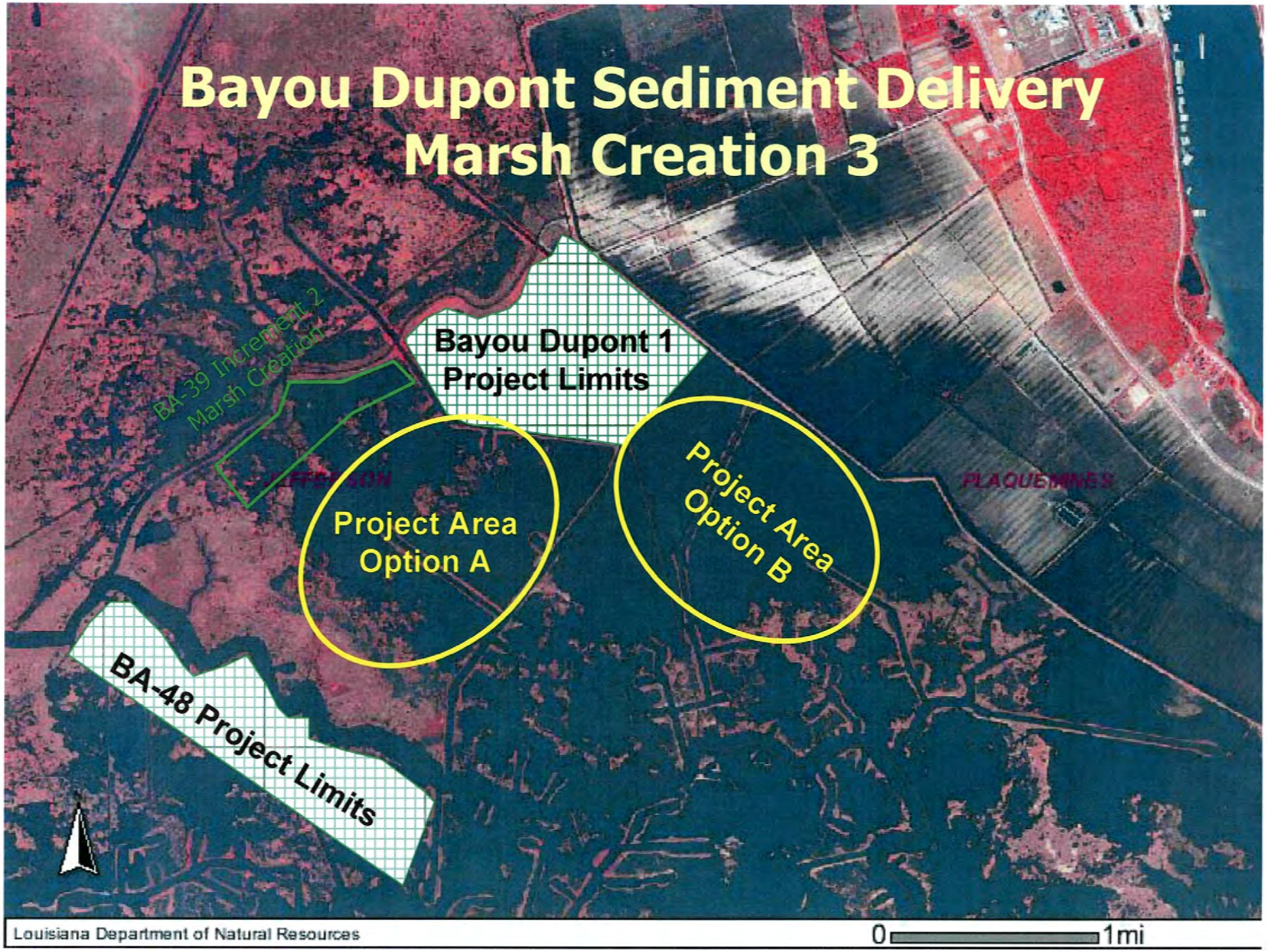
Goals:
The primary goal of this project is to create/nourish 522 ac of emergent intermediate marsh using sediment from the Mississippi River. In order to achieve this, specific project goals include (1) create 457 acres of marsh habitat using sediment from the Mississippi River, (2) nourish 51 acres of existing marsh habitat using sediment from the Mississippi River, (3) create approximately 10 acres of tidal ponds and approximately 10,000 linear feet of tidal creeks (Approximately 4 acres). This project will tie in to the previous BA-39 project and create/protect 436 ac of emergent intermediate marsh over the project's life.

Proposed Solution:
Creation/nourishment of approximately 522 acres of emergent intermediate marsh by hydraulically pumping sediment from the Mississippi River via pipeline, create approximately 10 acres of tidal ponds and approximately 10,000 linear feet of tidal creeks, degrade and gap containment dike to hydraulically connect the constructed tidal creeks to the adjacent water, and plant appropriate marsh vegetation (funds are budgeted to plant 50% of the created marsh acres/229 ac).

Project Benefits:
The project would result in approximately 436 net ac of emergent intermediate marsh at the end of the 20-year project life.

Project Costs:
The preliminary construction cost plus 25% is $31.7 Million.

Preparer of Fact Sheet:
Paul Kaspar, EPA, (214) 665-7459; kaspar.paul@epa.gov


Bayou Dupont Sediment Delivery
Marsh Creation 3
BA-39 Increment 2
Marsh Creation
Bayou Dupont 1
Project Limits
Project Area
Option A
Project Area
Option B
PLAQUEMINES
BA-48 Project Limits
Louisiana Department of Natural Resources
0
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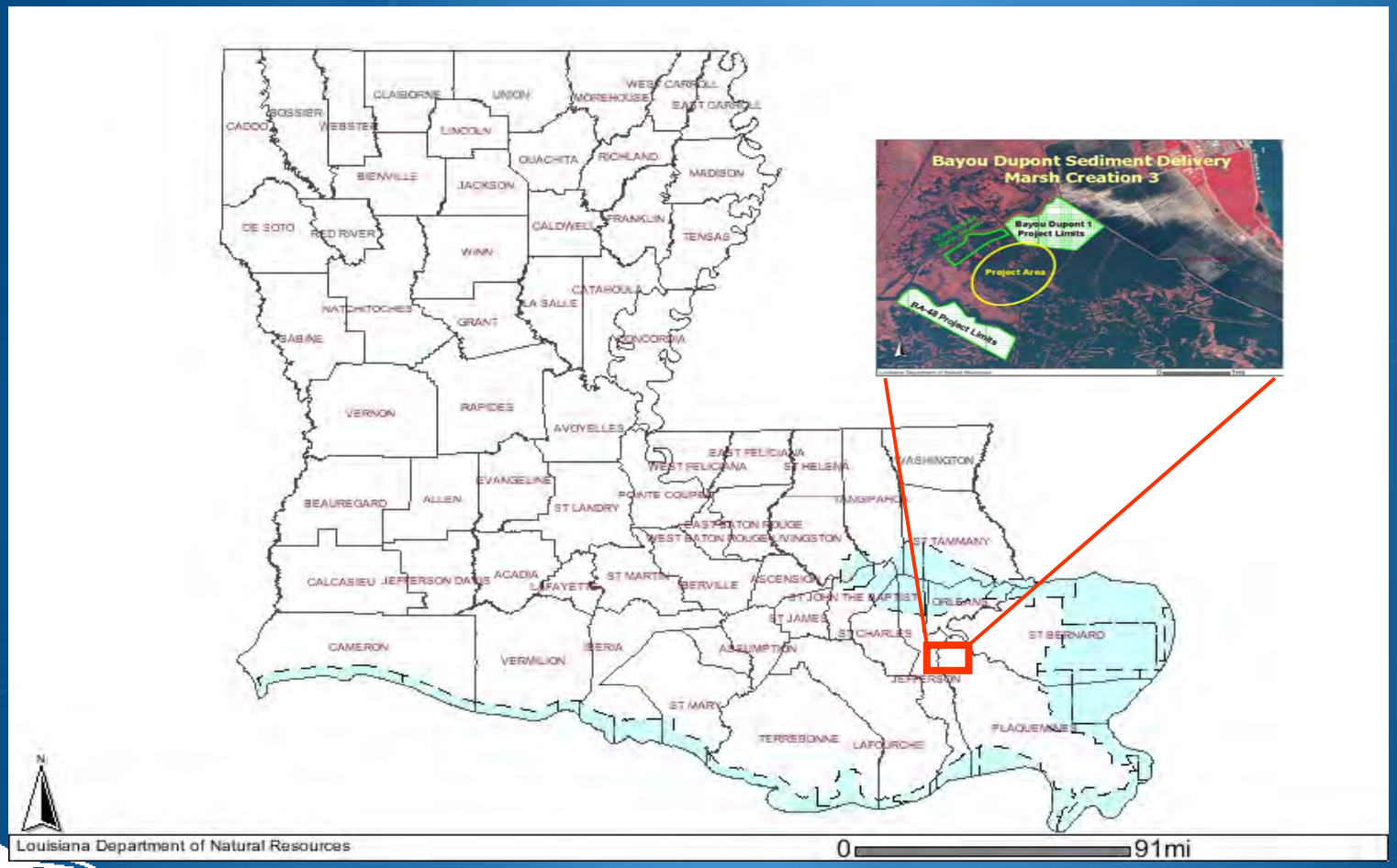
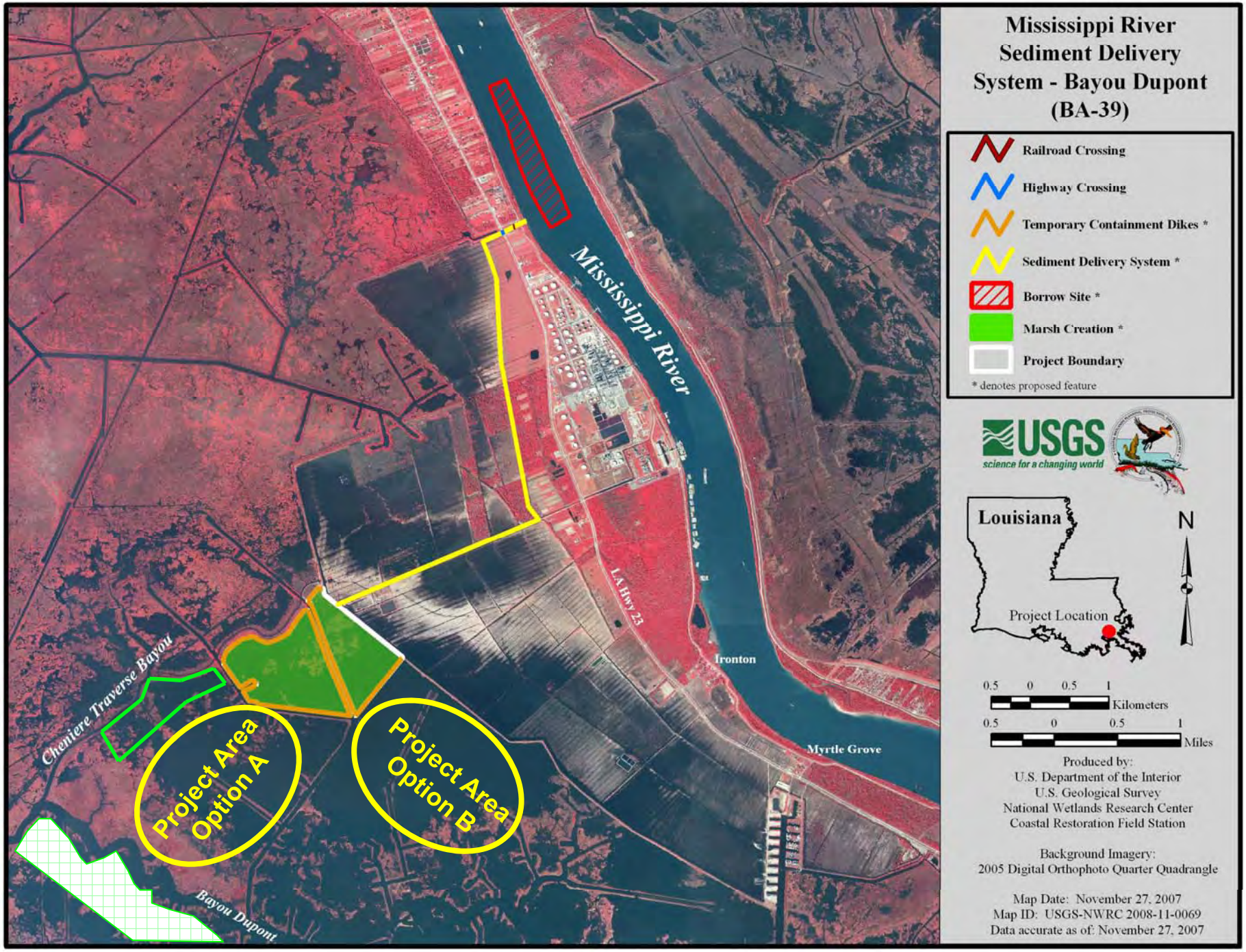
R2-BA-02

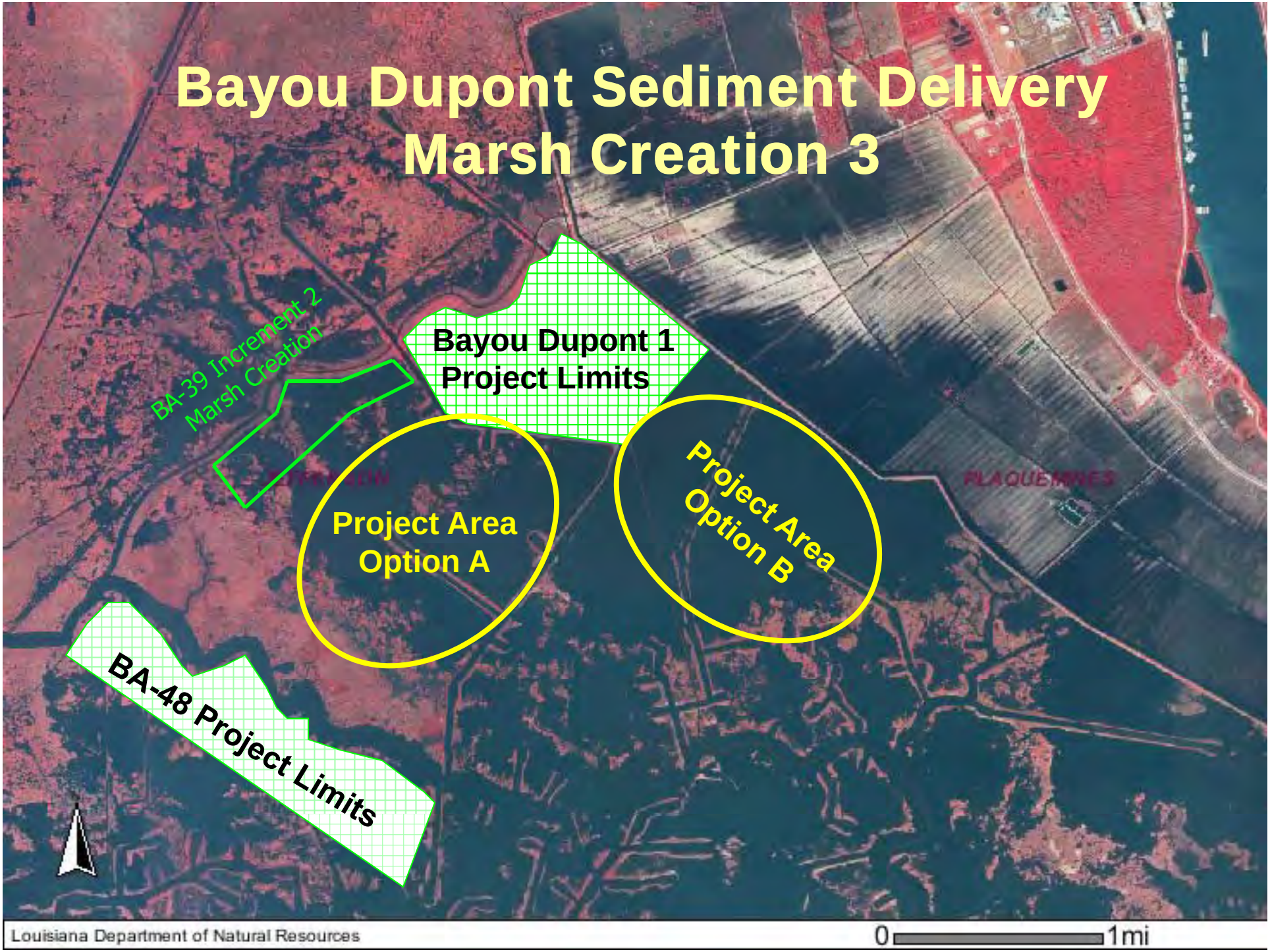
Bayou Dupont Sediment Delivery Marsh Creation 3



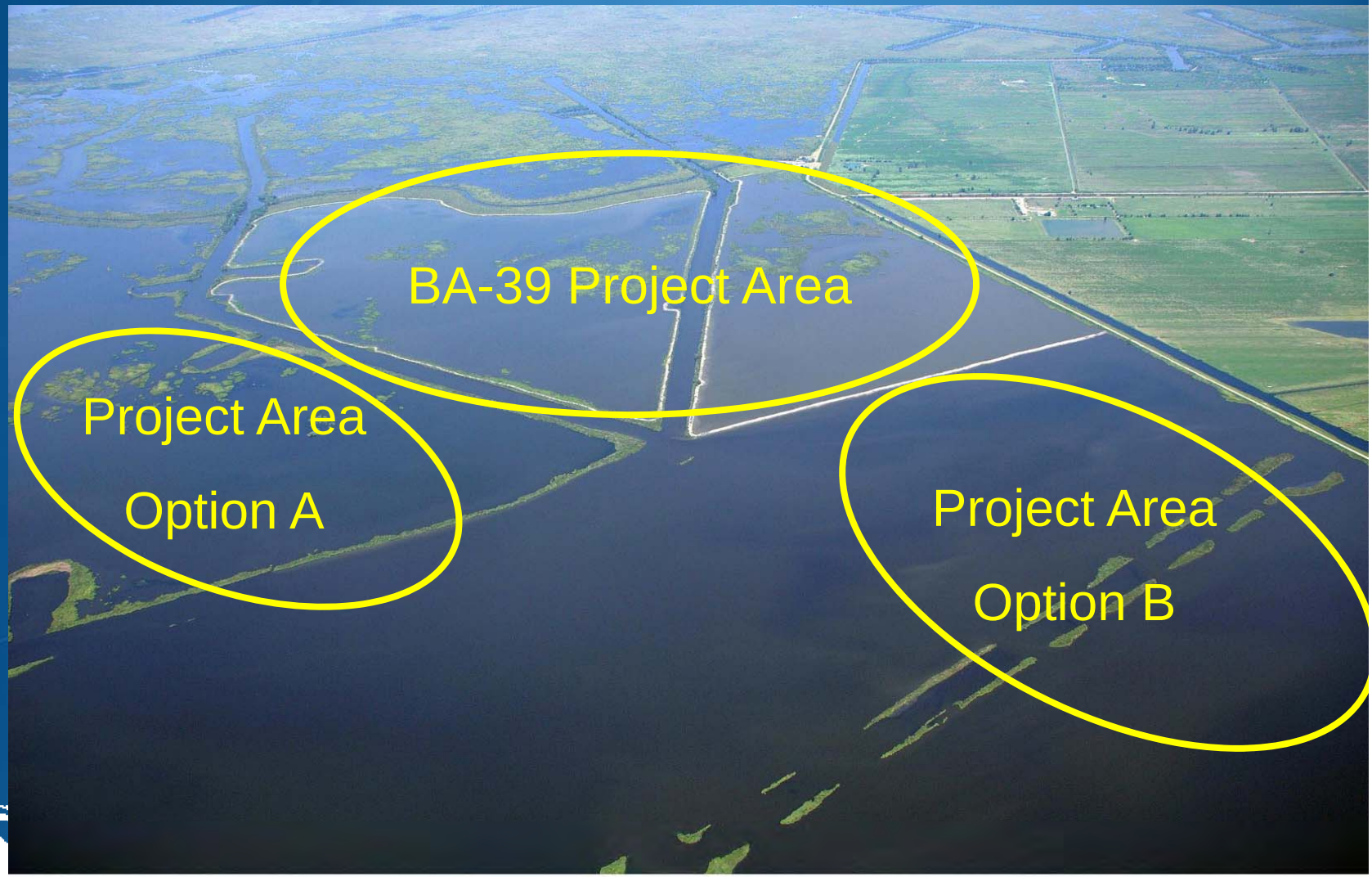
Coastal Wetlands Planning, Protection and Restoration Act


Mississippi River Sediment Delivery System - Bayou Dupont (BA-39)
Railroad Crossing
Highway Crossing
Temporary Containment Dikes *
Sediment Delivery System *
Borrow Site *
Marsh Creek *
Project Boundary
* denotes proposed feature
USGS
science for a changing world
Louisiana
Project Location
N
0.5 0 0.5 1
Kilometers
0.5 0 0.5 1
Miles
Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Background Imagery:
2005 Digital Orthophoto Quarter Quadrangle
Map Date: November 27, 2007
Map ID: USGS-NWRC 2008-11-0069
Data accurate as of: November 27, 2007
Mississippi River
LA Hwy 23
Ironton
Myrtle Grove
Cheniere Traverse Bayou
Bayou Dupont
Project Area Option A
Project Area Option B

Bayou Dupont Sediment Delivery Marsh Creation 3



Bayou Dupont Sediment Delivery
Marsh Creation 3



727.520.8181
www.aerophoto.com

Bayou Dupont

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Date 09.02.09

Bayou Dupont Sediment Delivery
Marsh Creation 3

Bayou Dupont Sediment Delivery Marsh Creation 3

- Creates ~ 500 ac intermediate marsh
- Utilizes Renewable MS River Sediment
- Consistent with State Master Plan
- Protects Critical Infrastructure
- Synergistic with other CWPPRA projects
- Preliminary Construction Cost $32 million

Bayou Dupont Sediment Delivery Marsh Creation 3

Questions?

Paul Kaspar
EPA Region 6
(214)665-7459
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Coastal Wetlands Planning, Protection and Restoration Act

R2-BA-03

West Pointe a la Hache Marsh Creation South

R2 BA-03

PPL22 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name
West Pointe a la Hache Marsh Creation South

Coast 2050 Strategy
Coastwide Strategy: Dedicated dredging to create, restore, or protect wetlands: Off-shore and riverine sand and sediment resources.
Region 2 Regional Ecosystem Strategy: Restore and Sustain Marshes

Project Location
Region 2, Barataria Basin, Plaquemines Parish, in the southern portion of the West Pointe a la Hache siphon outfall area

Problem
An unintended consequence of the Mississippi River levee is the isolation of the West Pointe a la Hache wetlands from the historic overbank flooding of the river. Without continued sediment input, marshes couldn't maintain viable elevations due to ongoing subsidence. In addition, oil and gas canals disrupted hydrology and facilitated saltwater intrusion, further degrading the marsh. Beginning in 1993, the siphons at West Pointe a la Hache were operated to reintroduce Mississippi River water, fine sediments, and nutrients into this general area. However, land loss rates continue to be high. An opportunity exists to create marshes in the southern portion of the siphon outfall area using sediment from the nearby Mississippi River. The created marshes should benefit from the effects of the reintroduced Mississippi River water from the siphons (accretion, salinity reduction, nutrient loading).

Proposed Project Features
Create 240 ac of intermediate marsh using sediments dredged from the Mississippi River. Features also include the creation of tidal creeks and ponds. Vegetative planting will probably not be necessary, but funds are budgeted for this contingency.

Goals/Benefits
- Convert approximately 240 acres of open water habitat to intermediate marsh
- Maintain about 138 acres of created/nourished marsh over the 20-year project life
- Protect the Mississippi River Levee in the vicinity of the project

Preliminary Construction Costs
The preliminary construction costs plus 25% is $18.3 Million

Preparer(s) of Fact Sheet:
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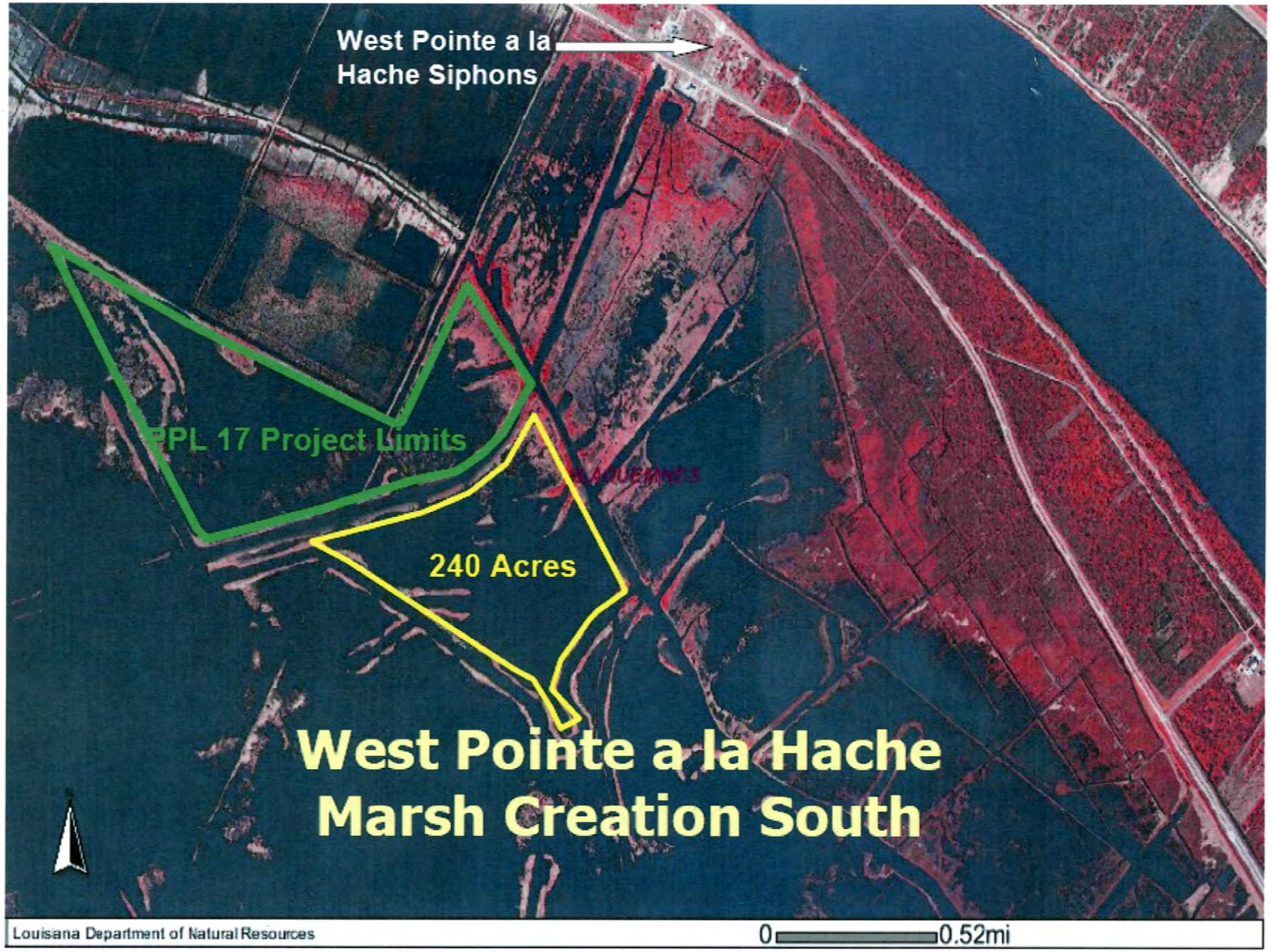
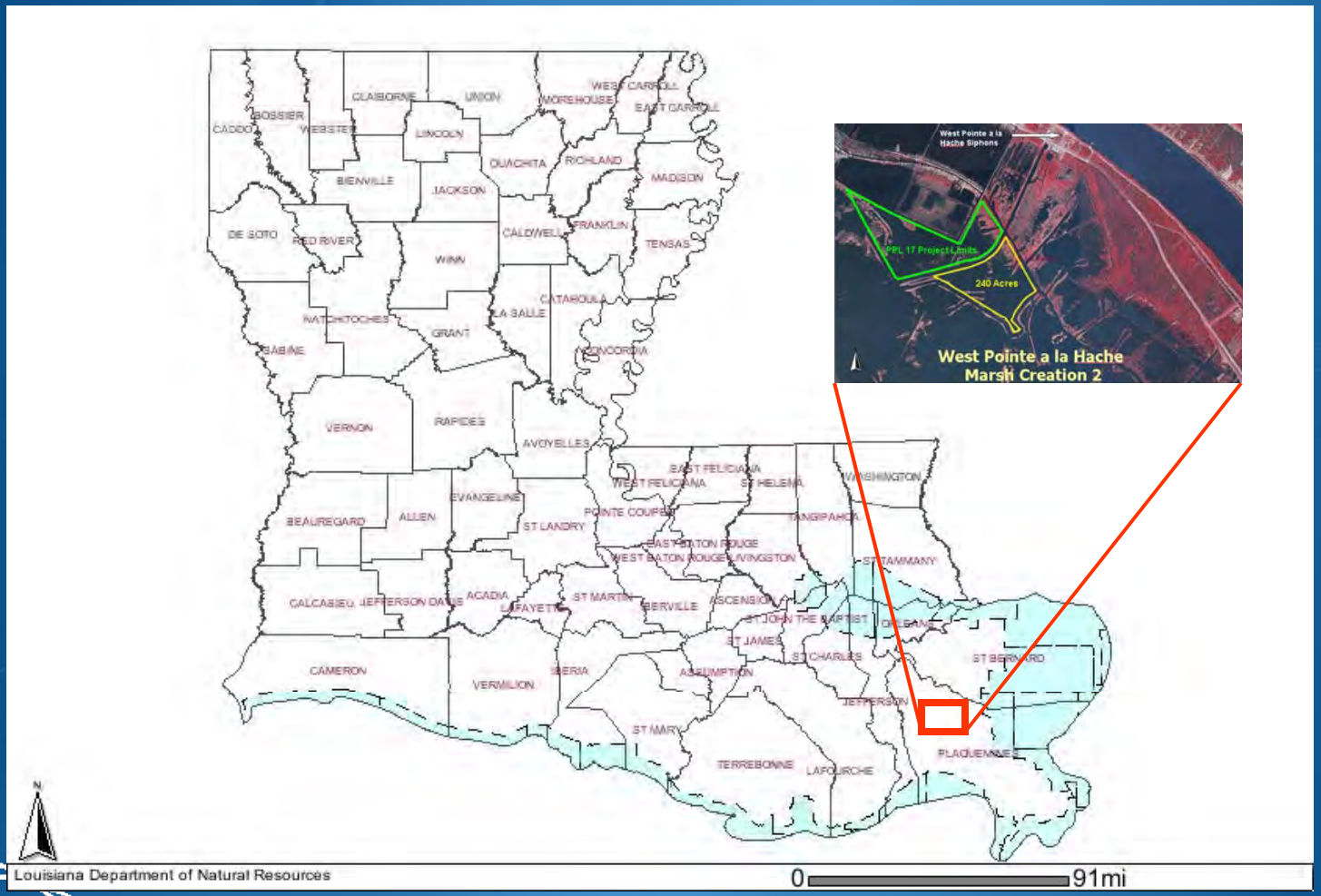
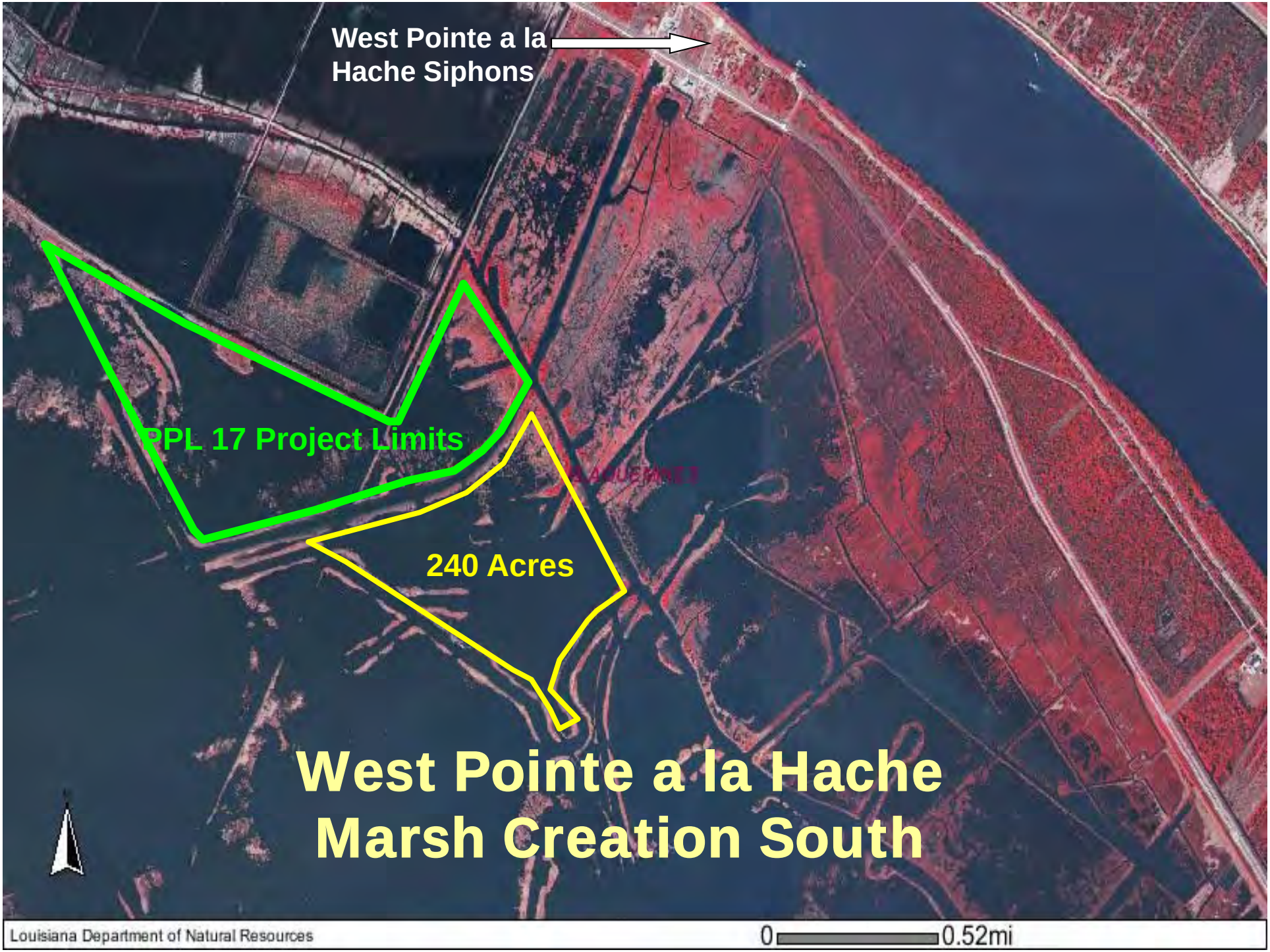

West Pointe a la Hache Siphons
PPL 17 Project Limits
240 Acres
West Pointe a la Hache Marsh Creation South
Louisiana Department of Natural Resources
0
0.52mi

West Pointe a la Hache Marsh Creation 2



Coastal Wetlands Planning, Protection and Restoration Act


West Pointe a la Hache Siphons
PPL 17 Project Limits
240 Acres
West Pointe a la Hache
Marsh Creation South
Louisiana Department of Natural Resources
0
0.52mi

Marsh Creation Using Sediment Delivery

West Pointe a la Hache Marsh Creation 2

- Creates ~240 ac intermediate marsh
- Utilize Renewable Sediment
- Incorporates tidal creeks, ponds & plantings
- Consistent with State Master Plan
- Protects Critical Infrastructure
- Synergistic with other CWPPRA project
- Sustainability in Siphon Outfall Area
- Preliminary Construction Cost +25% ~ $18.3 million

West Pointe a la Hache Marsh Creation 2

Questions?

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Coastal Wetlands Planning, Protection and Restoration Act

R2-BA-04

Freshwater Introduction into North of Lac des Allemands

PPL22 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name
Freshwater Introduction into Swamps North of Lac des Allemands

Coast 2050 Strategy
Coastwide Strategies: Diversions and riverine discharge; Management of diversion outfall for wetland benefits
Region 2 Regional Ecosystem Strategies: Restore and Sustain Marshes: #8: Construct most effective small diversions

Project Location
Region 2, upper Barataria Basin, St. John the Baptist Parish, north of Lac des Allemands, Bayou Becnel or Bayou Lassene.

Problem
Swamps and marshes in the upper Barataria Basin have been isolated from the Mississippi River for many years now, which was historically their primary source of water, sediments, and nutrients. Swamps here are now dependent on local rainfall and runoff as their source of freshwater, sediment, and nutrients. Subsidence is moderate, and because of the lack of sediment input and low swamp productivity, there is an accretion deficit which results in increasing flooding of swamps. Some information indicates increased salinity in Lac des Allemands, but it is not clear whether this is a significant risk yet or not.

Proposed Project Features
Divert 400-1000 cfs of Mississippi River water into the swamps northwest of Lac des Allemands via a siphon using Bayou Becnel as a conveyance. If needed, gap spoil banks and install culverts as necessary to facilitate seasonal flooding and draining of the swamps (outfall management).

Goals

- Increase swamp productivity
- Increase regeneration of cypress and tupelo trees
- Increase sediment accretion in swamps.
- Reduce salinity if it is found to be a problem.
- Improve swamp forest stand structure
- Improve swamp water regime

Preliminary Project Benefits
This proposed project would not directly create wetland acreage. Wetland loss rates in this area are low compared to other wetland types, so loss rate reduction due to this proposed project would also be low. However, diversion of river water into these swamps would restore natural hydrologic regimes, increase nutrient availability, and restore some sediment input. This would result in increased productivity and increased sediment accretion (organic and some inorganic), which over time should also counter subsidence sufficiently to improve cypress and tupelo regeneration. Without the project, over a sufficiently-long period of time, swamp habitat is expected to be converted to open water, floating aquatic vegetation, and/or fresh marsh due to the effects of subsidence and the accretion deficit. The project would improve swamp forest stand structure and water regime. If salinity is a problem, the project would eliminate this problem.

Identification of Potential Issues
Landrights

Preliminary Construction Costs
The preliminary construction costs plus 25% is $17 Million.

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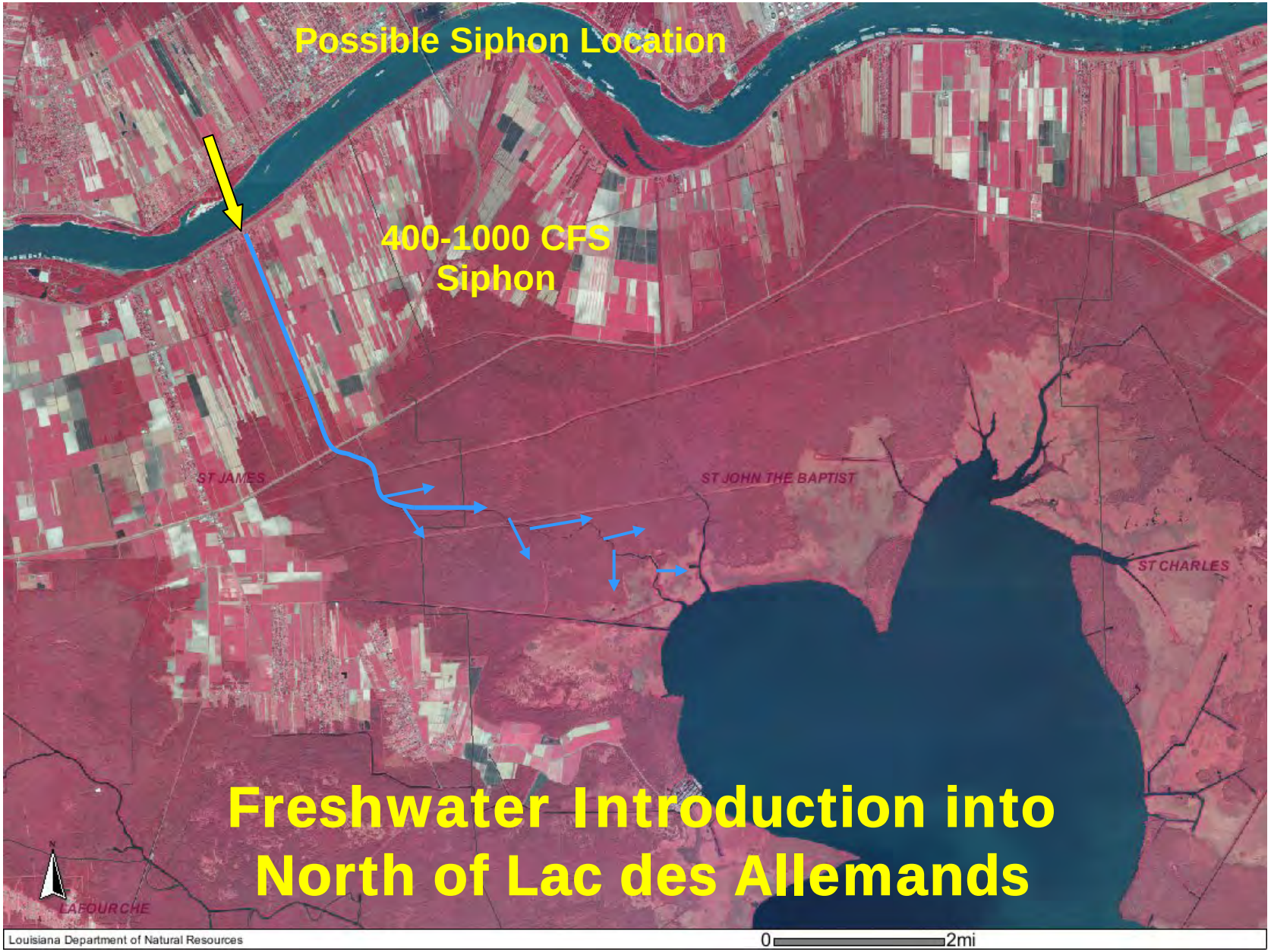
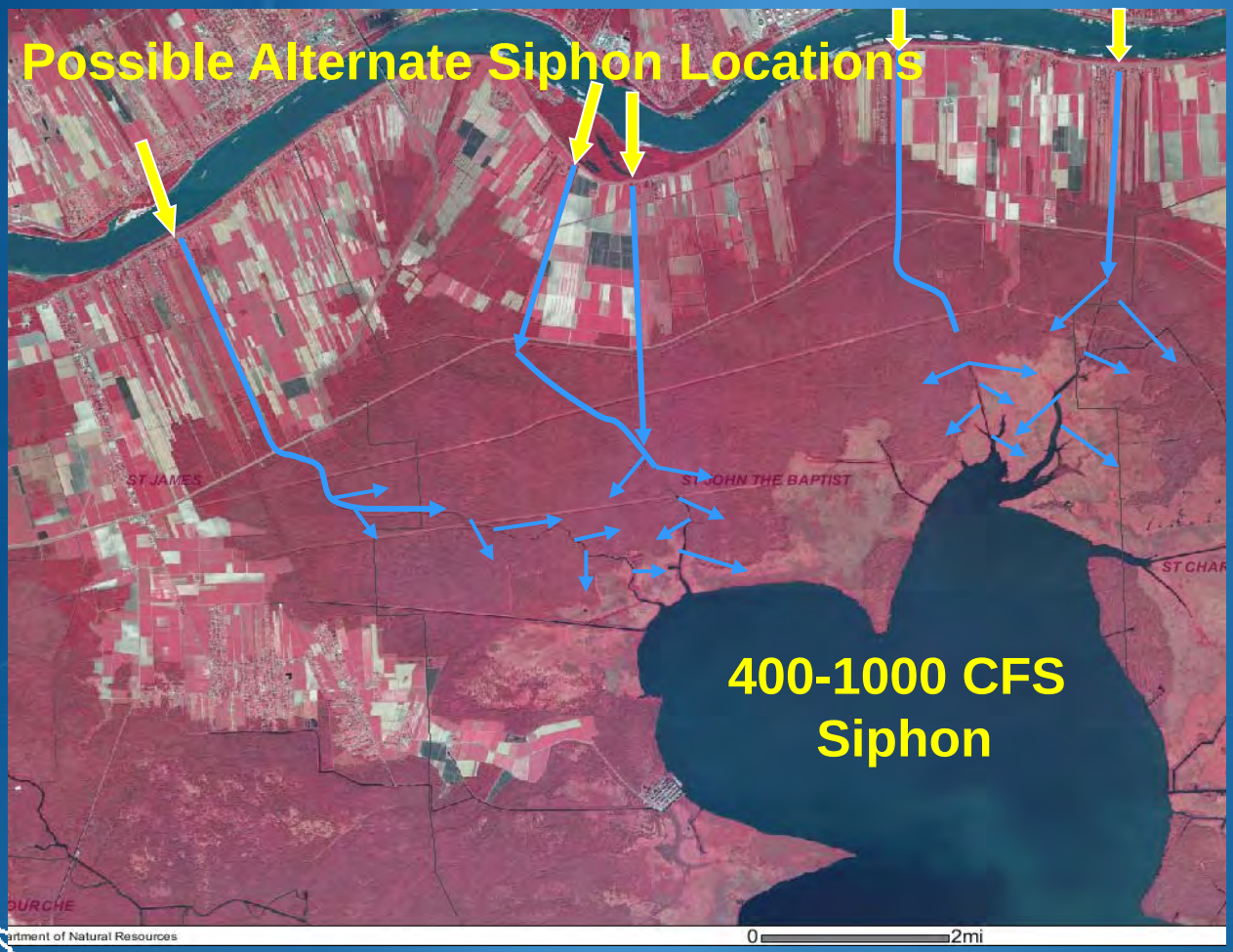
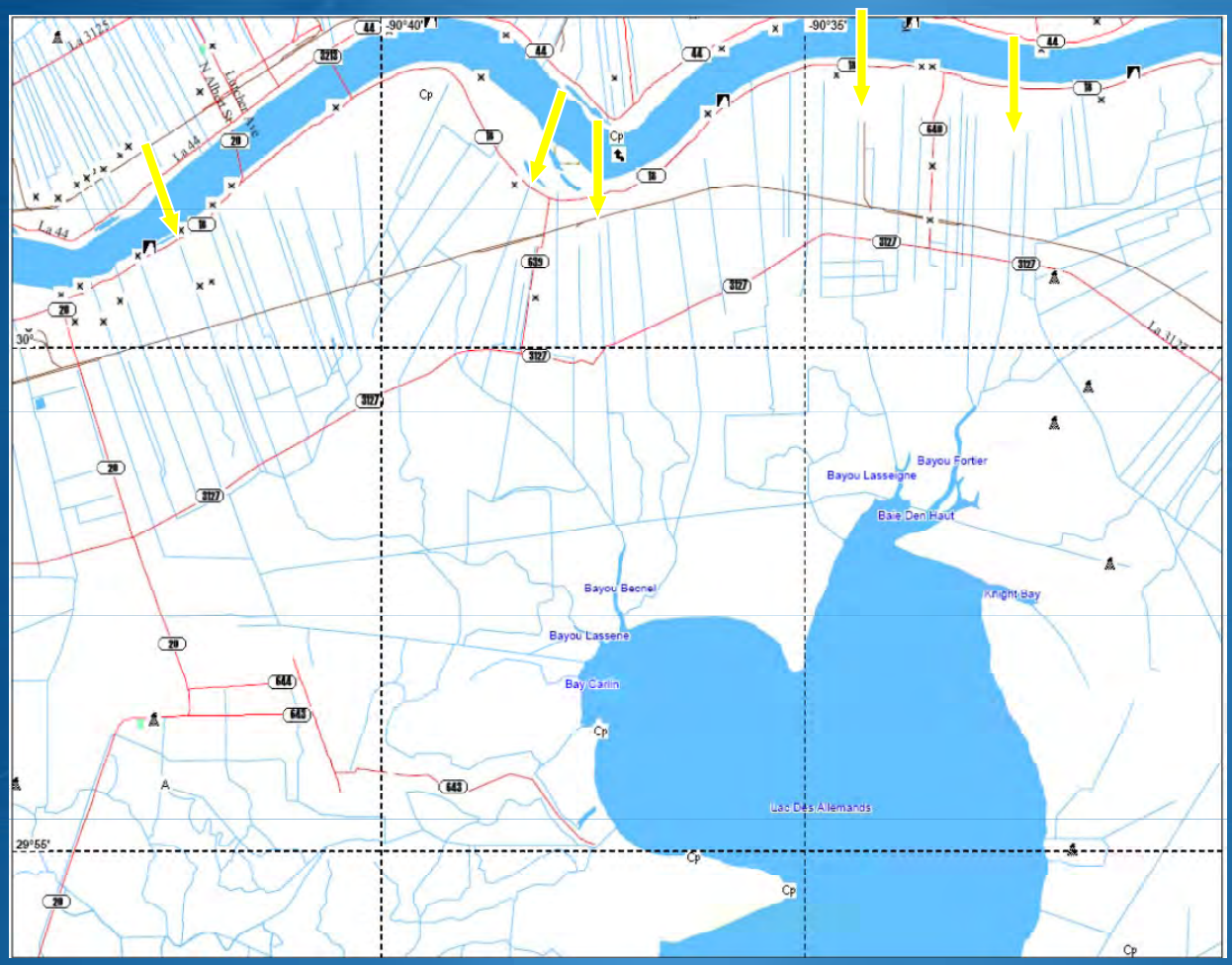

Possible Siphon Location
400-1000 CFS
Siphon
ST JAMES
ST JOHN THE BAPTIST
ST CHARLES
LAFOURCHE
Freshwater Introduction into
North of Lac des Allemands
Louisiana Department of Natural Resources
0
2mi

Freshwater Introduction North of Lac des Allemands



Coastal Wetlands Planning, Protection and Restoration Act



Coastal Wetlands Planning, Protection and Restoration Act

Freshwater Introduction North of Lac des Allemands

Goals

- Ensure long-term maintenance of cypress-tupelo swamp
  - Increase cypress and tupelo productivity
    - Increase sediment accretion
    - Improve swamp forest stand structure
    - Improve swamp water regime
- Maintain fresh marsh
  - Increase fresh marsh vegetative productivity
    - Increase sediment accretion

Proposed Solution

- Construct siphons to reintroduce Mississippi River water into swamps north of Lac des Allemands

Preliminary Construction Costs +25% = $15 million

Questions

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Coastal Wetlands Planning, Protection and Restoration Act

R2-BA-05

Bayou Villars Shoreline Stabilization

PPL 22 PROJECT NOMINEE FACT SHEET
(3 Feb 2012 updated version of January 26, 2012 Fact Sheet)

Project Name:
Bayou Villars Shoreline Stabilization Project

Coast 2050 Strategies:
Basin Strategies: 6) Stabilize shorelines to preserve marsh. Cataouatchie/Salvador Mapping Unit Strategy: "maintaining shoreline integrity along the lakes…"

Project Location:
The project is located in Region 2, in the Barataria Basin. The project site is located along the east portion of Lake Salvador near the Barataria Preserve of Jean Lafitte National Historical Park and Preserve and lands south of Bayou Villars in Jefferson Parish, Louisiana.

Problem:
Within the past 50 years, the project area has lost more than 650 acres of wetlands along the east shore of Lake Salvador. The opening of Bayou Villars at Lake Salvador has retreated approximately 5,100 feet into the Gulf Intracoastal Water Way (GIWW). Shoreline retreat and wetland loss were accelerated by winds and storm surge caused by Hurricanes Katrina and Rita. Within the project area, these storms eroded the shoreline 100 feet in places and interior marsh was compacted or torn apart creating open water ponds. Flooding of Crown Point, Jean Lafitte, and Barataria communities may be partially attributed to these high wetland losses. Stabilizing the shoreline and protecting the remaining marsh would protect natural coastal resources, communities and infrastructure.

The average shoreline retreat in the project area is approximately 38'year. Some areas have a shoreline retreat as great as 89'/year. The shoreline retreat along the southern bank of Bayou Villars is encroaching on the GIWW. Currently the opening at the GIWW is at 2,000 lf. The opening at Bayou Villars has the potential to open to approximately 10,000 lf in 20 years once the islands to the south of Bayou Villars are lost to shoreline retreat.

Proposed Project Features:
1. Install approximately 31,000 tons of rock along 5,500 linear feet of shoreline from existing pipeline crossing north of Bayou Villars along the north bank of the mouth of Bayou Villars
2. Install approximately 44,000 tons of rock along 8,000 linear feet of shoreline from existing pipeline crossing south of Bayou Villars along the south bank of the mouth of Bayou Villars
3. Create "ribbon" of marsh behind rock shoreline protection feature using materials dredged to create site access channel (if channel access required)

Goals:
1. Stop shoreline erosion.
2. Beneficially use dredged material to create marsh in between the rock feature and the shoreline.

Preliminary Project Benefits:
The following questions should be addressed:
1) What is the total acreage benefited both directly and indirectly?

Directly benefited: Approximately 200 acres protected.

2) How many acres of wetlands will be protected/created over the project life?
At the end of 20 years, approximately 200 acres should remain.

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 over the project life would be >75%.

4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?
The project maintains a portion of the rims of Lake Salvador and Bayou Villars, which are structural components of the coastal ecosystem
.

5) What is the net impact of the project on critical and non-critical infrastructure?
One key feature of this project is the protection for local communities of Jean Lafitte, Barataria and Crown Point and adjacent infrastructure. The project site is located in a critical area 15 miles south of New Orleans that provides one of the last lines of defense against storm surge coming toward the Metropolitan Area from Lake Salvador and the Barataria Bay. The project also prevents Lake Salvador from continuing to break through into the GIWW. In addition, oil and gas infrastructure in the immediate area would be protected.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?
This project is synergistic with existing shoreline protection projects that have been constructed on the Barataria Preserve.

Identification of Potential Issues:
Rock shoreline protection projects historically require O&M.

Preliminary Construction Costs:
The construction cost including 25% contingency is approximately $8,000,000.

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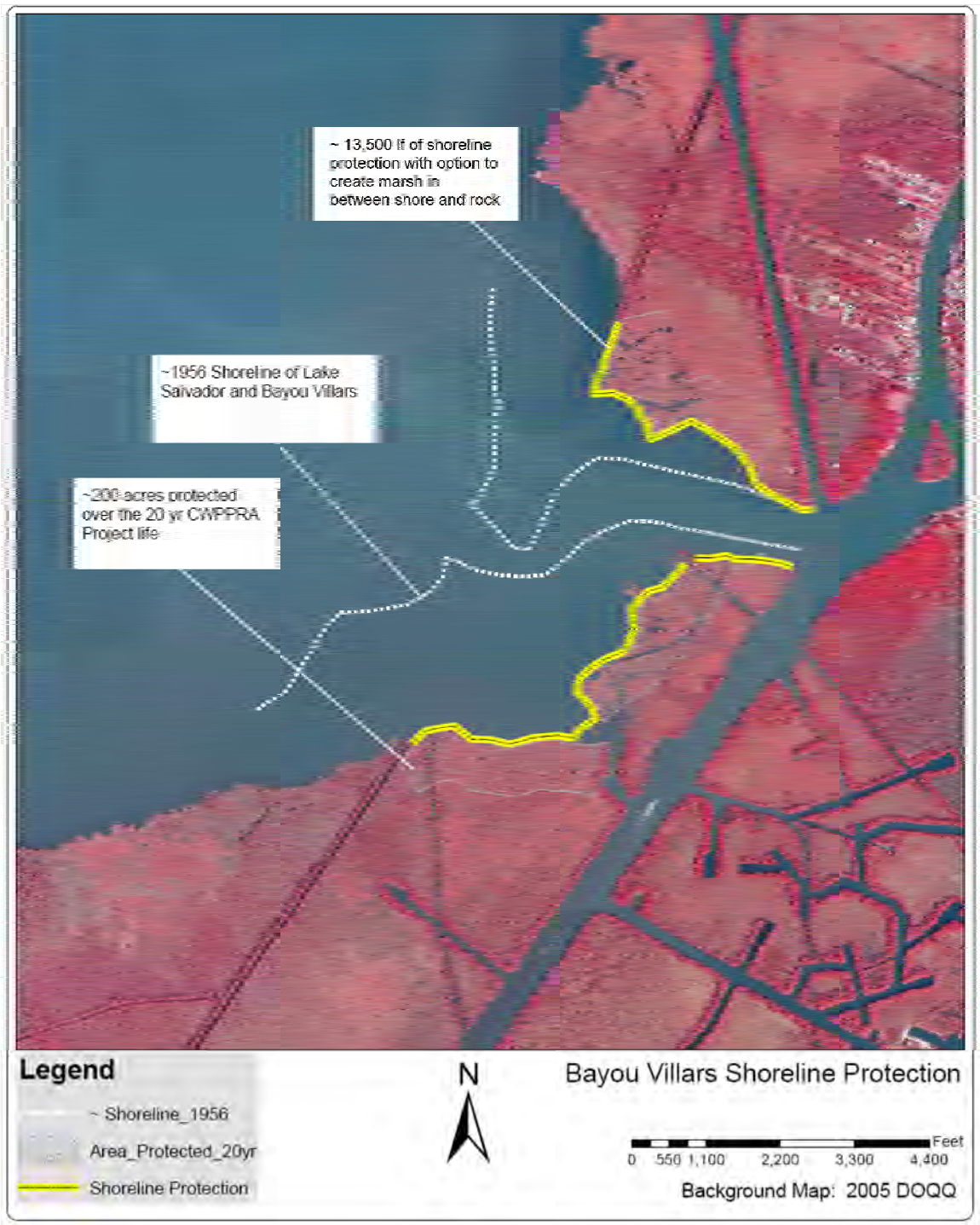
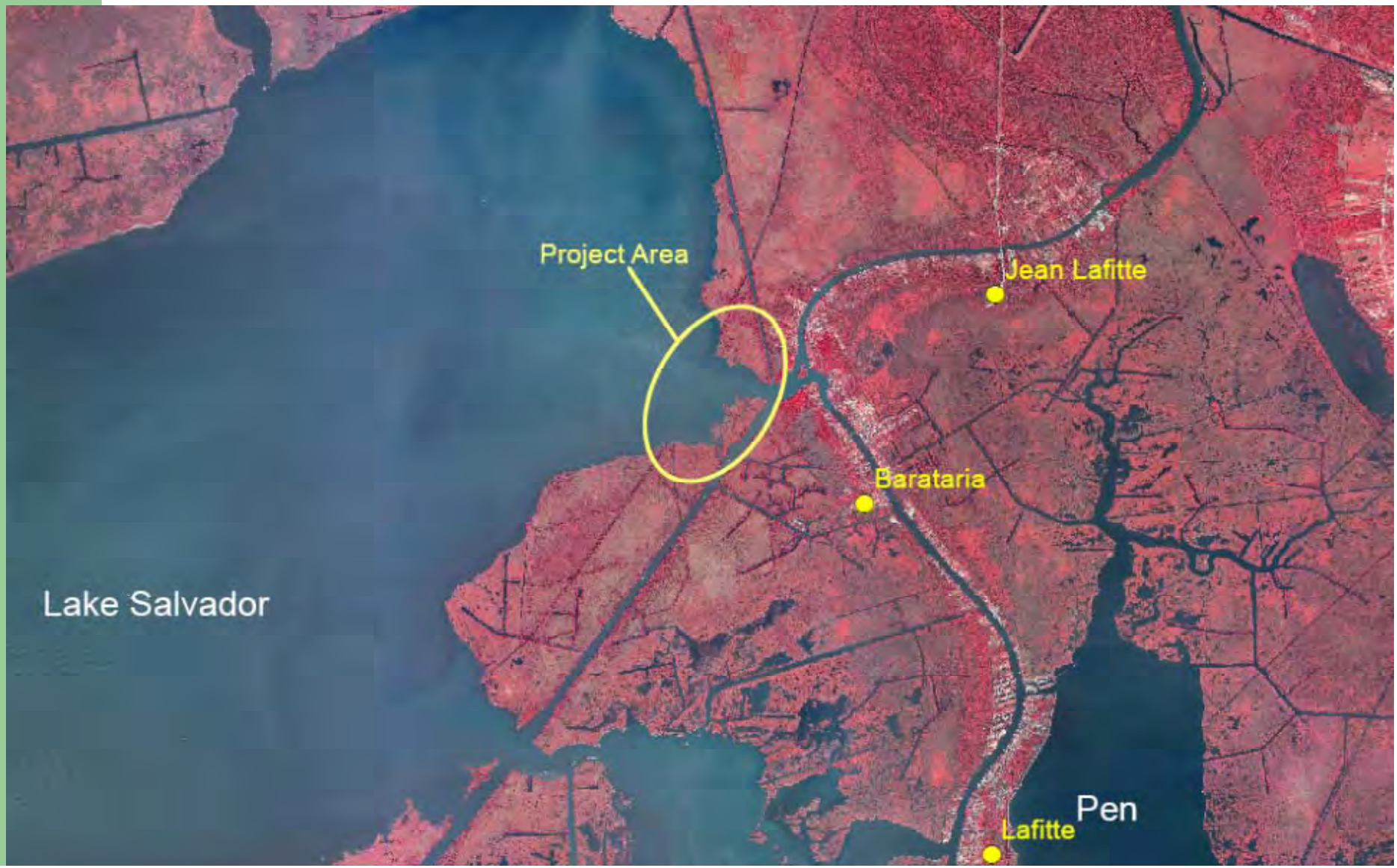

~ 13,500 lf of shoreline protection with option to create marsh in between shore and rock
~1956 Shoreline of Lake Salvador and Bayou Villars
~200 acres protected over the 20 yr CWPPRA Project life
Legend
~ Shoreline_1956
Area_Protected_20yr
Shoreline Protection
N
Bayou Villars Shoreline Protection
Feet
0 550 1,100 2,200 3,300 4,400
Background Map: 2005 DOQQ

Bayou Villars Shoreline Stabilization Project

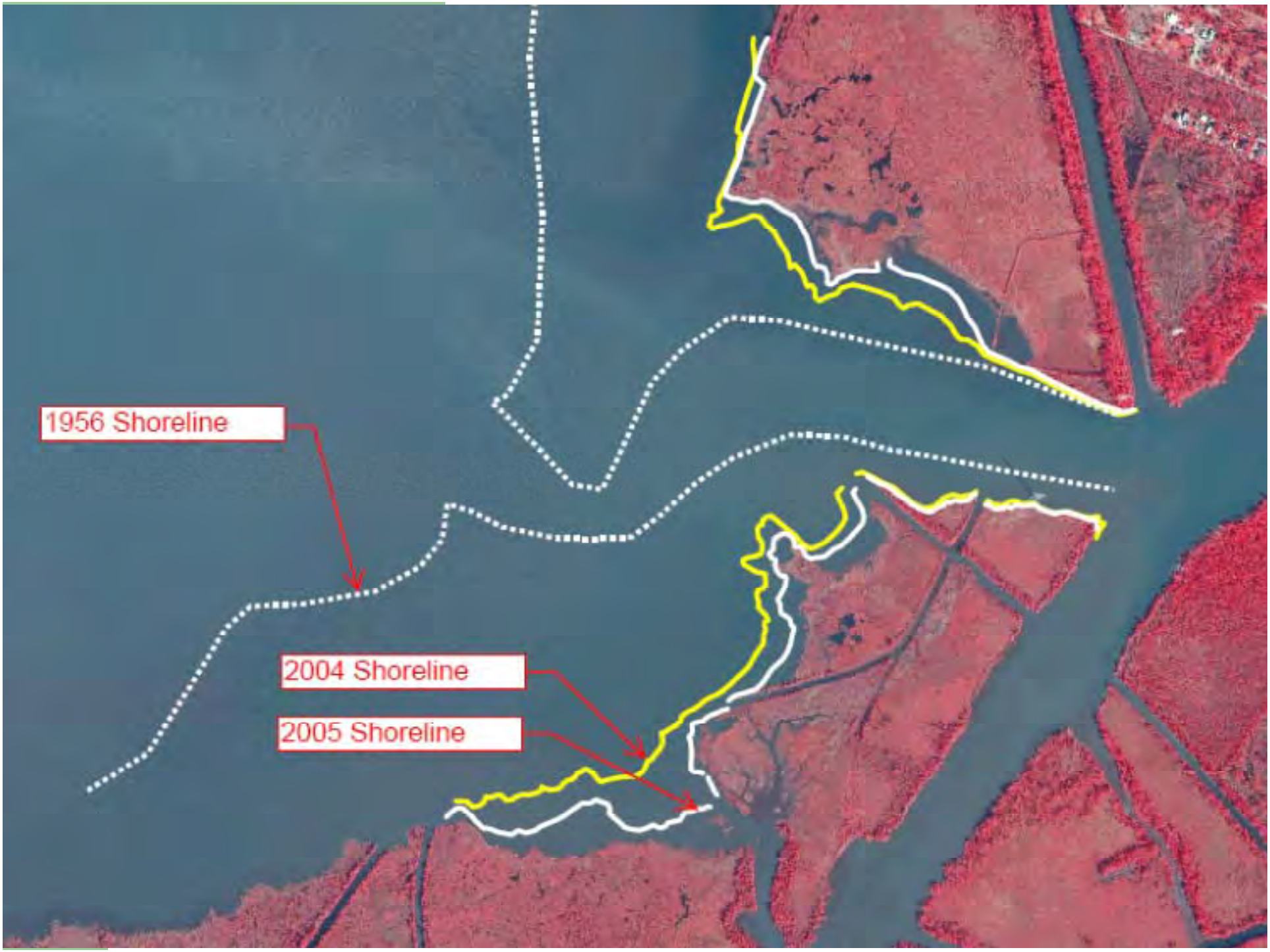
PPL 22
Region 2
Barataria Basin

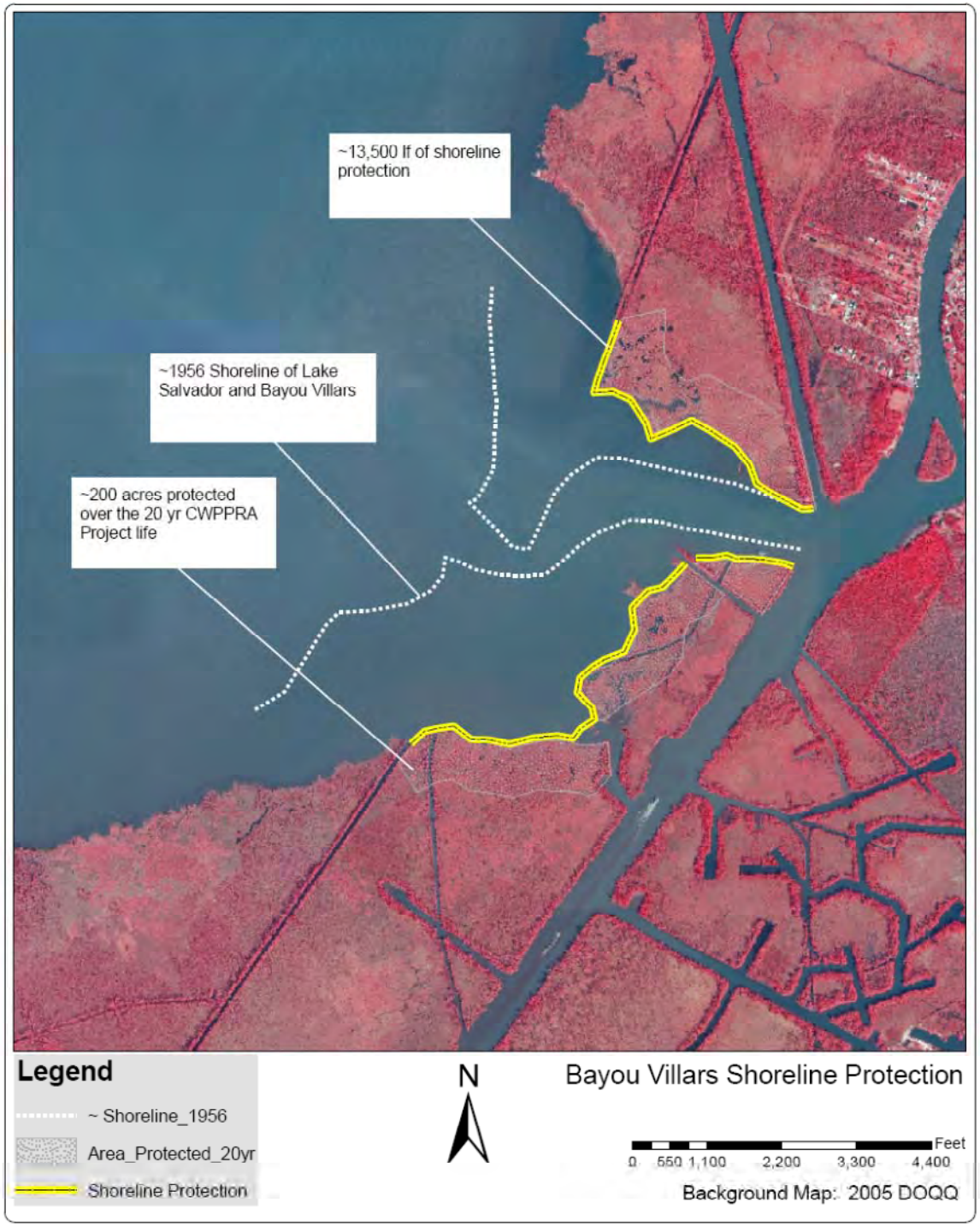
Project Area:



Problem:

- ~650 acres of wetlands lost along the east shore of Lake Salvador
- Bayou Villars at Lake Salvador has retreated ~ 5,100 feet into the GIWW
- Flooding of Crown Point, Jean Lafitte, and Barataria communities may be partially attributed to these high wetland losses
- Opening at the Bayou Villars currently at 2,000 lf.
- Has the potential to open to approximately 10,000, once the islands to the south of Bayou Villars are lost to shoreline retreat.
- Average shoreline retreat approximately 38’year


1956 Shoreline
2004 Shoreline
2005 Shoreline


~13,500 lf of shoreline protection
~1956 Shoreline of Lake Salvador and Bayou Villars
~200 acres protected over the 20 yr CWPPRA Project life
Legend
~ Shoreline_1956
Area_Protected_20yr
Shoreline Protection
N
Bayou Villars Shoreline Protection
Feet
0 550 1,100 2,200 3,300 4,400
Background Map: 2005 DOQQ

Proposed Project Features:

- 5,500 linear feet of shoreline protection from the existing pipeline crossing north of Bayou Villars the north bank of the mouth of Bayou Villars
- 8,000 linear feet of shoreline protection from existing pipeline crossing south of Bayou Villars the south bank of the mouth of Bayou Villars

Preliminary Project Benefits:

- Stop shoreline erosion
- Stabilize the Bayou Villars opening
- Protect approximately 200 acres
- Protect the Crown Point, Jean Lafitte, and Barataria communities

R2-BA-06

Caminada Headlands Back Barrier Marsh Creation

R2-BA-06

PPL 22 PROJECT NOMINEE FACT SHEET

Project Name
Caminada Headlands Back Barrier Marsh Creation

Coast 2050 Strategy
- Coastwide: Dedicated dredging to create, restore, or protect wetlands
- Coastwide: Utilize off-shore and riverine sand and sediment sources.
- Region: Restore/maintain barrier shoreline.

Project Location
The project is located directly behind the Caminada headland beach, to the east of West Belle Pass, in Lafourche Parish, Louisiana.

Problem
Caminada headland has experienced some of the highest shoreline retreat rates in Louisiana, measuring between 55 and 65 feet per year from 1998 to 2010 (historically, up to 100 feet per year). At the same time the area is also experiencing extremely high loss rates of interior marshes. As the barrier headland continues to retreat, overwashed sediment will be lost into newly formed open water, these landloss rates will be exacerbated.

Goals
The goals of this project are to: 1) Create/nourish 610 acres of back barrier marsh, by pumping sediment from an offshore borrow site. 2) Create a platform upon which the headland beach and dunes can migrate, improving the longevity of the barrier shoreline and protecting wetlands and infrastructure to the north and west.

Proposed Project Features
This project would create 321 acres of marsh and nourish 220 acres of emergent marsh, behind 4.1 miles of Caminada beach, using material dredged from the Gulf of Mexico.

Preliminary Project Benefits
This project would create and nourish 610 acres of back barrier marsh, utilizing offshore borrow. This project will work in conjunction with the CIAP beach and dune restoration project to increase the longevity of the Caminada headlands beach.

Identification of Potential Issues
Pipelines: at least two pipelines bisect the project.

Preliminary Construction Costs
Preliminary Construction Costs + 25% contingency: $33.3M

Preparer of Fact Sheet
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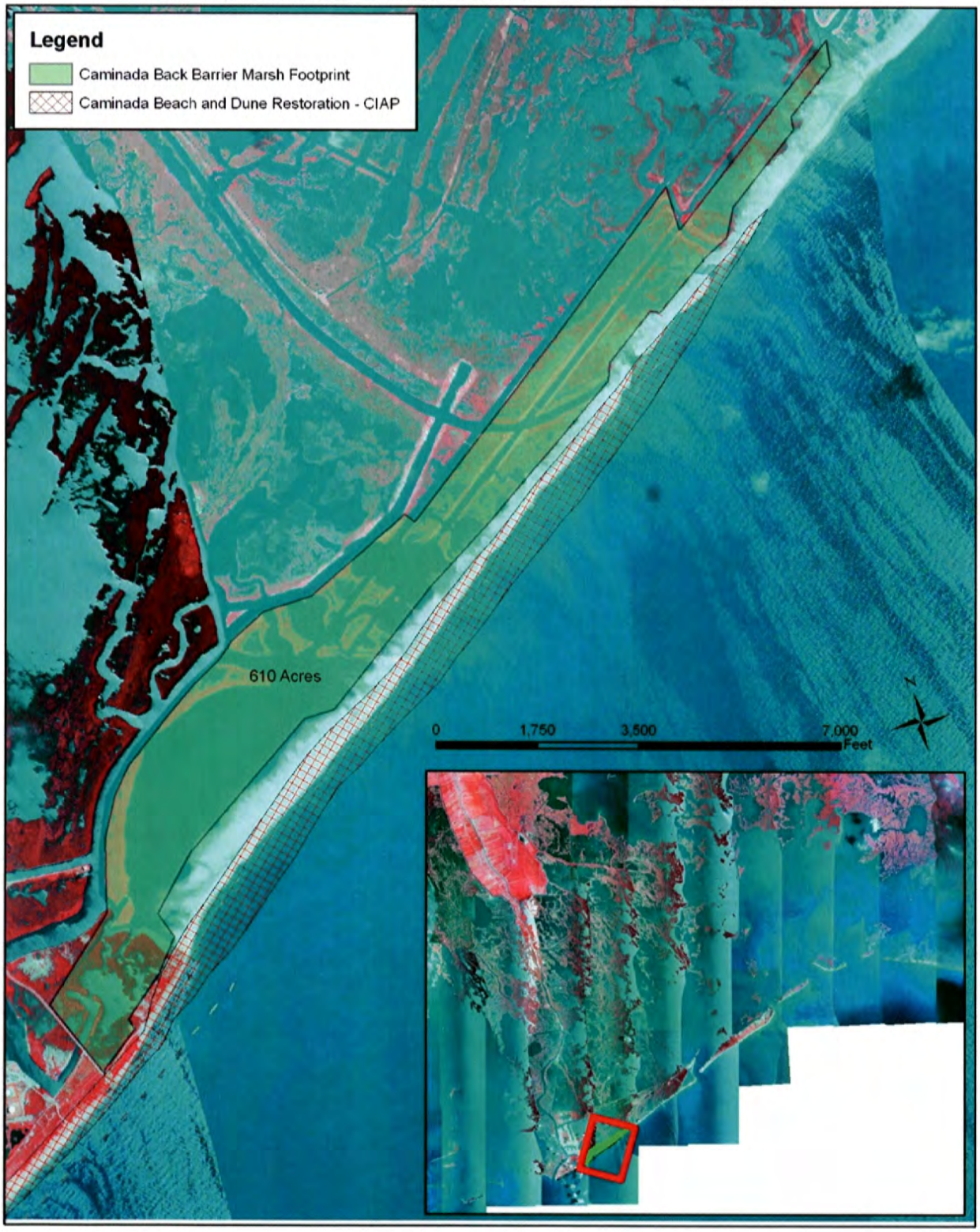
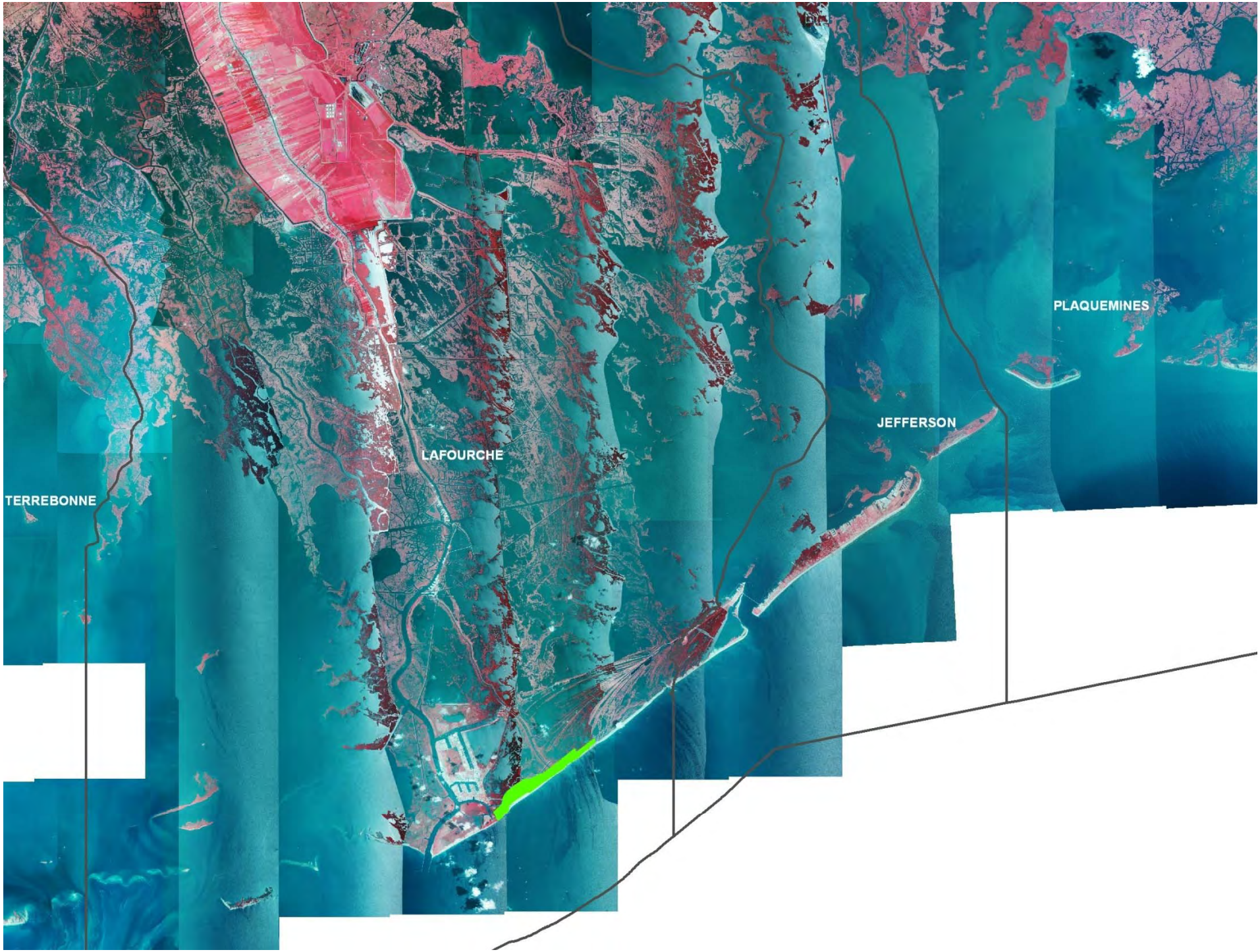
Caminada Back Barrier Marsh Creation

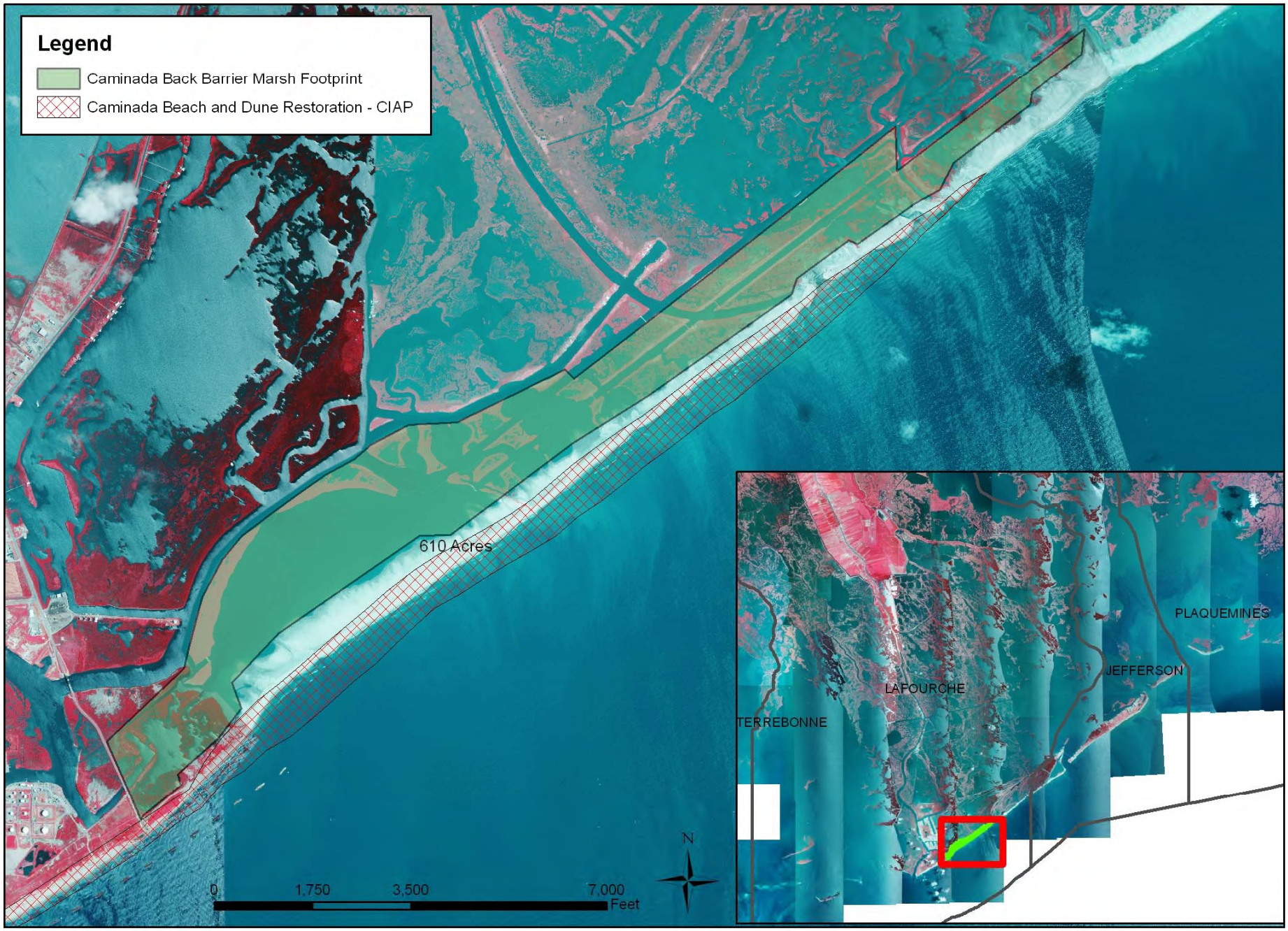


PPL 22
Caminada Headland Back-barrier Marsh Creation and Nourishment

1/26/2012


PLAQUEMINES
JEFFERSON
LAFOURCHE
TERREBONNE

Caminada Back Barrier Marsh Creation



R2-BA-07

South Lake Salvador Shoreline Restoration and Protection

R2-BA-07

PPL 21 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name
South Lake Salvador Shoreline Restoration and Protection

Coast 2050 Strategy
Regional Strategy#25. Preserve bay and lake shoreline integrity on the land bridge

Project Location
Region 2, Barataria Basin, Lafourche Parish, south shore of Lake Salvador

Problem
This area of the Lake Salvador shoreline is eroding at approximately 5 feet per year. The shoreline has nearly breached into the Gulf Intracoastal Waterway.

Goals
The proposed project would re-establish / widen Lake Salvador's rim where breaching into the GIWW is imminent and provide erosion protection for a portion the Lake Salvador shoreline.

Proposed Solutions
The proposed solution is to create approximately 30 acres of marsh, serving to re-establish / widen approximately 6,000 feet of Lake Salvador's rim where breaching into the GIWW is imminent. The created marsh would provide a minimum width between the lake and GIWW of 300 feet. Additionally, about 9,000 feet of shoreline protection would be constructed in Lake Salvador.

Preliminary Project Benefits
1) What is the total acreage benefitted both directly and indirectly? 30 acres created and 20 acres would be protected from erosion over 20 years. Indirect benefits have not been estimated

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?* 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.* Project features will maintain separation between Lake Salvador and the GIWW which was recognized as part of a Coast 2050 Regional Strategy.

5) *What is the net impact of the project on critical and non-critical infrastructure?* The proposed project would help maintain the integrity of the GIWW north bank. A breach to Lake Salvador could result in increased GIWW siltation and have an adverse impact on navigation.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?* The proposed project would support the concept of maintaining the Barataria Basin Landbridge.

Identification of Potential Issues
No potential issues identified at this time.

Preliminary Construction Costs
$5.4M (including 25% contingency)

Preparer(s) of Fact Sheet

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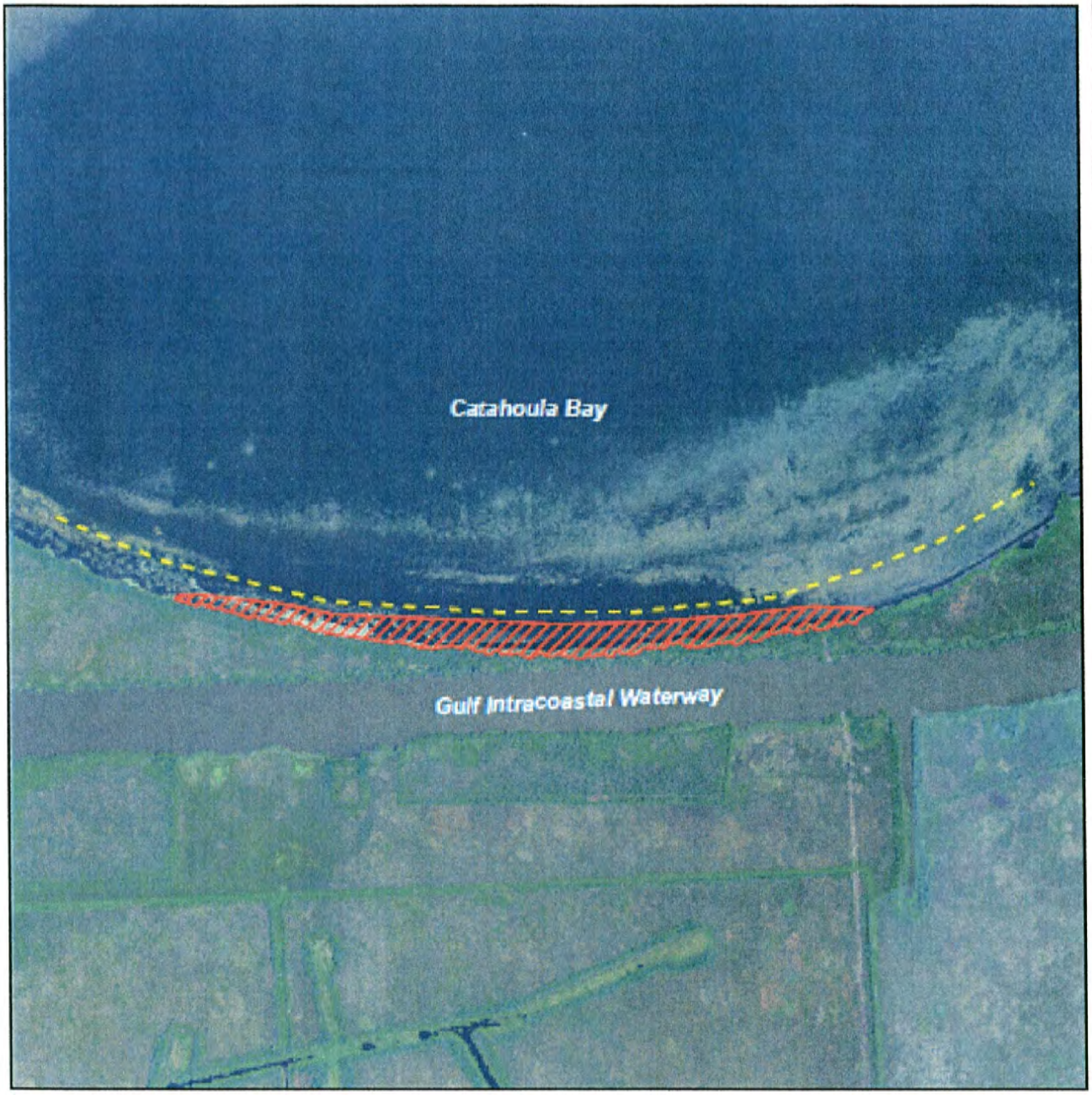


Legend

- Segmented Rock Breakwaters
- Lake Rim Marsh Creation

N

South Lake Salvador
Shoreline Protection and Marsh Creation
Lafourche Parish, LA
PPL 22

0 375 750 1,500 2,250 3,000
Feet

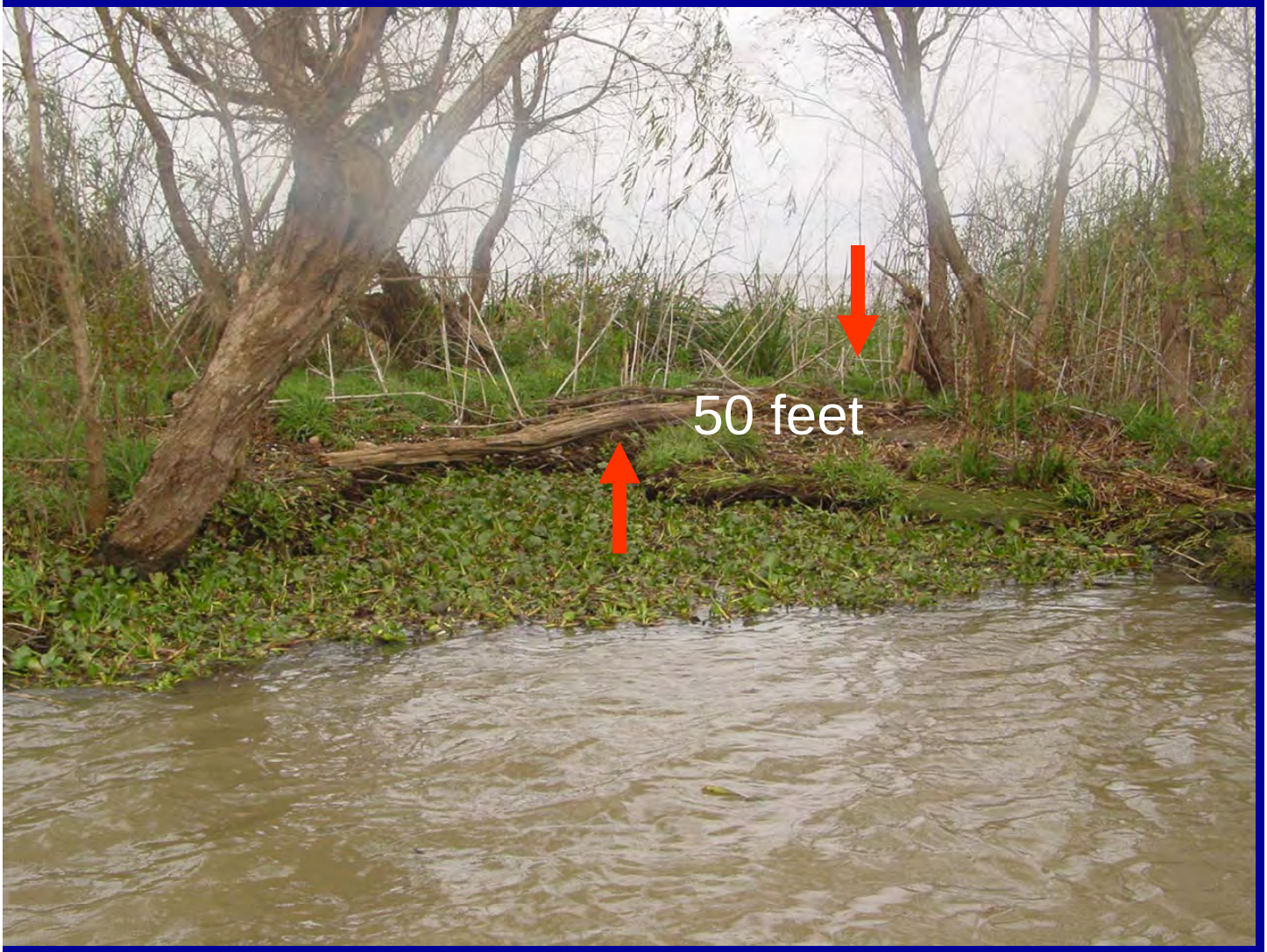
PPL 22
Regional Planning Team
January 26, 2012

Region 2
Barataria Basin

South Lake Salvador Shoreline Restoration and Protection

South Lake Salvador Shoreline Restoration and Protection

South Lake Salvador Shoreline Restoration and Protection


50 feet

Segmented Breakwaters at BA-15
0
2830ft

Segmented Breakwaters at BA-15

South Lake Salvador Shoreline Restoration and Protection

Legend

- Segmented Rock Breakwaters
- Lake Rim Marsh Creation

N

South Lake Salvador
Shoreline Protection and Marsh Creation
Lafourche Parish, LA
PPL 22

0 375 750 1,500 2,250 3,000
Feet

South Lake Salvador Shoreline Restoration and Protection

- 30 acres of marsh creation
- Approximate minimum distance of about 300 feet between Lake Salvador and GIWW
- 9,000 feet of offshore breakwater
- Approximately 20 acres protected from shoreline erosion over 20 years
- Preliminary Construction Cost (w/ 25% contingency): $5.4M

R2-BA-08

Northeast Turtle bay Marsh Creation and Critical Area Shoreline Protection

R2-BA-08

PPL22 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name
Northeast Turtle Bay Marsh Creation and Critical Area Shoreline Protection

Coast 2050 Strategy
Coastwide: Dedicated Dredging for Wetland Creation

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

Problem
Historic wetland loss in the area stems from shoreline erosion along Turtle Bay and interior marsh loss from subsidence, sediment deprivation, and construction of access and pipeline canals. Based on the hyper-temporal analysis conducted by USGS for the extended project boundary of the Northeast Turtle Bay project, loss rates in the area are estimated to be -0.61% per year for the period 1984 to 2011.

Goals:
The goals of the project are to 1) create approximately 400 acres of marsh and nourish approximately 364 acres of marsh (764 acres total) with dredged material from Little Lake, 2) protect approximately 2,200 feet of critical shoreline, 3) prevent further enlargement of two primary water exchange points.

Proposed Solution:
The proposed project would create approximately 400 acres and nourish approximately 364 acres of marsh using sediment dredged from Little Lake. Existing canal spoil banks, emergent marsh, and significant segments of containment dikes will be used to guide the distribution of the dredged material. Containment dikes will be degraded as necessary to reestablish hydrologic connectivity with adjacent wetlands. Approximately 2,200 feet of critical shoreline would be protected and two channel liners would be installed to prevent further enlargement of two primary water exchange points.

Preliminary Project Benefits

1) What is the total acreage benefited both directly and indirectly? 764 directly benefitted; indirect benefit not yet determined.

2) How many acres of wetlands will be protected/created over the project life? Not yet been 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 This project would contribute to protection of the Central Barataria Basin Landbridge.

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

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

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

Preliminary Construction Costs
$ 23 million (including 25%contingency)

Preparer of Fact Sheet

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Legend

- Channel Liner
- Shoreline Protection
- Marsh_Creation_and_Nourishment_Areas
  - ~ 364 acres marsh nourishment
  - ~ 401 acres marsh creation

N

0 750 1,500 3,000 4,500 6,000 Feet

NE Turtle Bay
Marsh Creation and
Critical Shoreline Protection
Jefferson Parish, Louisiana
PPL 22

PPL 22
Regional Planning Team
January 26, 2012

Region 2
Barataria Basin

Northeast Turtle Bay Marsh Creation and Critical Shoreline Protection

BA-27
BA-36
BA-36
PPL22
????
PPL21
NWTB
uxcas
0
1mi

Problems

- Potential Shoreline Breaches
- Enlargement of Existing Channels
- Water Exchange through Pipeline Canal
- Widespread Loss of Emergent Marsh

Potential Shoreline Breaches

Enlargement of Existing Channels

Water Exchange through Pipeline Canal

Widespread Loss of Emergent Marsh

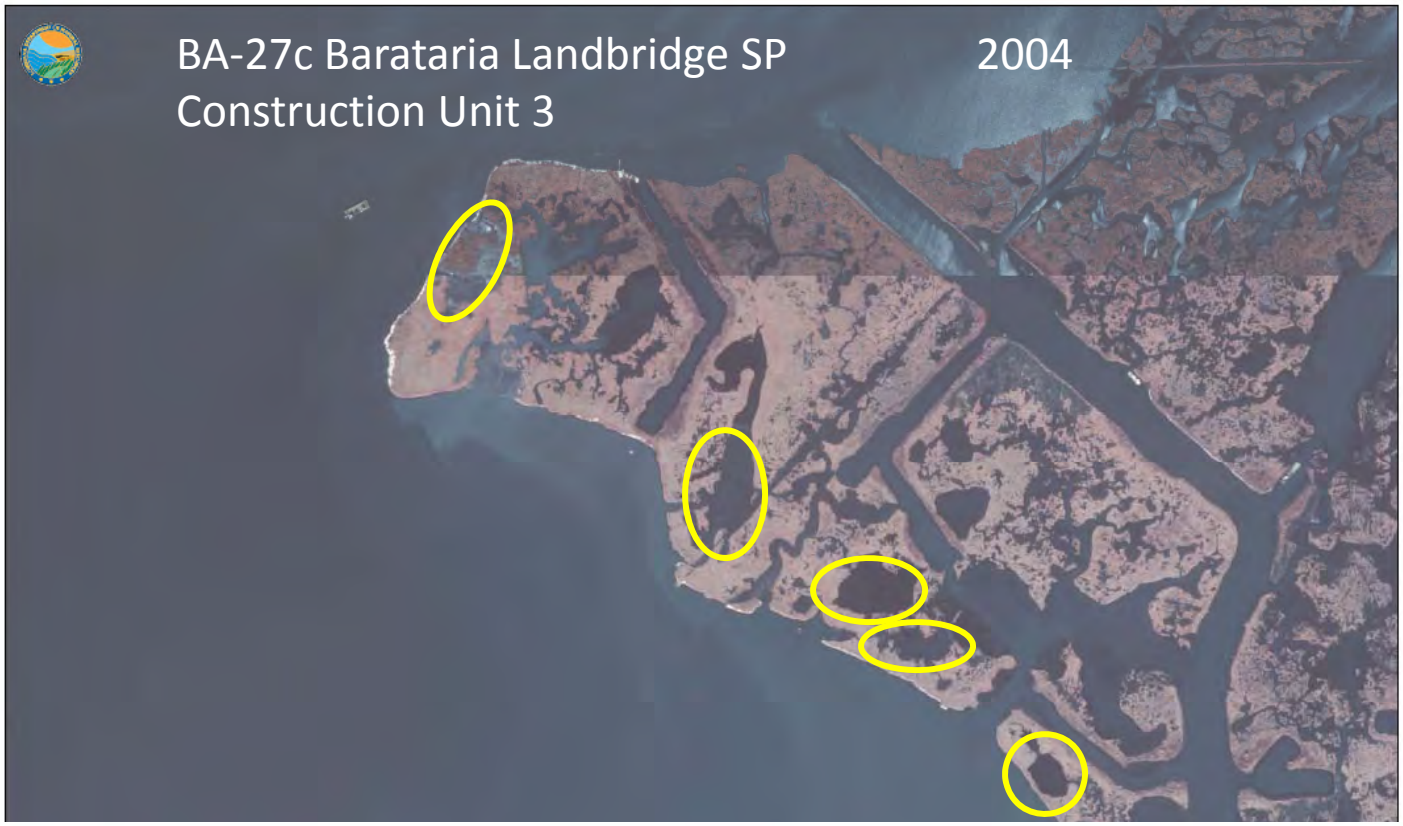
Legend

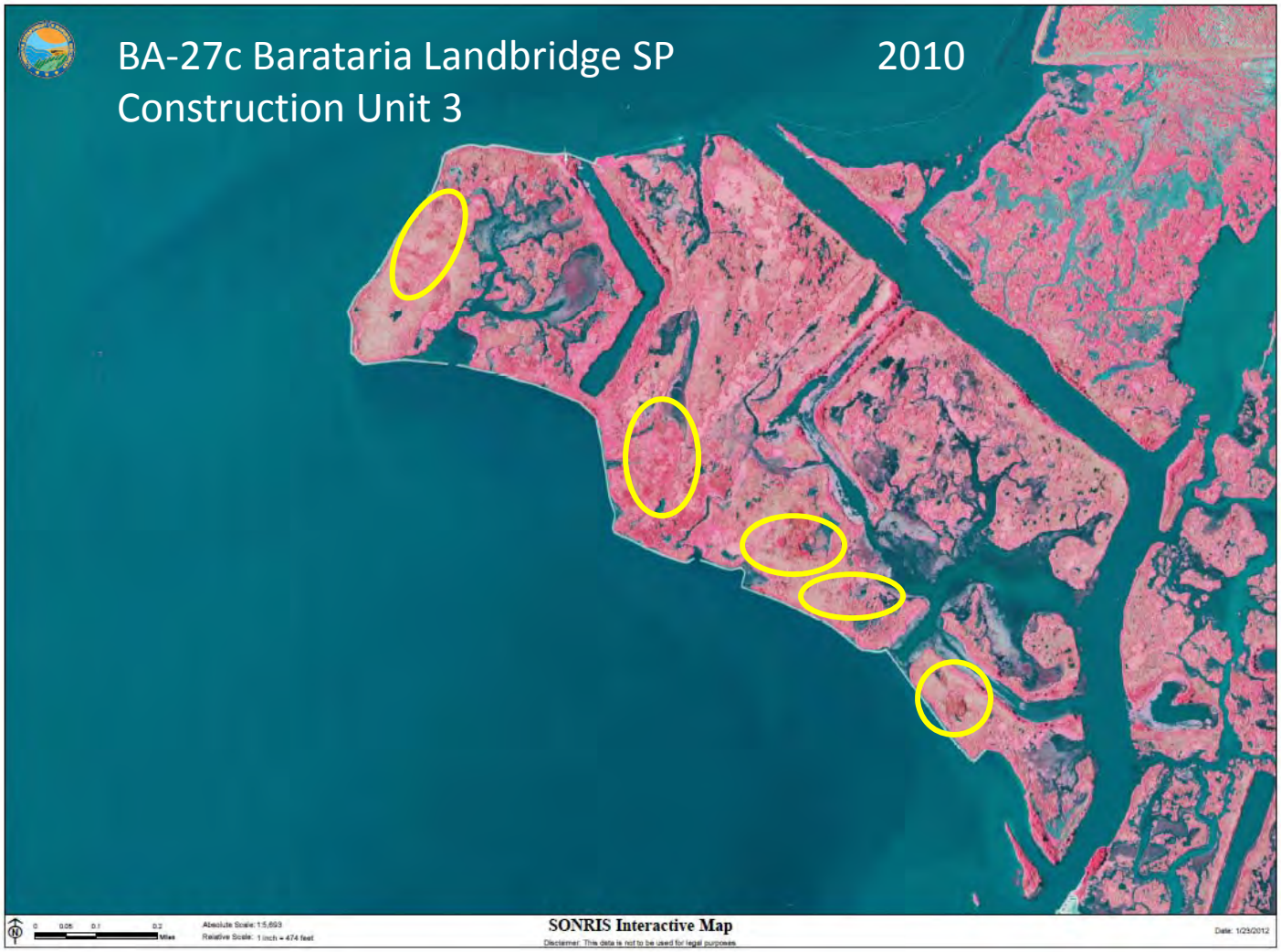
- Channel Liner
- Shoreline Protection
- Marsh_Creation_and_Nourishment_Areas
  - ~ 364 acres marsh nourishment
  - ~ 401 acres marsh creation

NE Turtle Bay
Marsh Creation and
Critical Shoreline Protection
Jefferson Parish, Louisiana
PPL 22

N

0 750 1,500 3,000 4,500 6,000
Feet


BA-27c Barataria Landbridge SP
Construction Unit 3
2004


BA-27c Barataria Landbridge SP
Construction Unit 3
2010
SONRIS Interactive Map
Disclaimer: This data is not to be used for legal purposes
Date: 1/23/2012

Legend

- Channel Liner
- Shoreline Protection
- Marsh_Creation_and_Nourishment_Areas
  - ~ 364 acres marsh nourishment
  - ~ 401 acres marsh creation

NE Turtle Bay
Marsh Creation and
Critical Shoreline Protection
Jefferson Parish, Louisiana
PPL 22

N

0 750 1,500 3,000 4,500 6,000
Feet

R2-BA-09

Bayou L’Ours Marsh Creation

R2-BA-09

PPL22 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name
Bayou L'Ours Marsh Creation

Coast 2050 Strategy
Coastwide Strategies: Marsh Creation
Local and Common Strategies: Maintain function of Bayou L'Ours Ridge

Project Location
Region 2, Barataria Basin, Lafourche Parish, east of Galliano and south of Little Lake.

Problem
Areas located north and south of Bayou L'Ours and adjacent to the East Golden Meadow Hurricane Protection Levee have experienced marsh loss in the range of 8,000 to 10,000 acres. This critical area has been neglected from a restoration standpoint.

Goals:
The primary goal is to re-create marsh habitat in the open water areas and nourish existing marsh within the project area. The specific goal of the project is to create approximately 551 acres of marsh and nourish 118 acres of marsh with material dredged from Little Lake.

Proposed Solution:
The proposed project would create approximately 551 acres of marsh and nourish approximately 118 acres of marsh using sediment dredged from Little Lake. A portion of the marsh creation and nourishment would be fully contained. For the remaining marsh creation and nourishment, existing canal spoil banks, emergent marsh, and limited segments of containment dikes will be used to guide the distribution of the dredged material. Containment dikes will be degraded as necessary to reestablish hydrologic connectivity with adjacent wetlands.

Preliminary Project Benefits
1) What is the total acreage benefited both directly and indirectly? 669

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%). 50%

4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc Created and nourished marsh will help protect, extend the life expectancy, and help maintain the current function of the Bayou L'Ours ridge. The proposed project would also protect the Larose to Golden Meadow Hurricane Protection Levee.

5) What is the net impact of the project on critical and non-critical infrastructure? The proposed project would help protect the Clovelly Dome Oil Storage Terminal, the Larose to Golden Meadow Hurricane Protection Levee, and communities along Bayou Lafourche.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? The proposed project would provide additional landmass Gulfward of the Little Lake Shoreline Protection (BA-37) Project.

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

Preliminary Construction Costs
$33 million w 25% contingency

Preparer of Fact Sheet

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USDA-NRCS	USDA-NRCS
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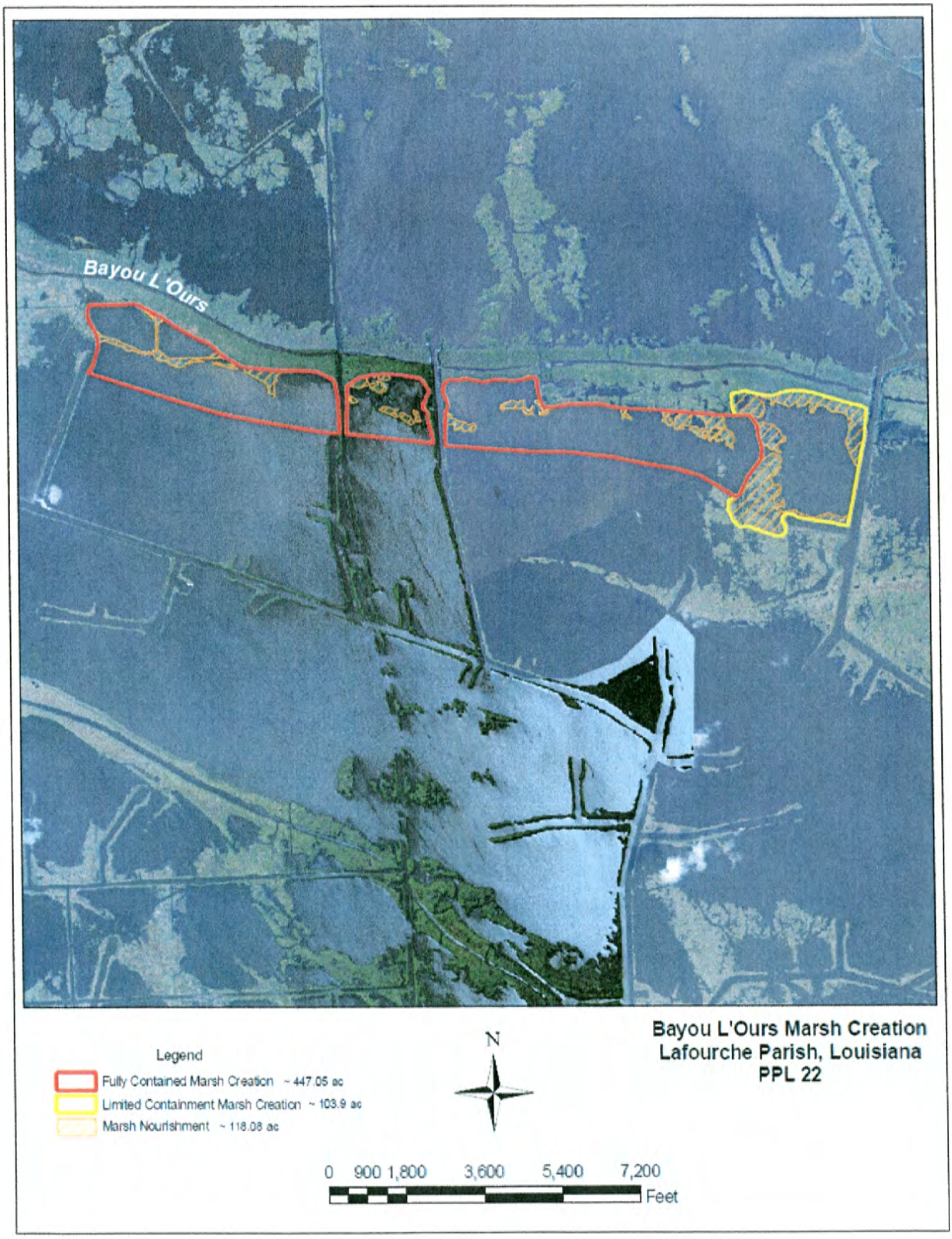
Quin.kinler@la.usda.gov	Jason.kroll@la.usda.gov



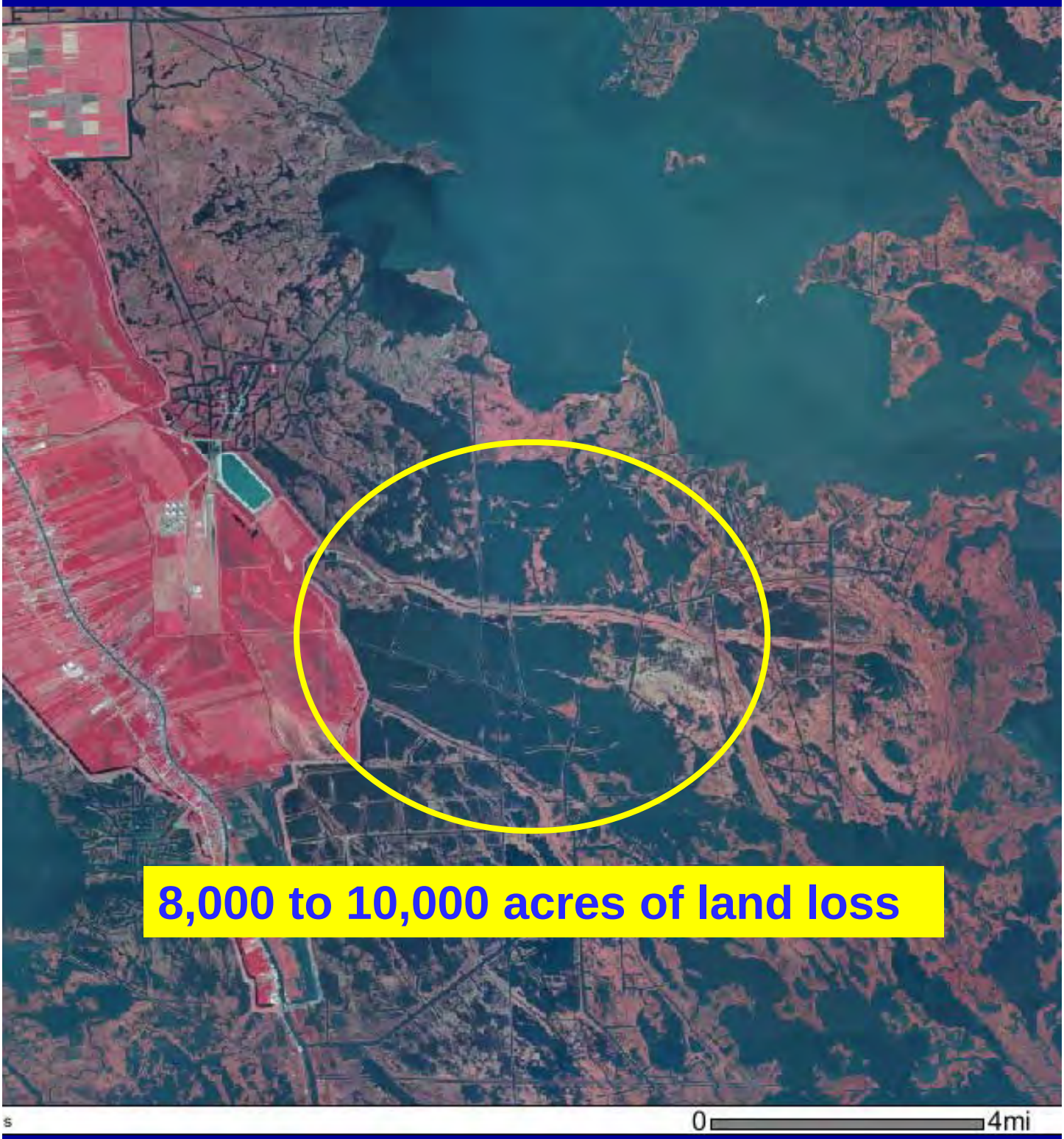
Bayou L'Ours Marsh Creation
Lafourche Parish, Louisiana
PPL 22

PPL 22
Regional Planning Team
January 26, 2012

Region 2
Barataria Basin

Bayou L'Ours Marsh Creation

Bayou L'Ours Marsh Creation



Legend

- Existing_Spoil_Bank
- Existing_Marsh_Edge
- Need_Containment_Dike
- Borrow_Area

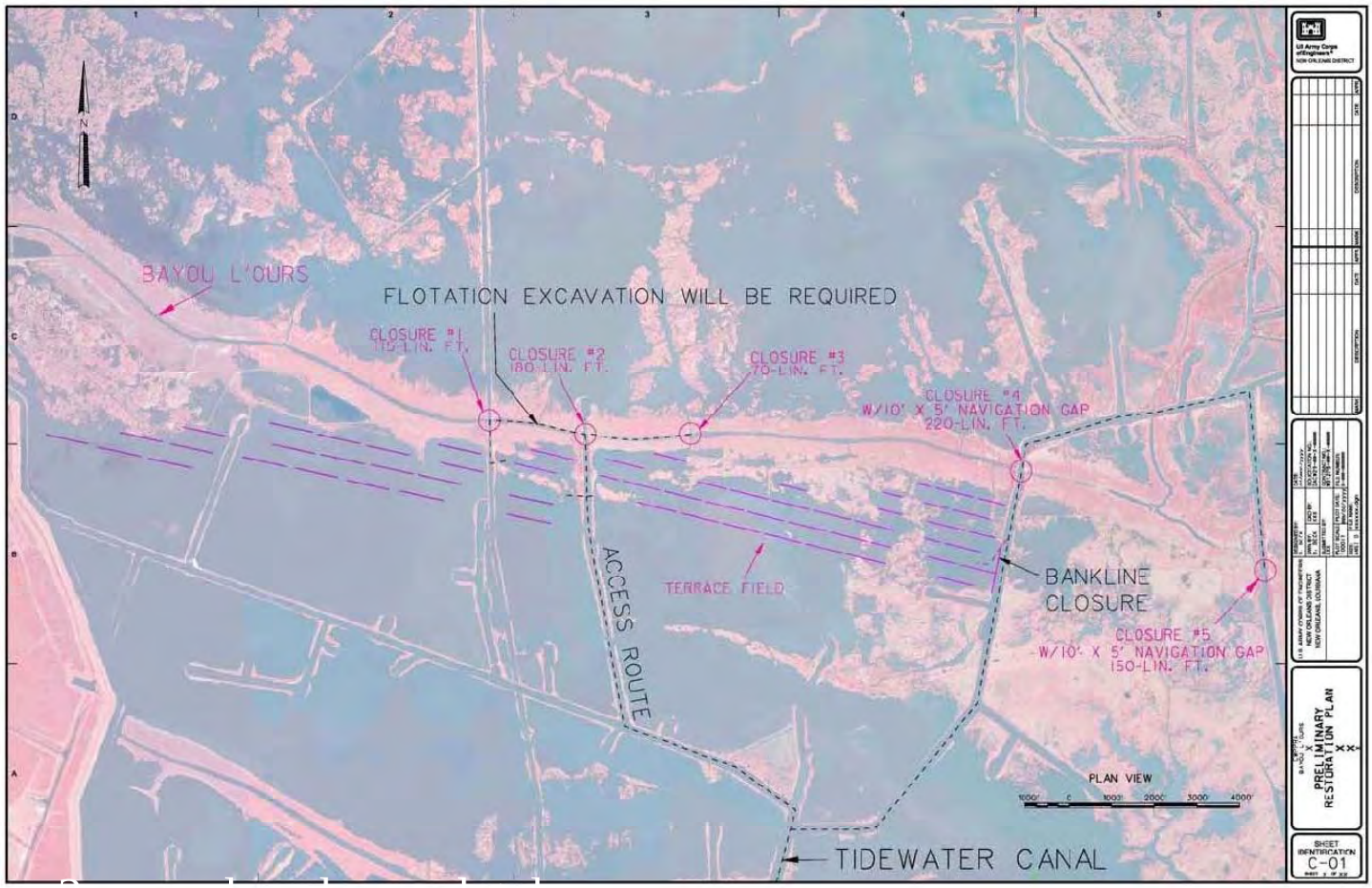
N

East Golden Meadow Marsh Creation
Lafourche Parish, Louisiana
PPL-18

0 650 1,300 2,600 3,900 5,200
Feet

2007 DOQQ

Bayou L'Ours Ridge Restoration and Terracing



3 gaps closed completely

2 gaps decreased in size and armored

42,500 linear feet of terraces

Bankline of the canal south of closure 4 will be restored to prevent salt water intrusion into the terracing field.

TY20

Terraces-	15 ac
Prevention of erosional loss to Ridge-	7 ac
Salinity reduction-	23 ac
Net acres	45 ac

Const Cost: $6.6M; FFC: $10M-$15M

Bayou L'Ours Terracing
(PPL21 Candidate)

Terraces *

Project Boundary *

* denotes proposed features

0.5 0 0.5 Kilometers

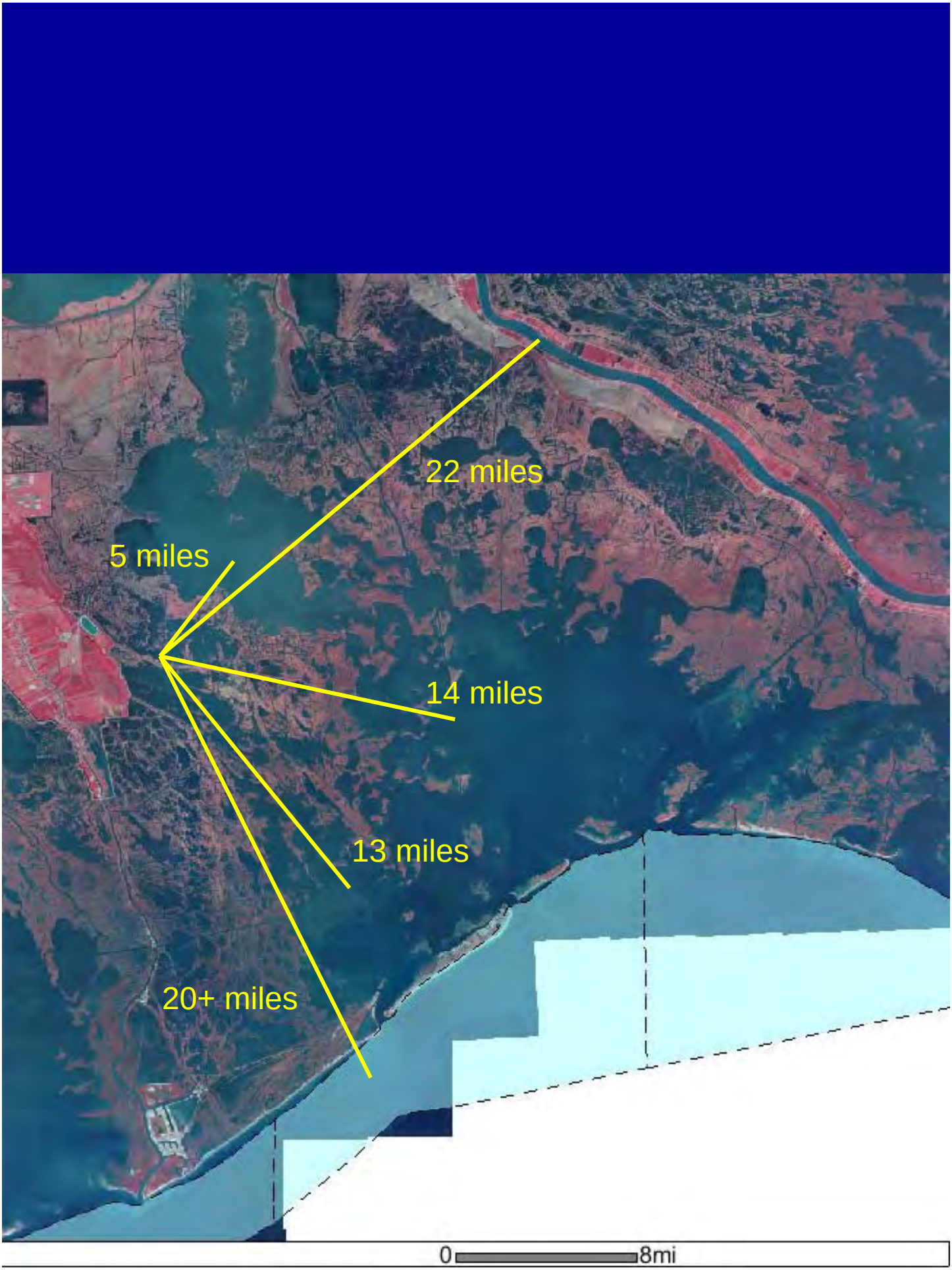
0.5 0 0.5 Miles

Scale 1:46,000

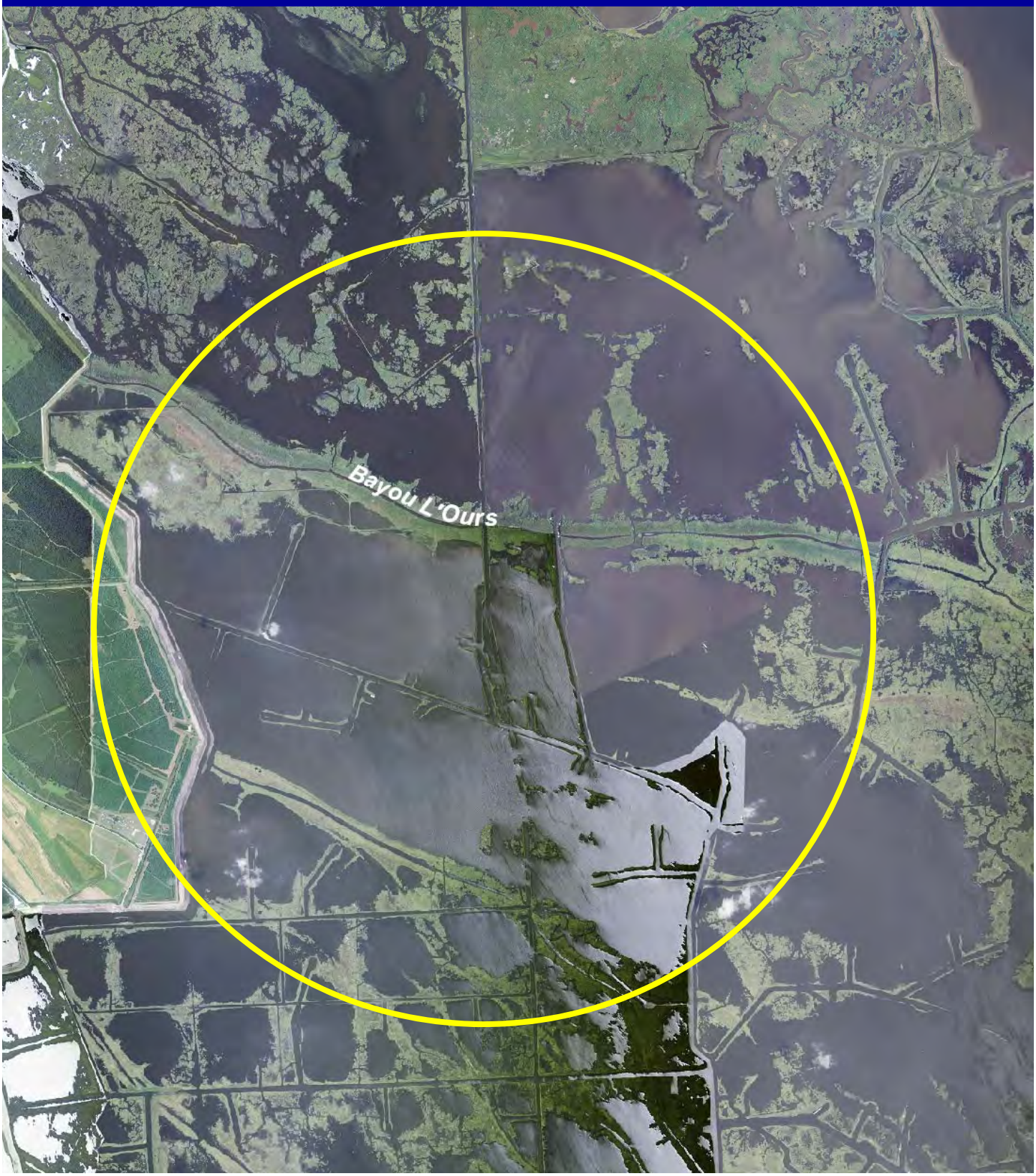
Map ID: USGS-NWRC 2011-11-0051
Map Date: May 24, 2011

Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La

Image Source:
2010 NAIP Photography


22 miles
5 miles
14 miles
13 miles
20+ miles
0
8mi

NO ACTION ?



Legend

Fully Contained Marsh Creation ~ 447.05 ac

Limited Containment Marsh Creation ~ 103.9 ac

Marsh Nourishment ~ 118.08 ac

N

0 900 1,800 3,600 5,400 7,200

Feet

Bayou L'Ours Marsh Creation
Lafourche Parish, Louisiana
PPL 22

Bayou L'Ours Marsh Creation

- 551 Acres of Marsh Creation
- 118 Acres of Marsh Nourishment
- Preliminary Construction Cost (w/ 25% contingency): $33M

R2-BA-10

Backfilling Canals in Jean Lafitte National Historical Park & Reserve

R2-BA-10

DRAFT PPL22 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name
Coastal Wetland Restoration by Backfilling Canals in Jean Lafitte National Historical Park and Preserve

Coast 2050 Strategy
Coastwide Strategy: Restore/sustain marshes, Restore Swamps; Region 2 Jean Lafitte Mapping Unit Strategy: Restore hydrology

Project Location
Region 2, Barataria Basin, Jefferson Parish, Jean Lafitte National Historical Park and Preserve

Problem
The types of wetlands in the Jean Lafitte area have varied somewhat over time, but generally have consisted of a mix of cypress swamp, bottomland hardwood, and marsh. Wetland losses have been minimal compared to many other areas within Barataria Basin and the Louisiana Coastal Zone. The rate of wetland loss has not been consistent over time, and greater wetland loss rates correlate with major storm events as well as canal construction and maintenance. Since 1958, wetland losses in the park have slowed overall, but the rate of loss in 2005 was the highest on record. Altered hydrology remains a problem in the park, largely due to the effects of canals and associated spoilbanks.

Canal dredging has contributed significantly to land loss in Louisiana, yet little has been done to reverse the damage caused by canals and spoilbanks. Canals have turned marsh and swamps to open water, and spoilbanks have replaced wetlands with an upland environment. Spoilbanks also restrict water flow above and below the wetland surface and cause increased periods of flooding and drying of the wetlands behind them. Increased flooding can lead to stress and mortality of wetland vegetation, while drying the soil increases subsidence through oxidation of organic matter. These hydrologic alterations also limit sediment deposition in the adjacent wetlands. In addition to these effects, canals can also facilitate saltwater intrusion into these wetlands, and spoilbanks retain saltwater on the landscape after storm surges, both of which also can lead to stress and mortality of wetland vegetation.

Proposed Project Features
This project will backfill a system of oil and gas, pipeline, and residential development canals (est. 13.8 mi of canals) at strategic locations in Jean Lafitte National Historical Park and Preserve. Canals to be backfilled will not include any that were formerly private property and which may be in dispute regarding applicable land and mineral rights. Backfilling will involve removing the existing spoilbanks and disposing of the dredged material in the canals. While there is not sufficient sediment volume remaining in the spoilbanks to completely fill the canals to adjacent wetland elevation, typically there is enough to significantly shallow the canals, and over time some additional filling to the target elevation is observed. Those areas returned to adjacent wetland elevation rapidly revegetate without the need for planting. In addition, removal of the spoilbanks will restore natural hydrology across the wetland surface over a larger area in the vicinity of the canals.

Goals
- Backfill approximately 13.8 miles of canals in Jean Lafitte National Park by the end of year 1
- Convert approximately 245 acres of upland spoil bank habitat to emergent wetlands by the end of year 1
- Convert approximately 14 acres of open water (canal) to emergent wetlands by year 5
- Convert approximately 122 acres of open water (canal) to shallow water habitat by year 5
- Increase SAV cover from 10% to 59% in 122 acres of open water by year 5
- Partially restore hydrology over nearly 22,000 ac of emergent wetlands
- Achieve a total net benefit of approximately 259 ac of emergent wetlands over 20 years

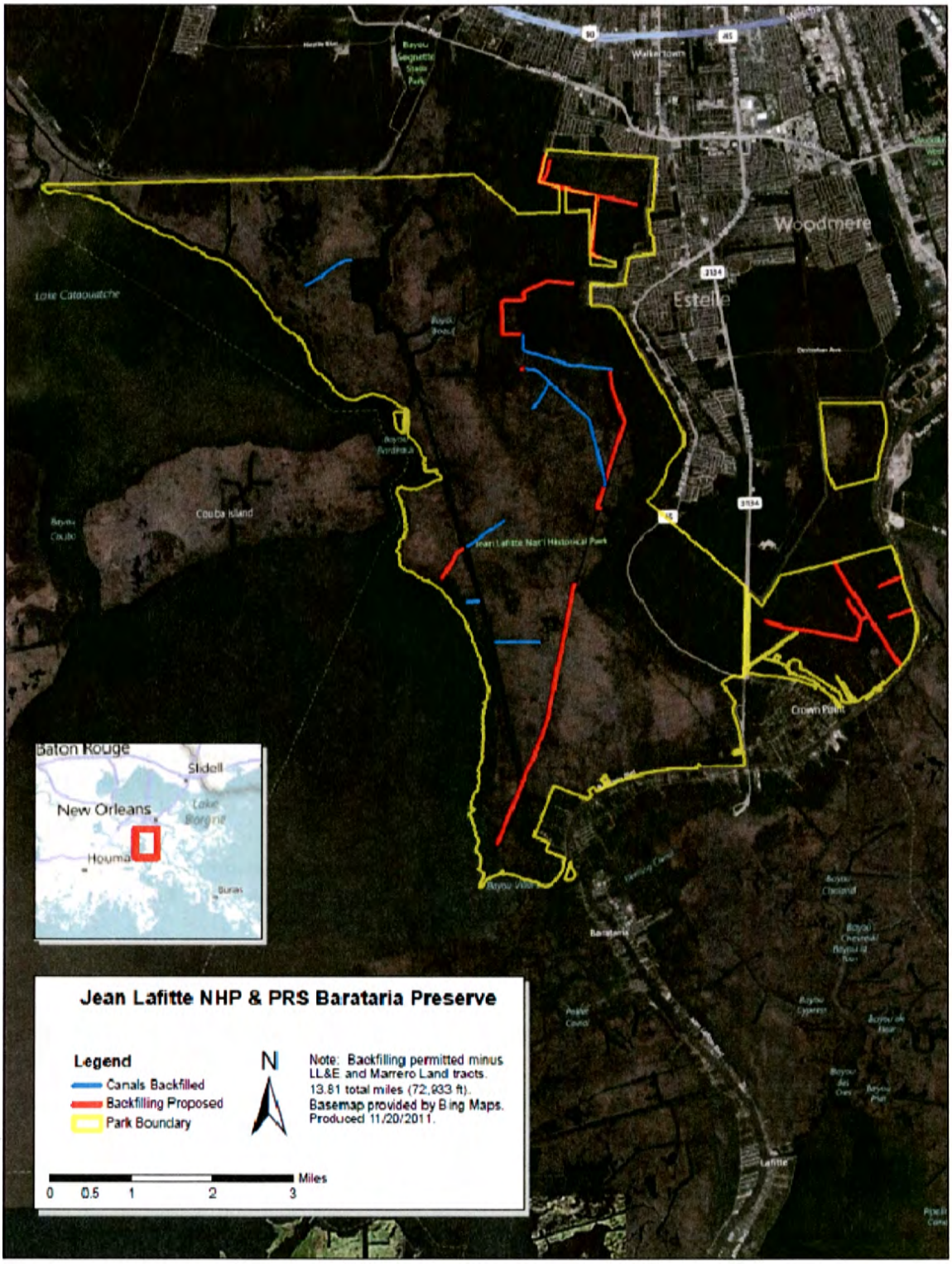
Preliminary Project Benefits
- Preliminary benefits=goals (see above)

Identification of Potential Issues
Three point eight miles of canals in the project area are within the Bayou aux Carpes 404(c) area. Under an agreement with EPA, the U.S. Army Corps of Engineers is responsible for funding and implementing mitigation measures in this area as part of the Greater New Orleans Hurricane and Storm Damage Risk Reduction System Project. Monitoring work is underway and will form the basis for the forthcoming mitigation plan. Canal backfilling is included in the array of potential mitigation measures that could be implemented by the Corps. In addition, former landowners argue against backfilling canals. While EPA and NPS have eliminated canals on these former properties from consideration for backfilling as part of this project, these former landowners may continue to oppose the project.

Preliminary Construction Costs
The estimated construction cost including 25% contingency, is $7 million

Draft PPL22Project Nominee:

Coastal Wetland Restoration by Backfilling Canals in Jean Lafitte National Historical Park and Preserve



Preparers of Fact Sheet

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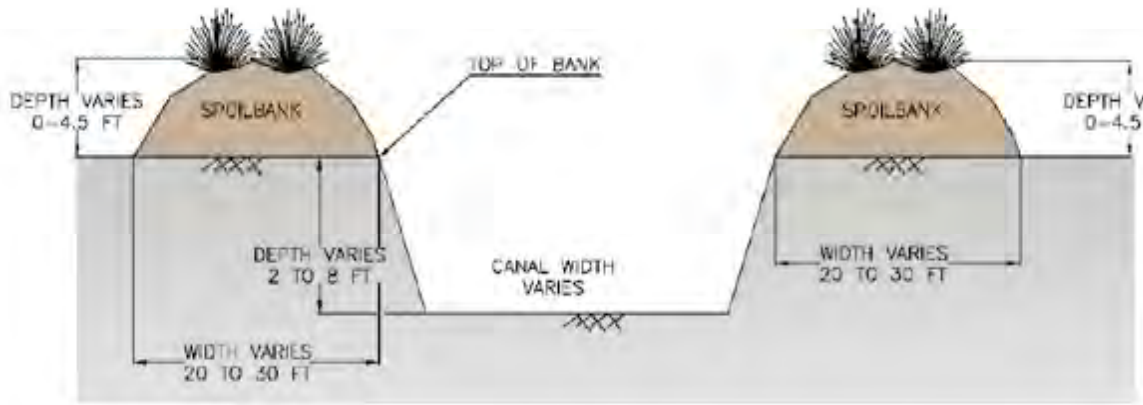
National Park Service
U.S. Department of the Interior

Jean Lafitte National Historical Park and Preserve

Canal Reclamation at the Barataria Preserve

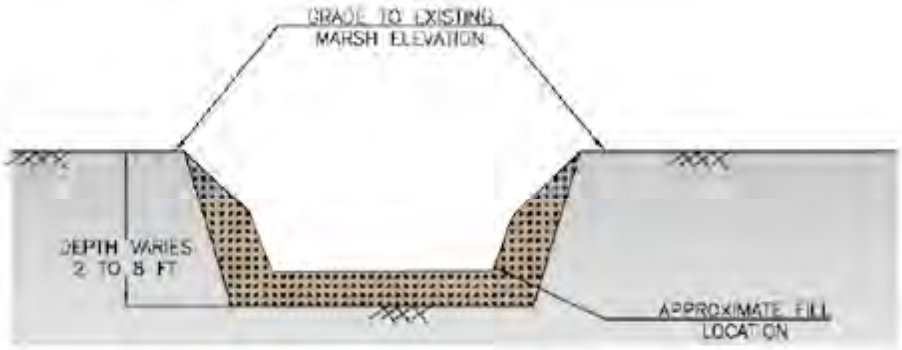
EXPERIENCE YOUR AMERICA

Backfilling in Cross-Section



EXISTING CONDITIONS

NTS



PROPOSED CONDITIONS

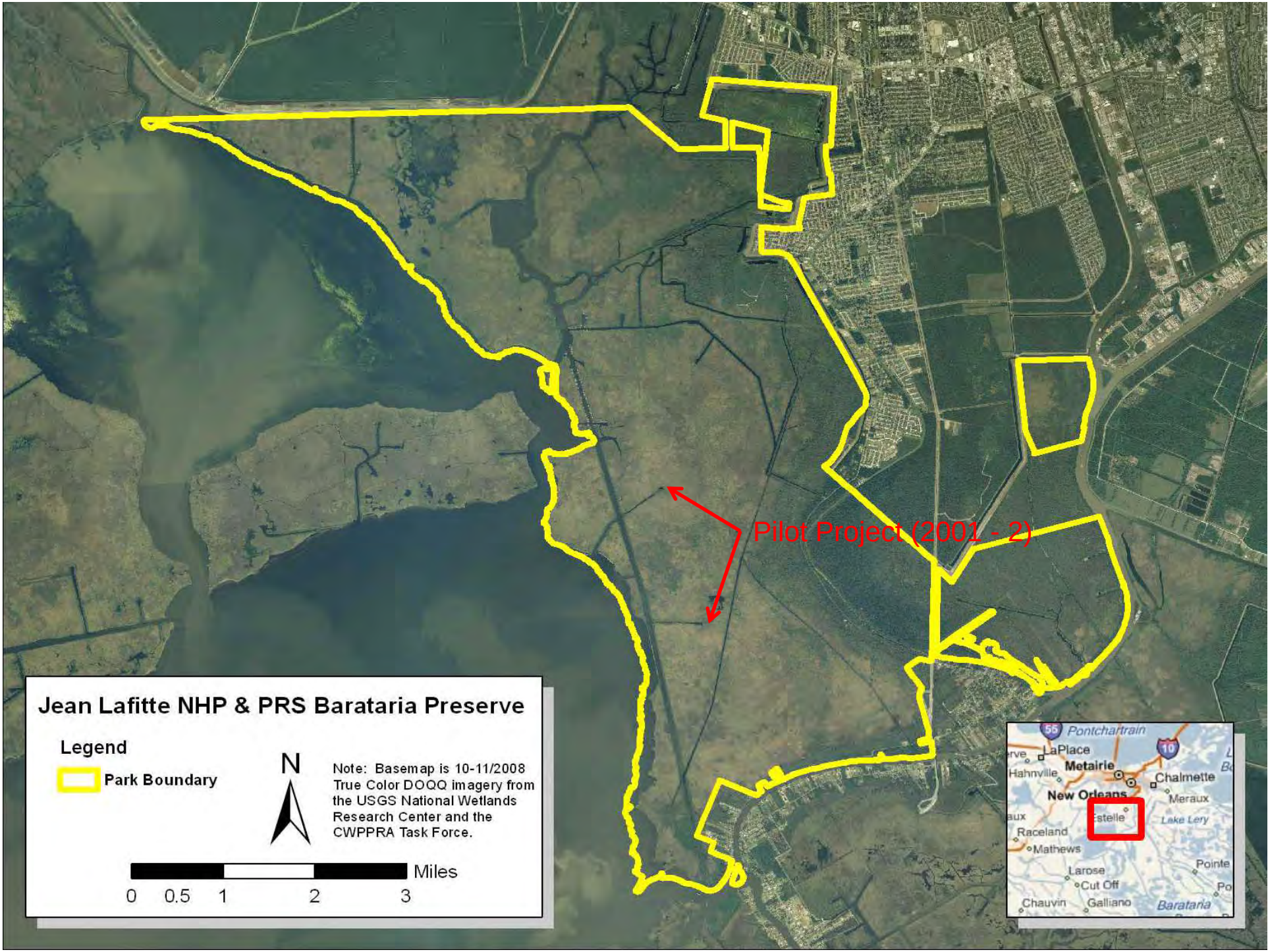
NTS

NOTE:
TREES AND VEGETATION WOULD BE PUSHED INTO CANAL. IF DOING SO WILL INTERFERE WITH NAVIGATION, THEN CUT WOODY VEGETATION WOULD EITHER BE LAID PARALLEL TO THE BANK OR CHIPPED IN PLACE.

Benefits of Canal Backfilling

- Hydrological Improvements
  - Removes barriers to sheet flow
  - Removes impoundments
  - Reduces cross sectional area of canals
  - Replaces deep channels with shallow ones
- Restores wetland vegetation
- Removes habitat for exotic woody vegetation
- Improves habitat for fish and wildlife
- Improves visitor experiences
- Technically simple, relatively cheap, and it works

Lake Pontchartrain
Mississippi River
I-10
I-510
I-610
I-310
New Orleans
Gulf of Mexico


Jean Lafitte NHP & PRS Barataria Preserve
Legend
Park Boundary
N
Note: Basemap is 10-11/2008 True Color DOQQ imagery from the USGS National Wetlands Research Center and the CWPPRA Task Force.
Miles
0 0.5 1 2 3
Pilot Project (2001 - 2)
Pontchartrain
LaPlace
Metairie
Hahnville
Chalmette
New Orleans
Meraux
Estelle
Lake Lery
Raceland
Mathews
Larose
Cut Off
Pointe
Chauvin
Galliano
Barataria

Pilot Project Completed with LSU 2001 & 2002

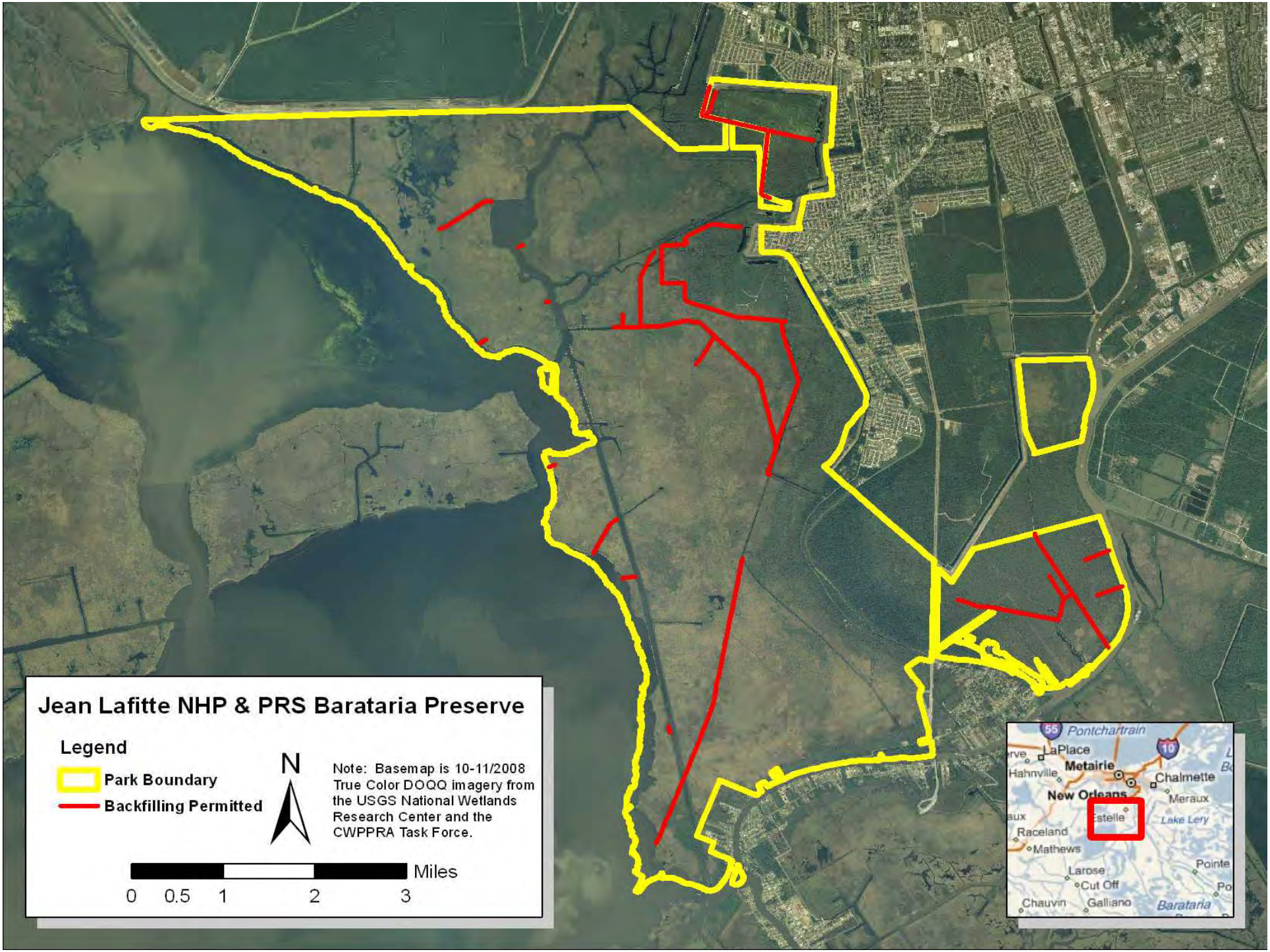
Pilot Canal w/Spoilbanks

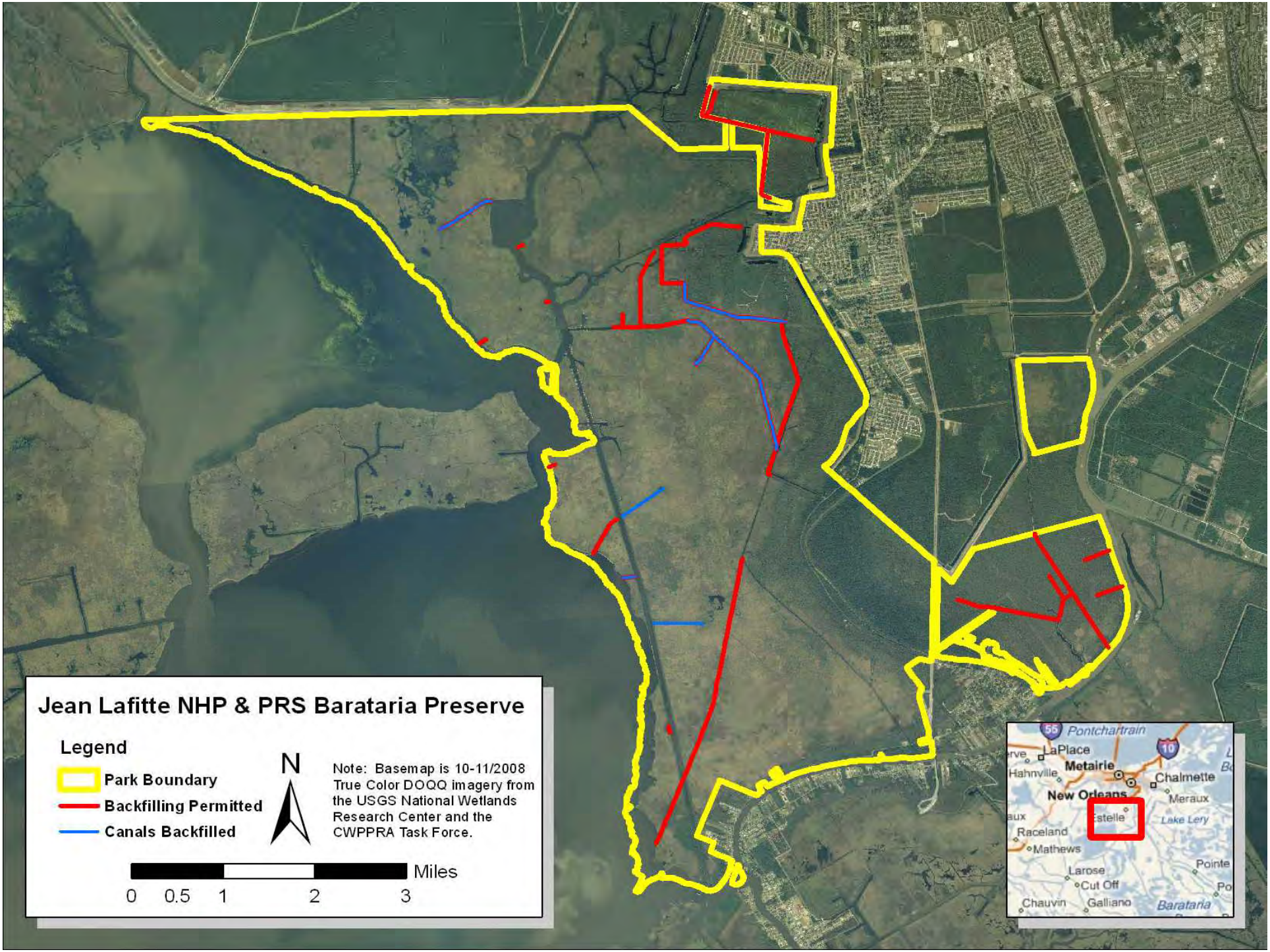
Pilot Canal After Backfilling

Pilot Project Completed with LSU 2001 & 2002

Pilot Canal in 1998

Pilot Canal in 2004


Jean Lafitte NHP & PRS Barataria Preserve
Legend
Park Boundary
Backfilling Permitted
N
Note: Basemap is 10-11/2008 True Color DOQQ imagery from the USGS National Wetlands Research Center and the CWPPRA Task Force.
Miles
0 0.5 1 2 3
Pontchartrain
LaPlace
Metairie
Chalmette
New Orleans
Meraux
Estelle
Lake Lery
Raceland
Mathews
Larose
Cut Off
Chauvin
Galliano
Barataria
Pointe


Jean Lafitte NHP & PRS Barataria Preserve
Legend
Park Boundary
Backfilling Permitted
Canals Backfilled
N
Note: Basemap is 10-11/2008 True Color DOQQ imagery from the USGS National Wetlands Research Center and the CWPPRA Task Force.
Miles
0 0.5 1 2 3
Pontchartrain
LaPlace
Metairie
Chalmette
New Orleans
Meraux
Estelle
Lake Lery
Raceland
Mathews
Larose
Cut Off
Pointe
Chauvin
Galliano
Barataria

Current Project

[illegible] Horseshoe Canal

[redacted]

Tarpaper Canal – July 20, 2010

Current Project

February 18, 2011

Horseshoe Canal – Feb. 28, 2011

Horseshoe Canal – June 15, 2011

Goals

Backfill 13.8 miles of canals

Total area – 381 acres

Spoilbank to wetland in one year – 245 acres

Open water to wetland in 5 years – 14 acres

Restore hydrology on more than 20,000 acres

Estimated construction cost including 25% contingency:

$7 million

Jean Lafitte National Historical Park & Preserve

www.nps.gov/jela
504 589-3882

Haigler “Dusty” Pate
Natural Resource Manager
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National Park Service
U.S. Department of the Interior

EXPERIENCE YOUR AMERICA

R2-BA-11

Bayou Grand Cheniere Marsh Ridge Restoration

R2-BA-11

PPL22 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name
Bayou Grande Cheniere Marsh and Ridge Restoration

Coast 2050 Strategy
Coastwide: Dedicated dredging to create, restore, or protect wetlands
Coastwide: Utilize off-shore and riverine sand and sediment resources

Project Location
Region 2, Barataria Basin, Plaquemines Parish, along Bayou Grande Cheniere

Problem
From 1932 to 1990, the West Point a la Hache Mapping Unit lost 38% of its marsh. Through 2050, 28% of the 1990 marsh acreage is expected to be lost. That loss is expected to occur even with operation of the West Point a la Hache Siphons. Significant marsh loss has occurred south of Lake Hermitage with the construction of numerous oil and gas canals.

Goals
The primary goal is to restore marsh and ridge habitat along the eastern side of Bayou Grande Cheniere. Historically, a natural levee ridge existed along Bayou Grande Cheniere as it was once a distributary of the Mississippi River. Terraces are proposed to reduce fetch in large open water bodies and to capture suspended sediment delivered via the West Pointe a la Hache siphons.

Proposed Project Features
1. Riverine sediments will be hydraulically dredged and pumped via pipeline to create/nourish approximately 395 acres of marsh.
2. Approximately 11,200 feet of ridge (14 acres) will be constructed along the eastern side of Bayou Grande Cheniere.
2. Approximately 85,600 linear feet of terraces (55 acres) will be constructed to reduce fetch and turbidity and capture suspended sediment.

Preliminary Project Benefits
1) *What is the total acreage benefited both directly and indirectly*? Approximately 1,615 acres would be benefited directly and indirectly. Direct benefits include 464 acres (395 acres of marsh creation/nourishment, 14 acres of ridge, and 55 acres of terraces). Indirect benefits would occur to the Lake Hermitage Marsh Creation project to the north by reducing wave energy.

2) *How many acres of wetlands will be protected/created over the project life*? The total net acres protected/created over the project life is approximately 285 acres.

3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%).* The anticipated loss rate reduction throughout the area of direct benefit is estimated to be 50 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.* Yes, the project would restore 11,200 feet (14 acres) of ridge habitat along Bayou Grande Cheniere.

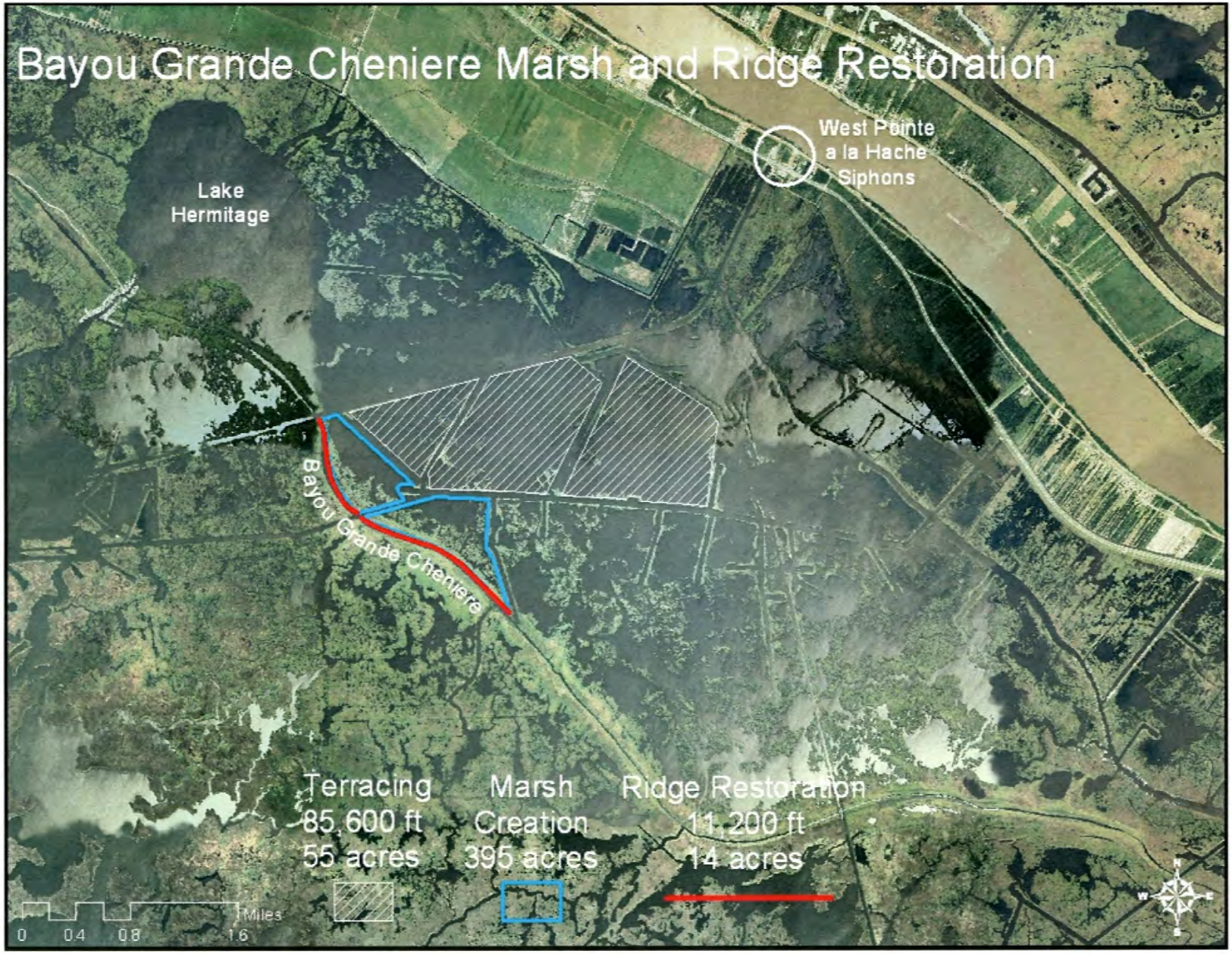
5) *What is the net impact of the project on critical and non-critical infrastructure*? The project would not protect any significant infrastructure.

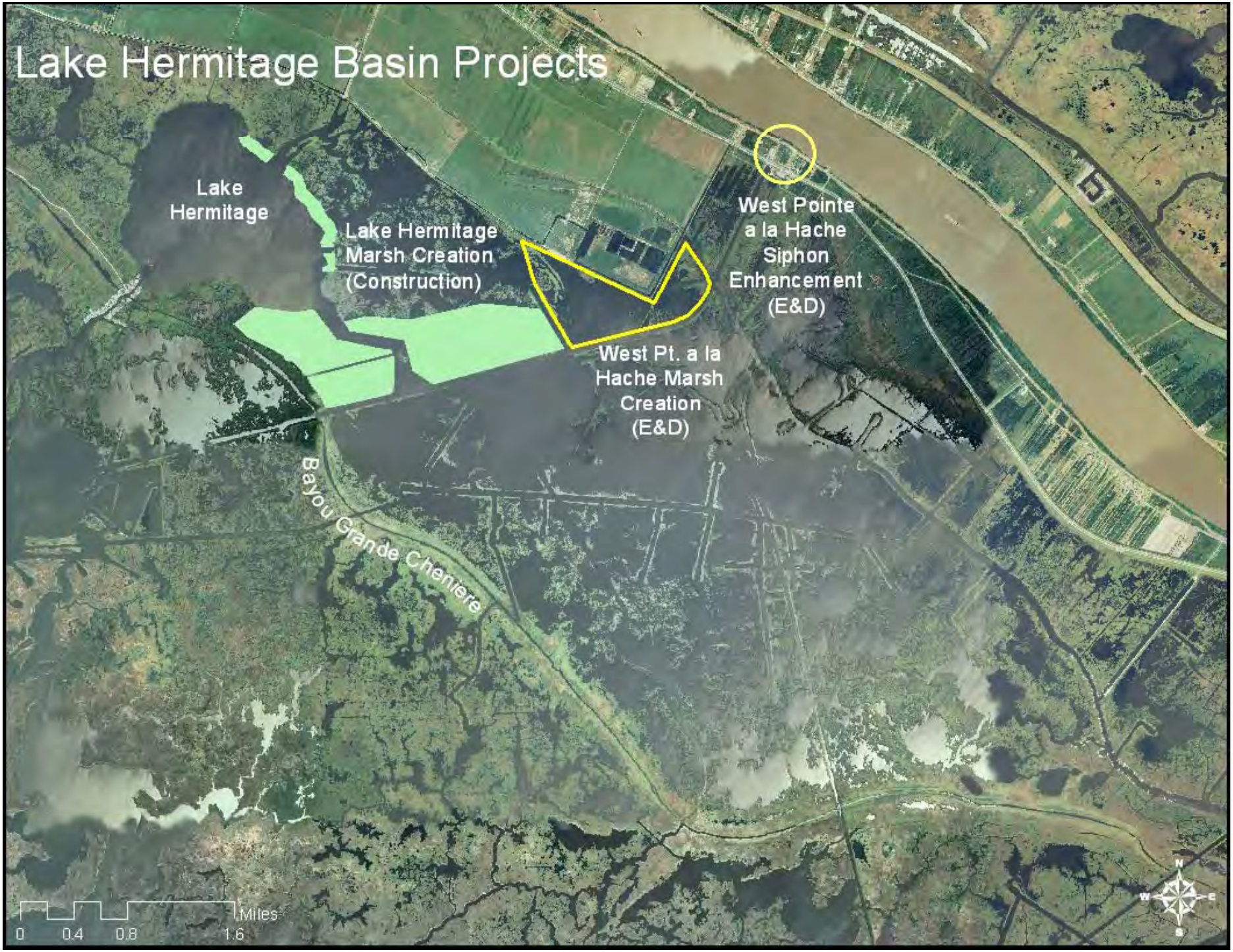
6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects*? The project would provide a synergistic effect with the Lake Hermitage Marsh Creation Project (PPL15), the West Pointe a la Hache Marsh Creation Project (PPL17), and the West Pointe a la Hache Siphon Enhancement Project (PPL3). All of these projects would work in conjunction to restore wetlands within the West Pointe a la Hache Mapping Unit.

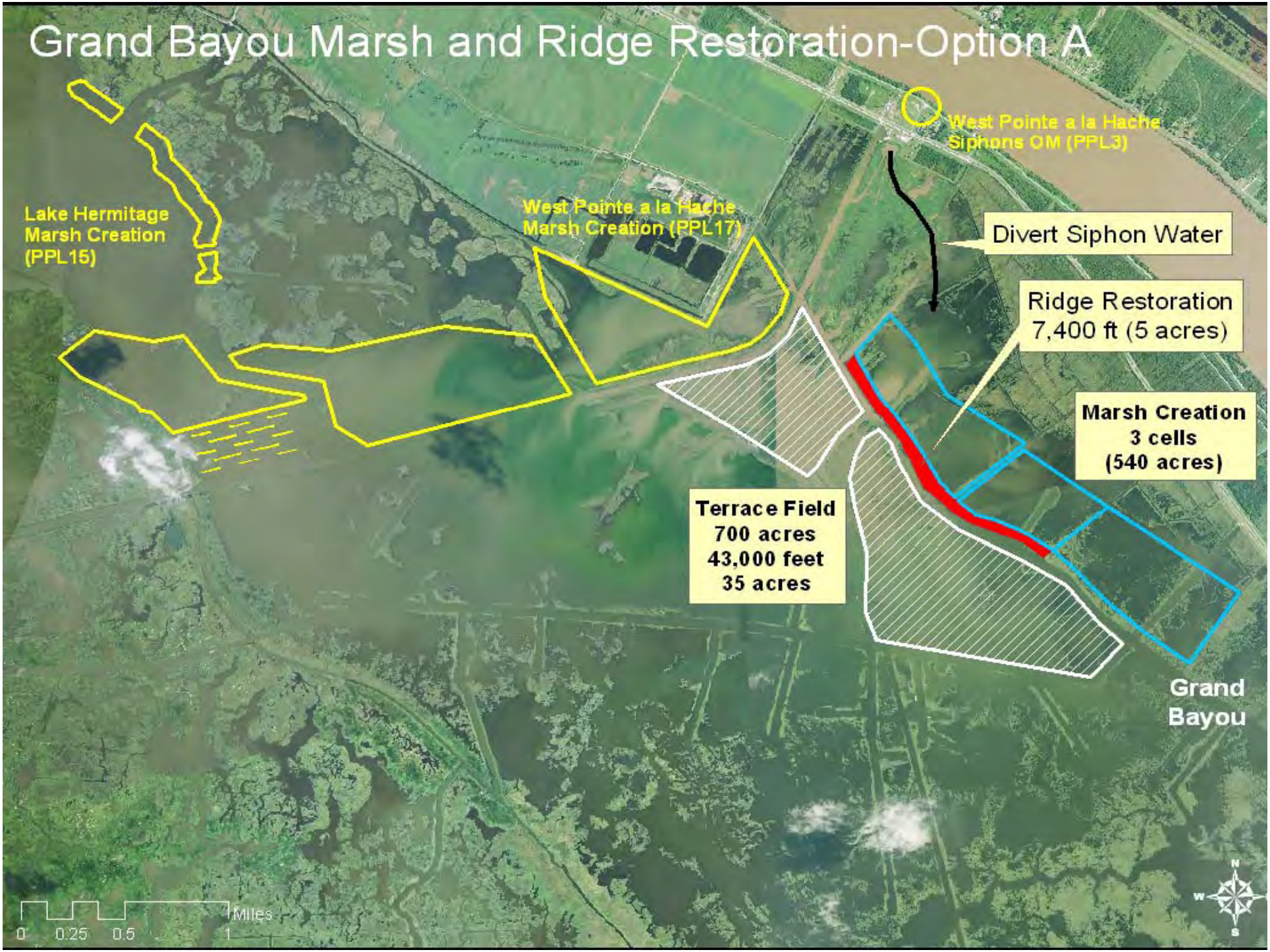
Identification of Potential Issues
Numerous oil and gas canals; pipelines.

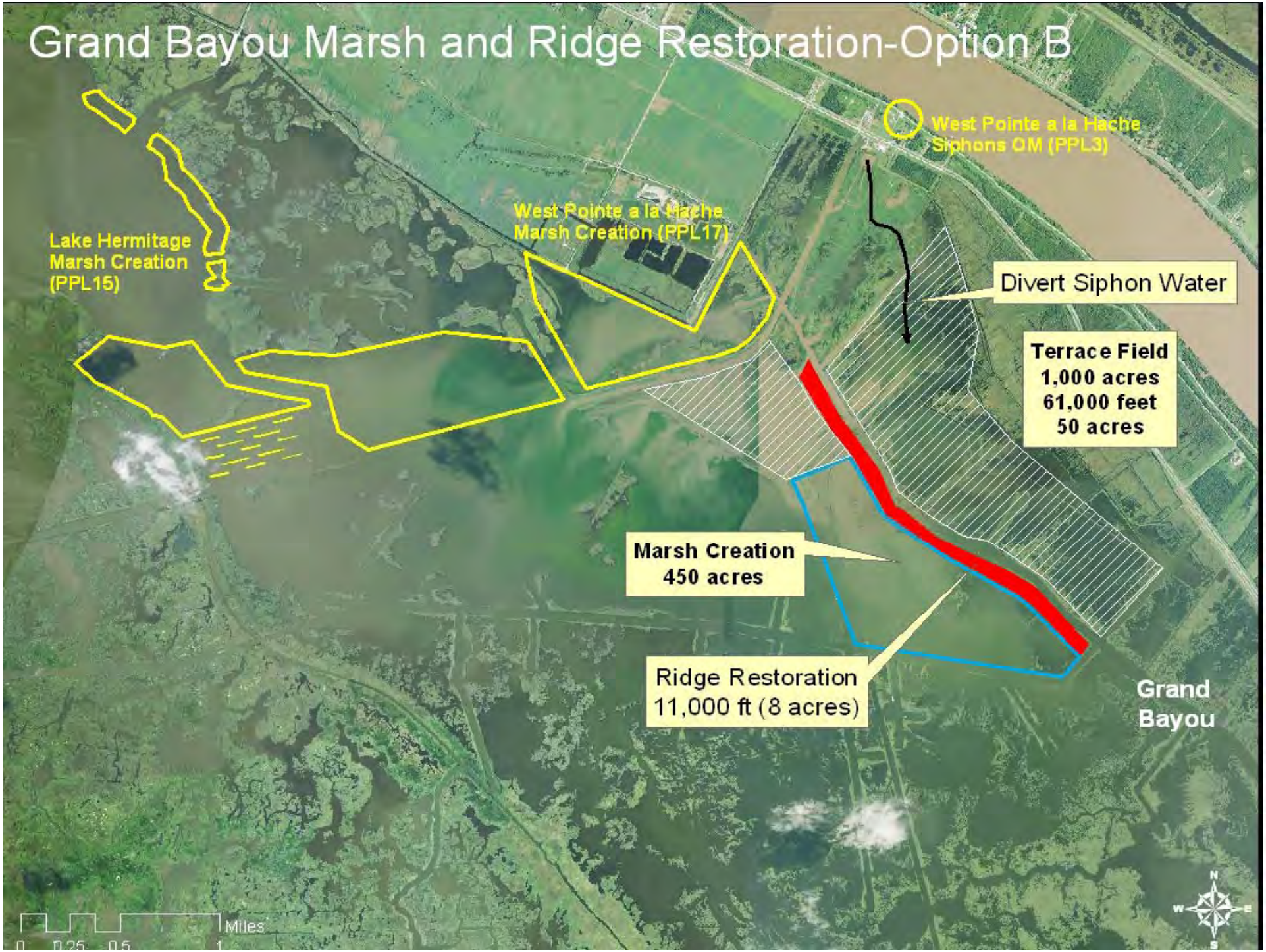
Preliminary Construction Costs
The estimated construction cost including 25% contingency is $27.3M.

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


Bayou Grande Cheniere Marsh and Ridge Restoration
West Pointe a la Hache Siphons
Lake Hermitage
Bayou Grande Cheniere
Terracing
85,600 ft
55 acres
Marsh Creation
395 acres
Ridge Restoration
11,200 ft
14 acres
0 0.4 0.8 1.6 Miles


Lake Hermitage Basin Projects
Lake Hermitage
Lake Hermitage Marsh Creation (Construction)
West Pointe a la Hache Siphon Enhancement (E&D)
West Pt. a la Hache Marsh Creation (E&D)
Bayou Grande Cheniere
0 0.4 0.8 1.6 Miles
N
W
E
S


Grand Bayou Marsh and Ridge Restoration-Option A
West Pointe a la Hache Siphons OM (PPL3)
Lake Hermitage Marsh Creation (PPL15)
West Pointe a la Hache Marsh Creation (PPL17)
Divert Siphon Water
Ridge Restoration 7,400 ft (5 acres)
Marsh Creation 3 cells (540 acres)
Terrace Field 700 acres 43,000 feet 35 acres
Grand Bayou
0 0.25 0.5 1 Miles
N
W
S


Grand Bayou Marsh and Ridge Restoration-Option B
West Pointe a la Hache Siphons OM (PPL3)
West Pointe a la Hache Marsh Creation (PPL17)
Lake Hermitage Marsh Creation (PPL15)
Divert Siphon Water
Terrace Field
1,000 acres
61,000 feet
50 acres
Marsh Creation
450 acres
Ridge Restoration
11,000 ft (8 acres)
Grand Bayou
Miles
0 0.25 0.5 1
N
W
E
S

Bayou Grande Cheniere Marsh Creation and Terracing (PPL21 Candidate)

N

Marsh Creation *

Terrace Field *

Project Boundary

* denotes proposed features

0.6 0 0.6 Kilometers

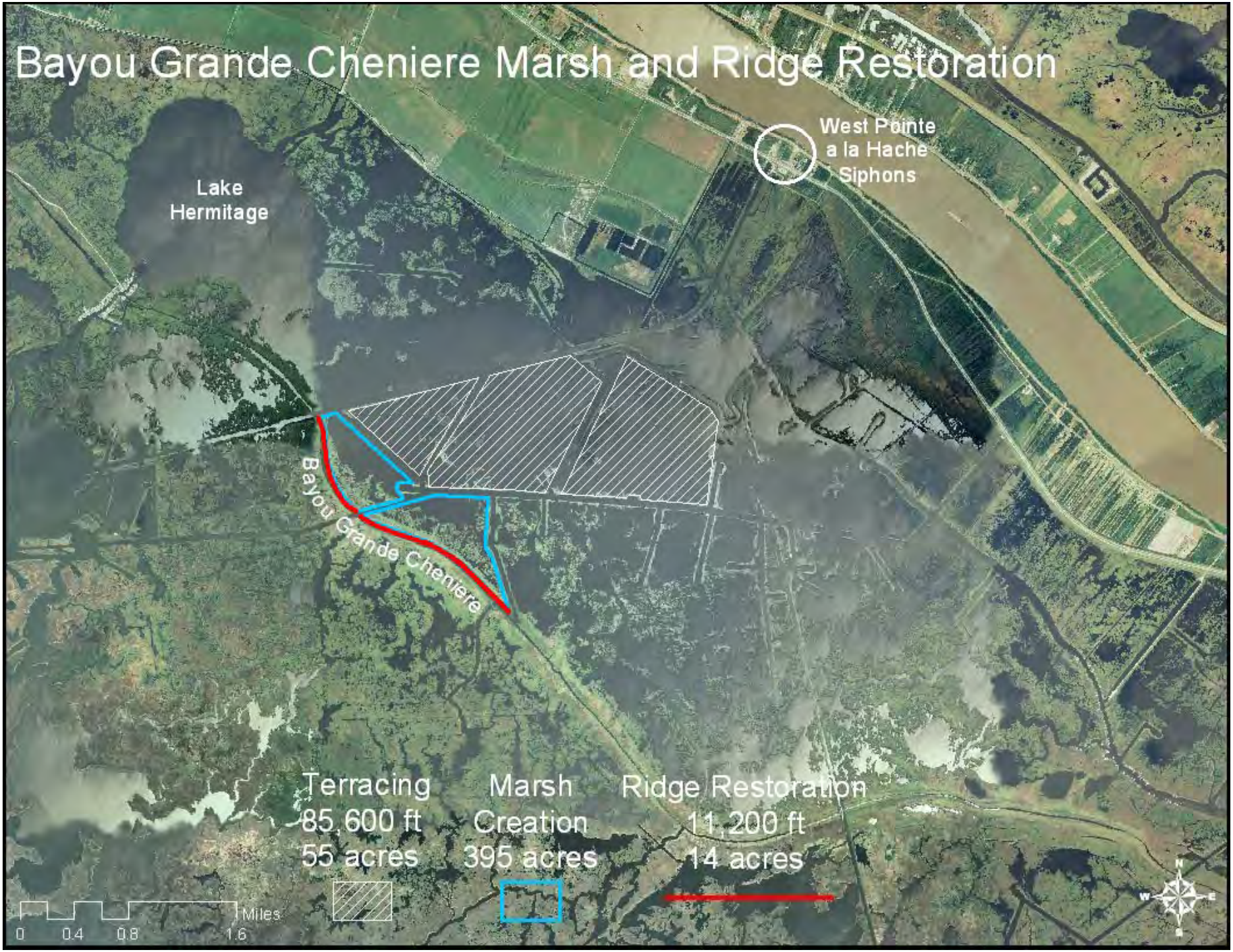
0.6 0 0.6 Miles

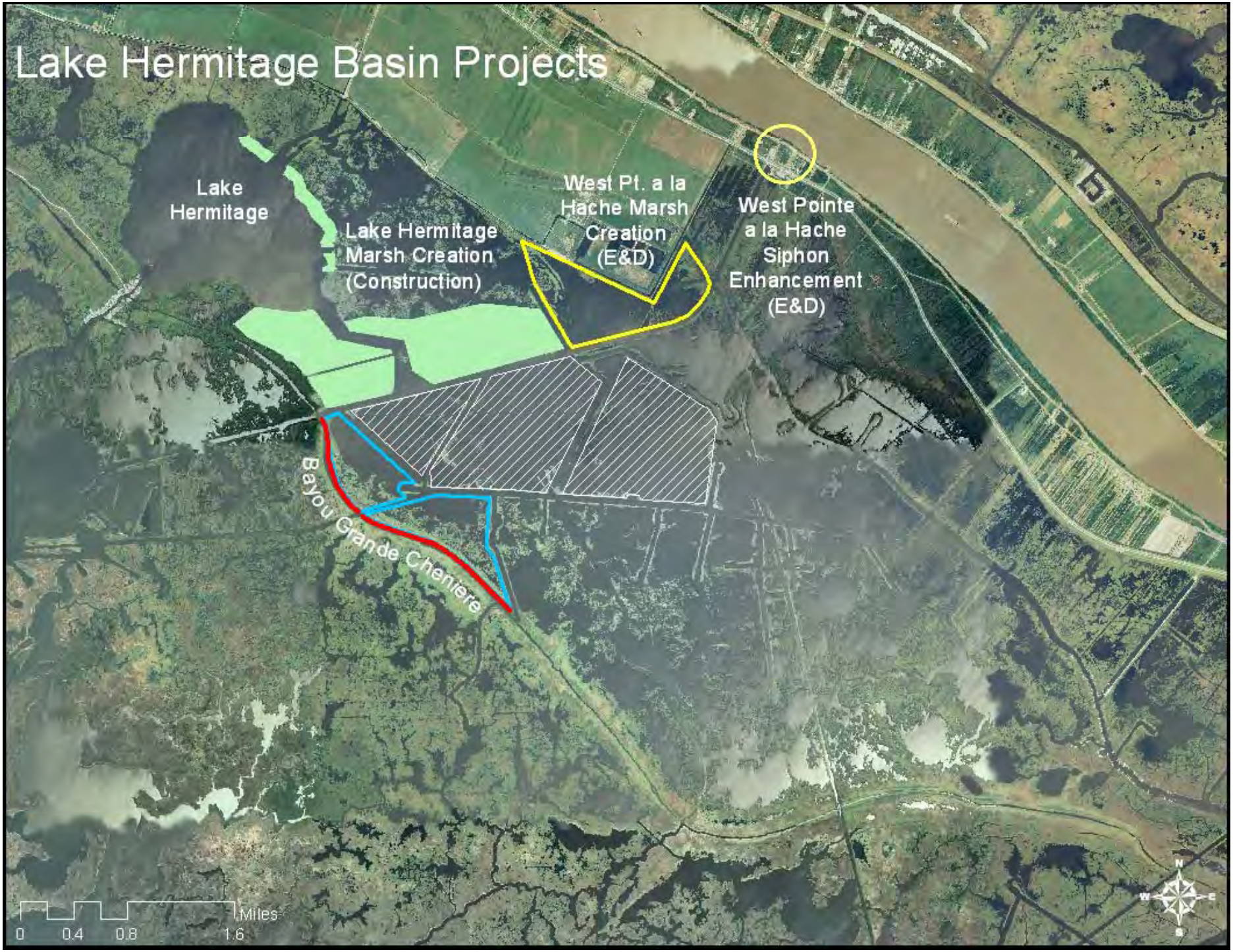
Scale 1:35,000

Map ID: USGS-NWRC 2011-11-0049
Map Date: May 19, 2011

Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La

Image Source:
2010 NAIP Photography


Bayou Grande Cheniere Marsh and Ridge Restoration
West Pointe a la Hache Siphons
Lake Hermitage
Bayou Grande Cheniere
Terracing
85,600 ft
55 acres
Marsh Creation
395 acres
Ridge Restoration
11,200 ft
14 acres
0 0.4 0.8 1.6 Miles
N
W
E
S


Lake Hermitage Basin Projects
Lake Hermitage
Lake Hermitage Marsh Creation (Construction)
West Pt. a la Hache Marsh Creation (E&D)
West Pointe a la Hache Siphon Enhancement (E&D)
Bayou Grande Cheniere
0 0.4 0.8 1.6 Miles
N
W
E
S

R2-BA-12

Elmer’s Island Restoration

R2-BA-12

PPL22 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name
Elmer's Island Restoration

Coast 2050 Strategy
Coastwide: Dedicated dredging to create, restore, or protect wetlands; Maintenance of Gulf, bay, and lake shoreline integrity;
Regional: Restore/maintain barrier headlands, islands and shorelines

Project Location
Region 2, Barataria Basin, Jefferson Parish

Problem
As part of an erosional headland, Elmer's Island is dominated by marine processes including overwash. The island has narrowed and decreased in elevation escalating the rate of overwash and breaching near the confluence with the headland as well as along Caminada Pass. As the island has become more vulnerable from overwash and breaching, island habitat has been lost and protection of mainland marsh and infrastructure has diminished. Sand fencing efforts are helping portions of the island maintain hummocky dunes. Extension of the spit into Camanida Pass and periodic closures of Bayou Thunder von Tranc at the Gulf (and siltation throughout) is altering the hydrologic connection of the lagoon and marshes north of Elmer's island. The spit along the pass is breached. Although sediment transport will continue across the breach supporting extension of the spit towards Caminada Bay, the breach is likely to persist and worsen without corrective actions. The 1985 to 2009 Port Fourchon subunit loss rate is -0.49% per year.

Proposed Solution
The proposed project goals are: 1) habitat, 2) hydrology, and 3) protection. The proposed features include approximately 26 acres of spot dune repair at sites where overwash and breaching is reoccurring; breach closure, and 300 acres of back barrier marsh creation. Sediment for marsh creation would be mined offshore of the headland at a distance to avoid inducing shoreline erosion. Sand is necessary for the spot dune repair and the breach closure. Mining the newly developing portions of the spit may be targeted. If so, spit habitat losses are expected to be temporary as re-growth is expected over time. Maintenance dredging of Bayou Thunder (if adequate sand content) and offshore mining (if sand is available without infrastructure constraints) also would be considered as alternative sources for dune construction material. Mining of the spit may temporarily re-establish historic hydrology as could dredging the bayou. The spot dune repair and breach closure would be planted with dune vegetation and the marsh platform would be planted with marsh vegetation. Various design alternatives will be considered for the breach closure. A rock core with sand capping tentatively is assumed. Consideration will be given to directly or indirectly create tidal flats to replace those that exist now, but would be filled with the dune and marsh restoration.

Goals
The project goal is to create approximately 326 acres of barrier headland habitat (300 acres of marsh and 26 acres of dune).

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
This total project area is 326 ac.

2) *How many acres of wetlands will be protected/created over the project life?*
Approximately 275 acres of island habitat will be protected/created over the project life. For simplicity at this time and to be conservative, the estimated benefits only include direct fill and excavation footprints and not any additional benefits from increased sediment supply during overwash and downdrift redistribution.

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

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

5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project would have moderate net positive impact to critical infrastructures which consists of LA1, a hurricane evacuation route, and residence of Chenier Caminada due to reducing the rate or frequency of flooding from south/southeast wind.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
The project will have a synergistic effect with sand fencing efforts and existing rock. The project may have synergy with the portions of the Caminada Headland Project to be constructed with the State funds.

Identification of Potential Issues

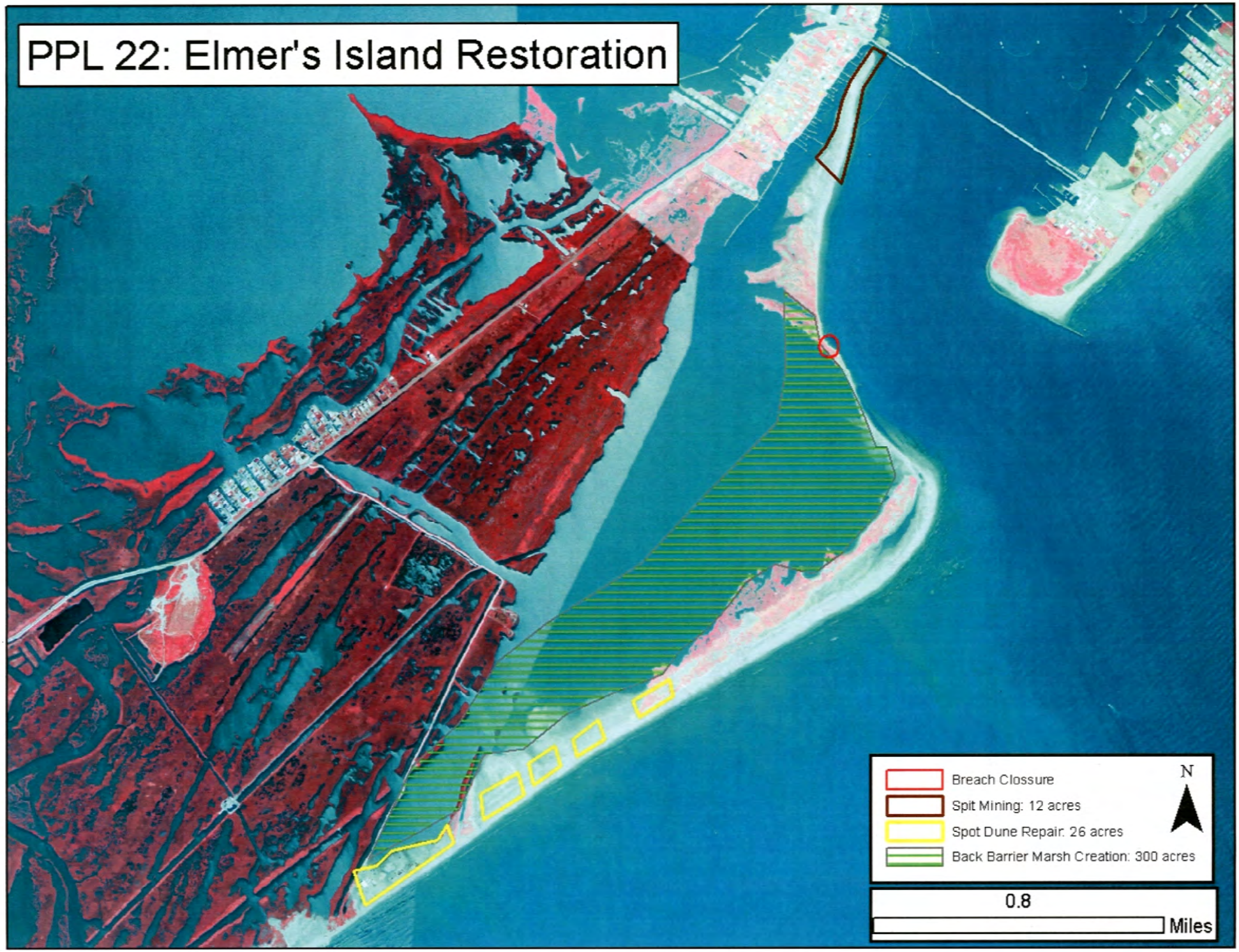
The proposed project has potential oyster, piping plover, and utility/pipeline issues.

Preliminary Construction Costs

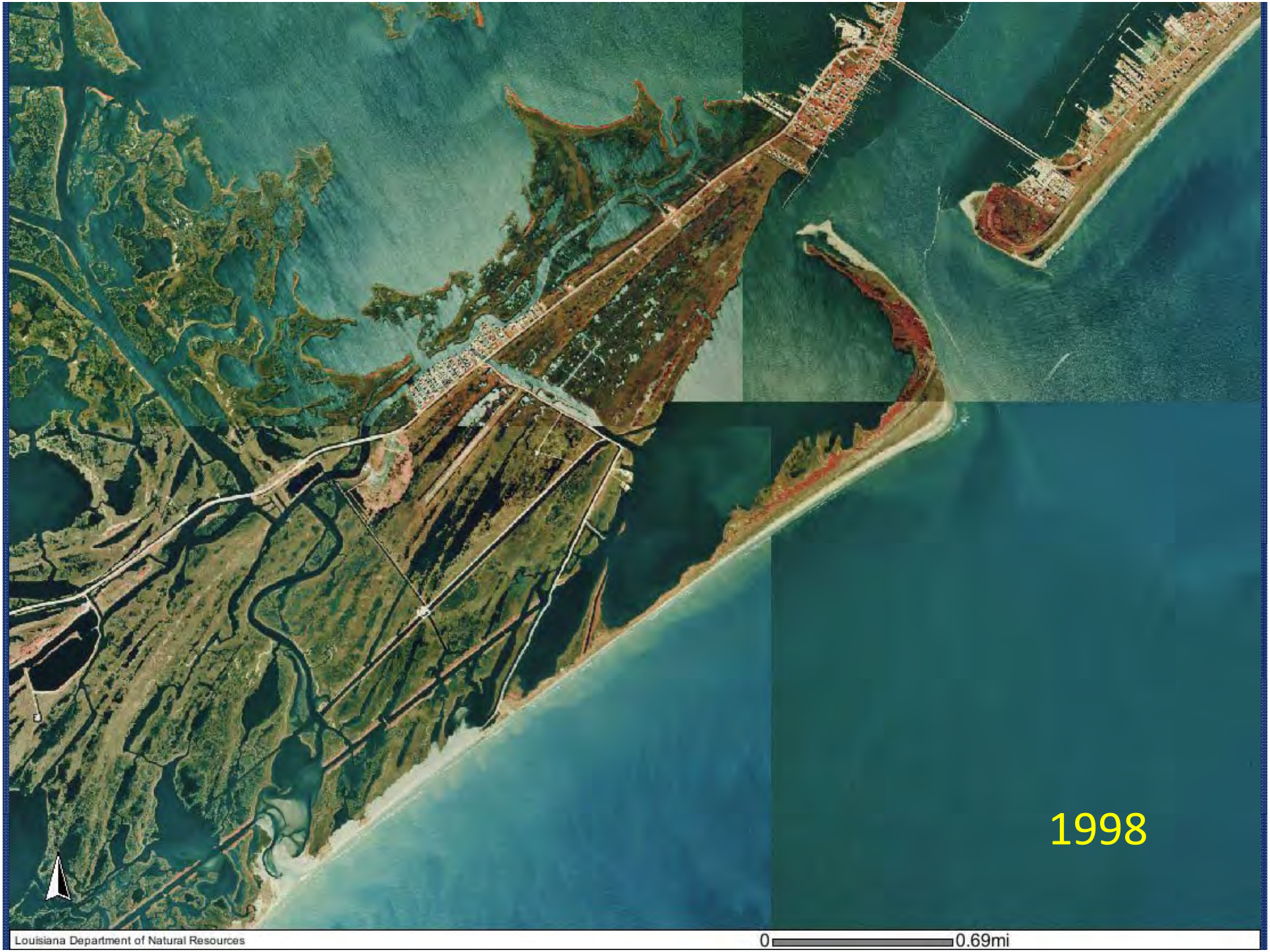
The estimated construction cost including 25% contingency is $26,202,696. The fully funded cost estimate range is between $30-35M.

Preparer(s) of Fact Sheet:

Patrick Williams, NOAA Fisheries, 225-389-0508, ext 208, patrick.williams@noaa.gov
Phillip Parker, NOAA Fisheries, 225-578-8341, phillip.parker@noaa.gov


PPL 22: Elmer's Island Restoration
Breach Closure
Spit Mining: 12 acres
Spot Dune Repair: 26 acres
Back Barrier Marsh Creation: 300 acres
N
0.8
Miles

Elmer’s Island Restoration


1998
Louisiana Department of Natural Resources
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Lafourche
Jefferson
2010

2010

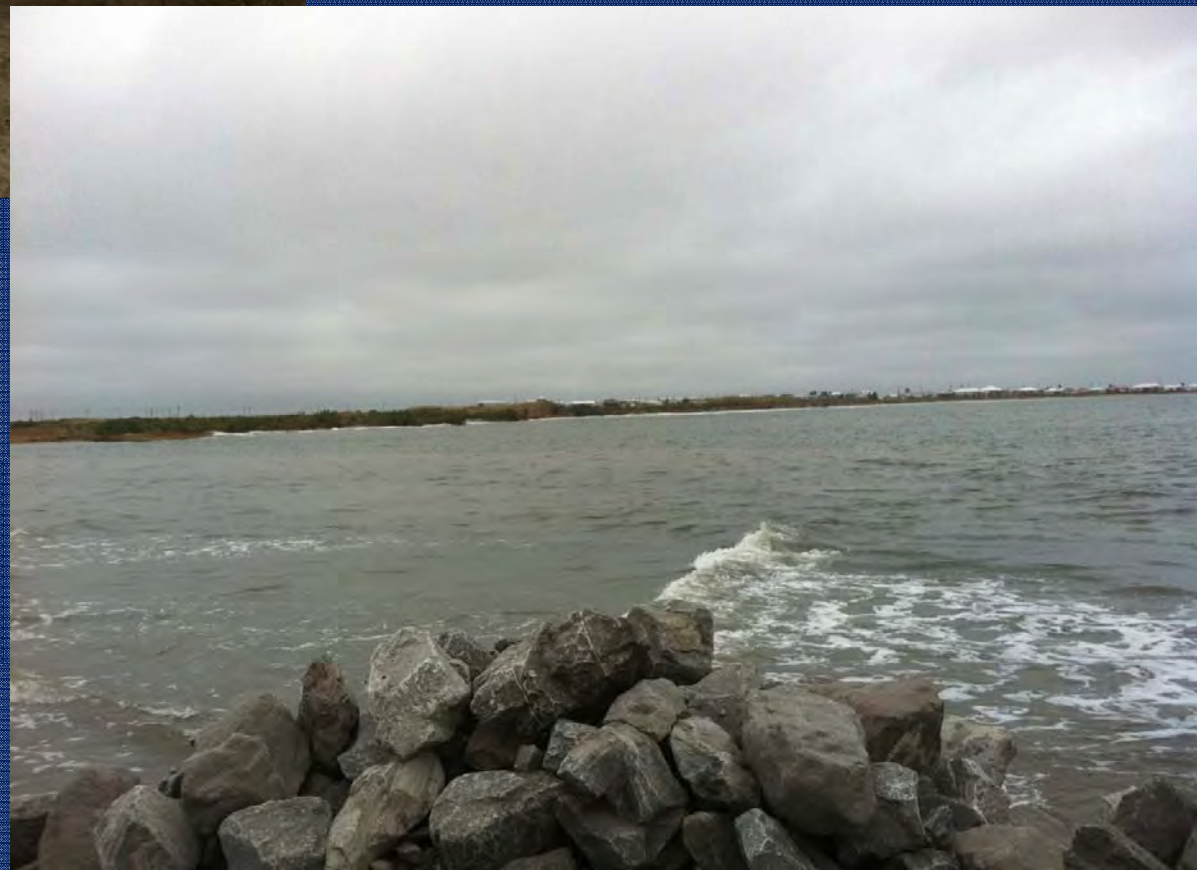
2010

2011

2011

TS Lee Impacts

2010



PPL 22: Elmer's Island Restoration

Summary

- 326 acres of barrier headland habitat
- Approximately 275 net acres of habitat after 20 years
- Construction cost + 25% contingency ~ $26M
- Fully Funded cost range $30 – $35M

R2-BA-13

Highway 1 Marsh Creation and Terracing

R2-BA-13

PPL22 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name
Highway 1 Marsh Creation and Terracing Project

Coast 2050 Strategy
Coastwide: Dedicated dredging to create, restore, or protect wetlands
Regional: Dedicated Dredging and/or beneficial use of dredged material to create marsh in the Clovelly, Little Lake, Caminada, and Fourchon Mapping Units

Project Location
Region 2, Barataria Basin, Caminada Bay Mapping Unit, Lafourche Parish, north of LA1 and between Lakes Laurier and Palourde

Problem
The area has suffered from rapid wetland loss from subsidence and shoreline erosion. The subsidence rate in the mapping unit is high at 2.1 – 3.5 ft/century. The landbridge between the lakes have begun to coalesce and the marsh buffer along LA Highway 1 continues to be rapidly lost. The land loss rate from 1985 to 2009 from the Lake Paluourde subunit is -0.9 percent/year.

Proposed Solution
The project consists of marsh creation, nourishment, and terracing. Tentatively, 300 acres of saline marsh would be created in two areas between LA1 and Lake Laurier to re-establish the lake rim and protect the highway. Approximately 110 acres of marsh would be nourished with thin layer sediment disposal. Approximately 20,000 feet of earthen terraces would be constructed in open water between LA1 and Lake Laurier to create additional habitat and further re-establish and protect the lake rim and the highway. Alternative marsh creation/nourishment and terracing sites would be considered, as needed. Marsh creation areas and terraces would be planted with smooth cordgrass. Sediment would be mined from the lakes and/or potentially Caminada Bay.

Goals
The project goals are to create approximately 300 acres of marsh, nourish approximately 110 acres of marsh, and construct approximately 20,000 feet of earthen terraces. If the project is selected as a candidate, minimizing adverse impacts to the ecology of the lakes would be considered when siting and designing borrow areas during further refinement of the project scale and features.

Preliminary Project Benefits

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

2) *How many acres of wetlands will be protected/created over the project life?*
   Approximately 283 ac of island habitat will be protected/created over the project.

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

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

5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project would have moderate net positive impact to critical infrastructures which consists of LA1, a hurricane evacuation route.

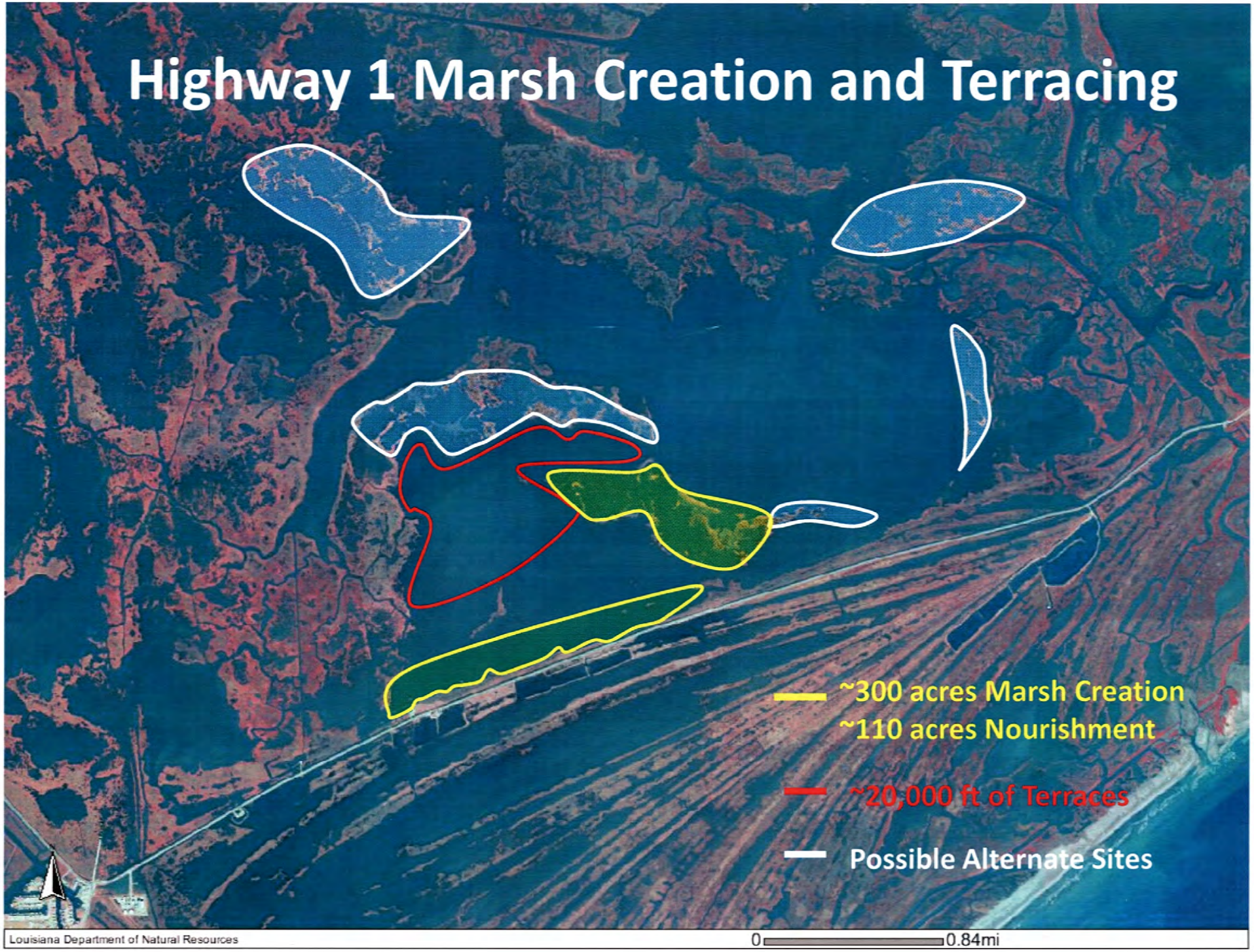
6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
There are not other projects in the immediate vicinity to provide for a synergistic effect. The absence of other such projects and the substantial amount of wetland loss that has occurred makes this an area of high need.

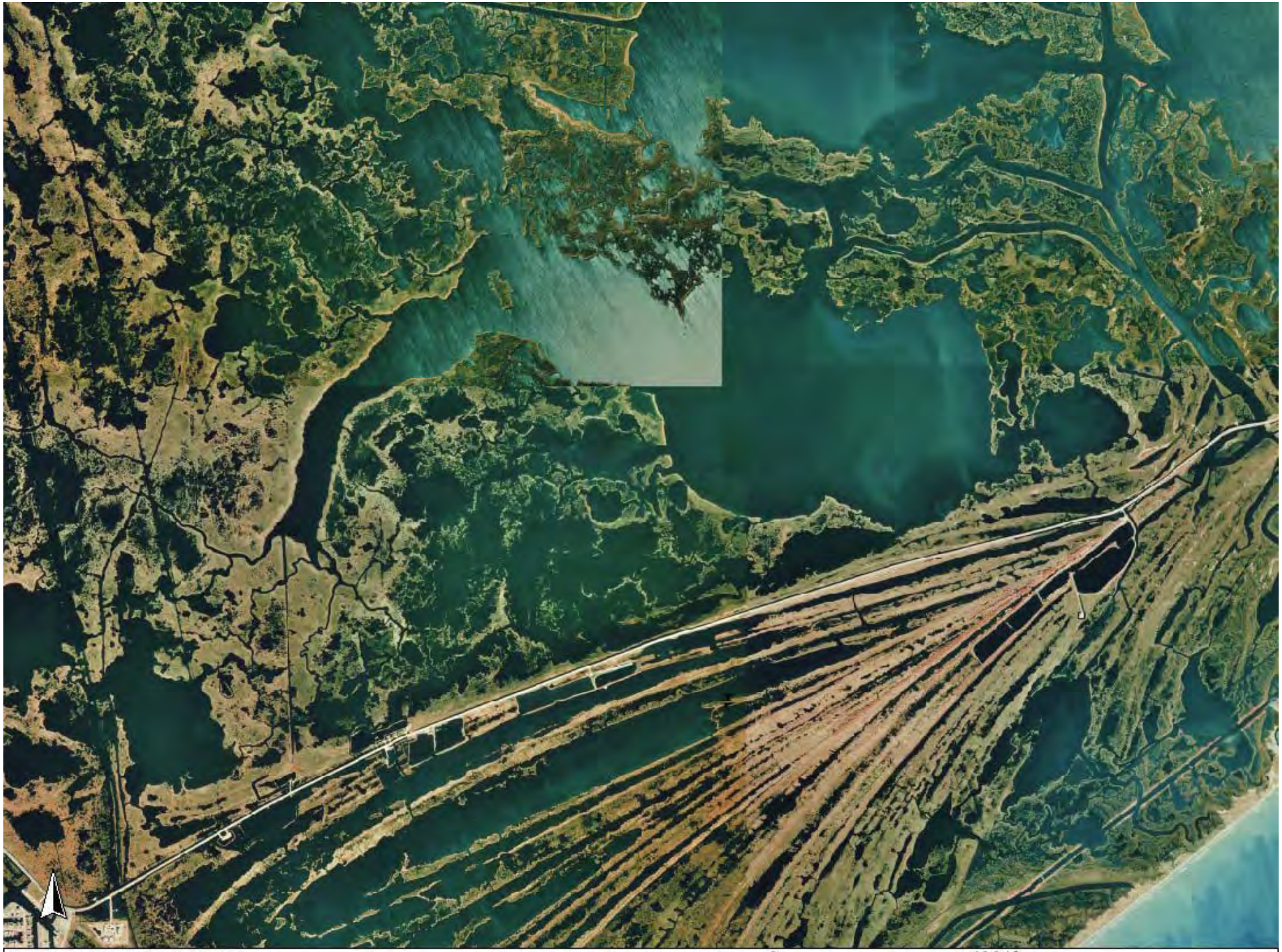
Identification of Potential Issues
The proposed project has potential oyster and utility/pipeline issues.

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

Preparer(s) of Fact Sheet:
Patrick Williams, NOAA Fisheries, 225-389-0508, ext 208, patrick.williams@noaa.gov

Highway 1 Marsh Creation and Terracing

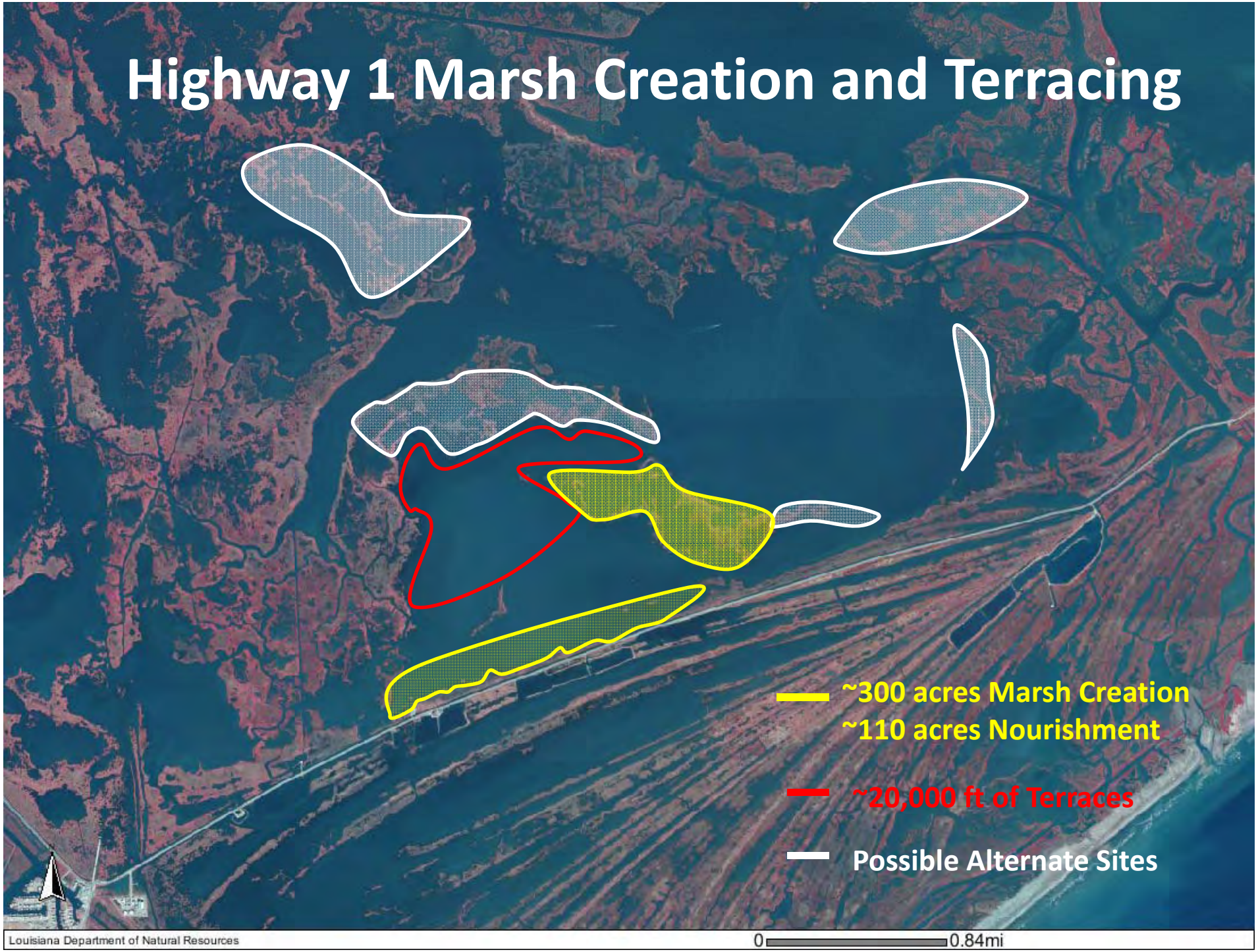




Louisiana Department of Natural Resources

Louisiana Department of Natural Resources

Highway 1 Marsh Creation and Terracing



R2-BA-14

Grand Bayou Marsh Creation

R2-BA-14

PPL22 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name
Grand Bayou Marsh Creation

Coast 2050 Strategy
Coastwide: Dedicated dredging for wetland creation; Maintenance of bay/lake shoreline integrity

Project Location
Region 2, Barataria Basin, Plaquemines Parish, Cheniere Ronquille mapping unit

Problem
Historically wetlands in the Barataria Basin were nourished by the fresh water, sediment and nutrients delivered by the Mississippi River. Following the creation of levees along the lower river for flood control and navigation, these inputs ceased. To the northwest, the operation of the Davis Pond Freshwater Diversion has aided in moderating salinities in the basin, however, this unit has remained a saline marsh since 1949. Land loss in the area can be attributed to high subsidence rates (2.1-3.5 ft/century), wind erosion, increased tidal energy and altered hydrology from oil/gas canal dredging (Coast 2050). A USGS regression analysis (1985-2009) indicates a -0.89 percent/yr land loss rate for this unit. Barataria Basin has experienced some of the highest rates of wetland loss along the Louisiana coast.

Proposed Solution
The proposed project's primary feature is to create approximately 350 to 400 acres of saline marsh, and restore up to 12,000 linear feet of Grand Bayou bank line to re-establish a continuous land mass. Sediment would be hydraulically dredged for project construction. Both internal and external borrow sources have been considered; internal borrow from Adams Bay or Bastian Bay are the most cost effective. Temporary containment dikes will be constructed and gapped within three years of construction to allow greater tidal exchange and estuarine organism access. Half of the constructed marsh will include vegetative plantings.

Goals
Three conceptual options are considered: 1) restore 400 acres of marsh and 12,000 feet of Grand Bayou bank line immediately east of Grand Bayou between Adams Bay and Lake Washington using internal borrow, 2) restore 400 acres of marsh and 12,000 feet of Grand Bayou bank line west of Grand Bayou between Adams Bay and Lake Washington using internal borrow, and 3) restore 350 acres of marsh and approximately 10,000 feet of Grand Bayou bank line northwest of Bastian Bay using either internal or Gulf borrow.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
   Total project areas for Options 1 and 2 are about 400 acres each; the total project area for Option 3 is about 350 acres.

2) *How many acres of wetlands will be protected/created over the project life?*
Options 1 and 2 would result in approximately 366 net acres of saline marsh over the project life and Option 3 would result in approximately 279 net acres of saline marsh 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 land loss rate reduction throughout the area of direct benefits will be 50-74% over the projects life.

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

5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project may provide net positive benefits to non-critical infrastructure.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
The project may have a synergistic effects with the West Point a la Hache Outfall Management (BA-47) restoration project located north of the proposed project area; and, the Pass Chaland to Grand Bayou Pass Barrier Shoreline Restoration (BA-35) recently constructed to the south of the proposed project area.

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

Preliminary Construction Costs
Depending on option and borrow source (internal vs Gulf), the estimated construction costs (including 25% contingency) vary from approximately $19,400,000 to $28,800,000. The fully funded cost estimates range from $25 to $37 M.

Preparer(s) of Fact Sheet:
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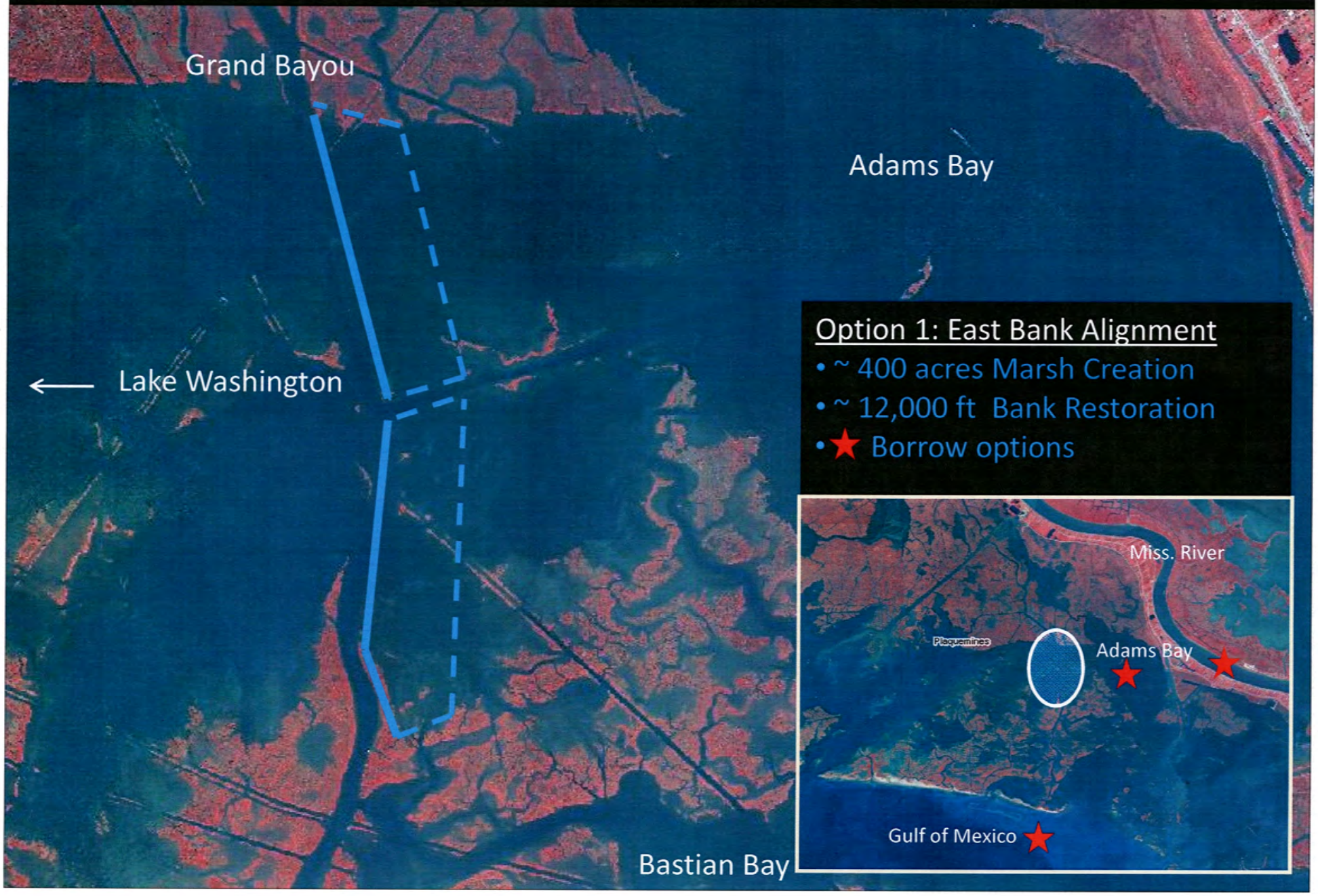
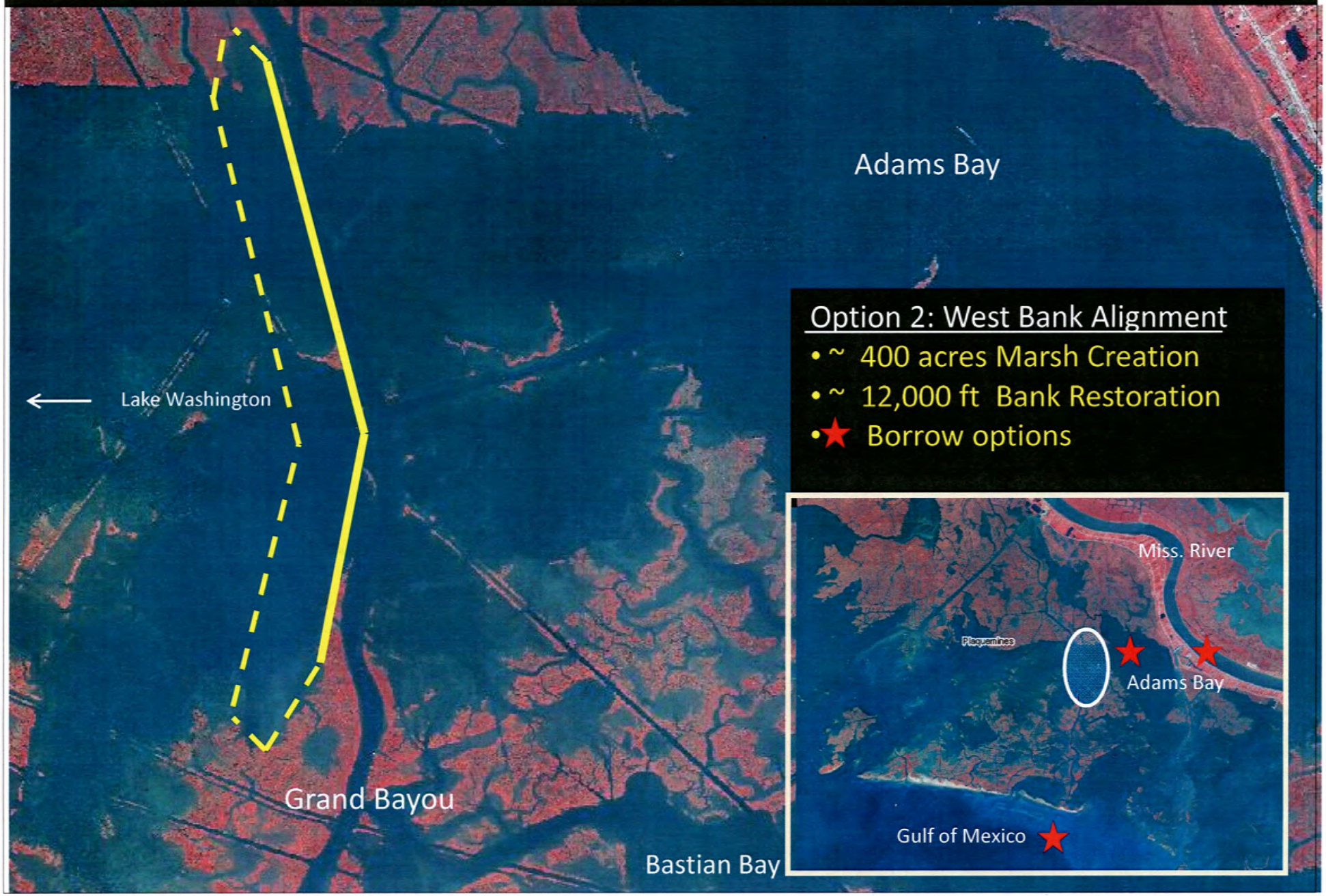
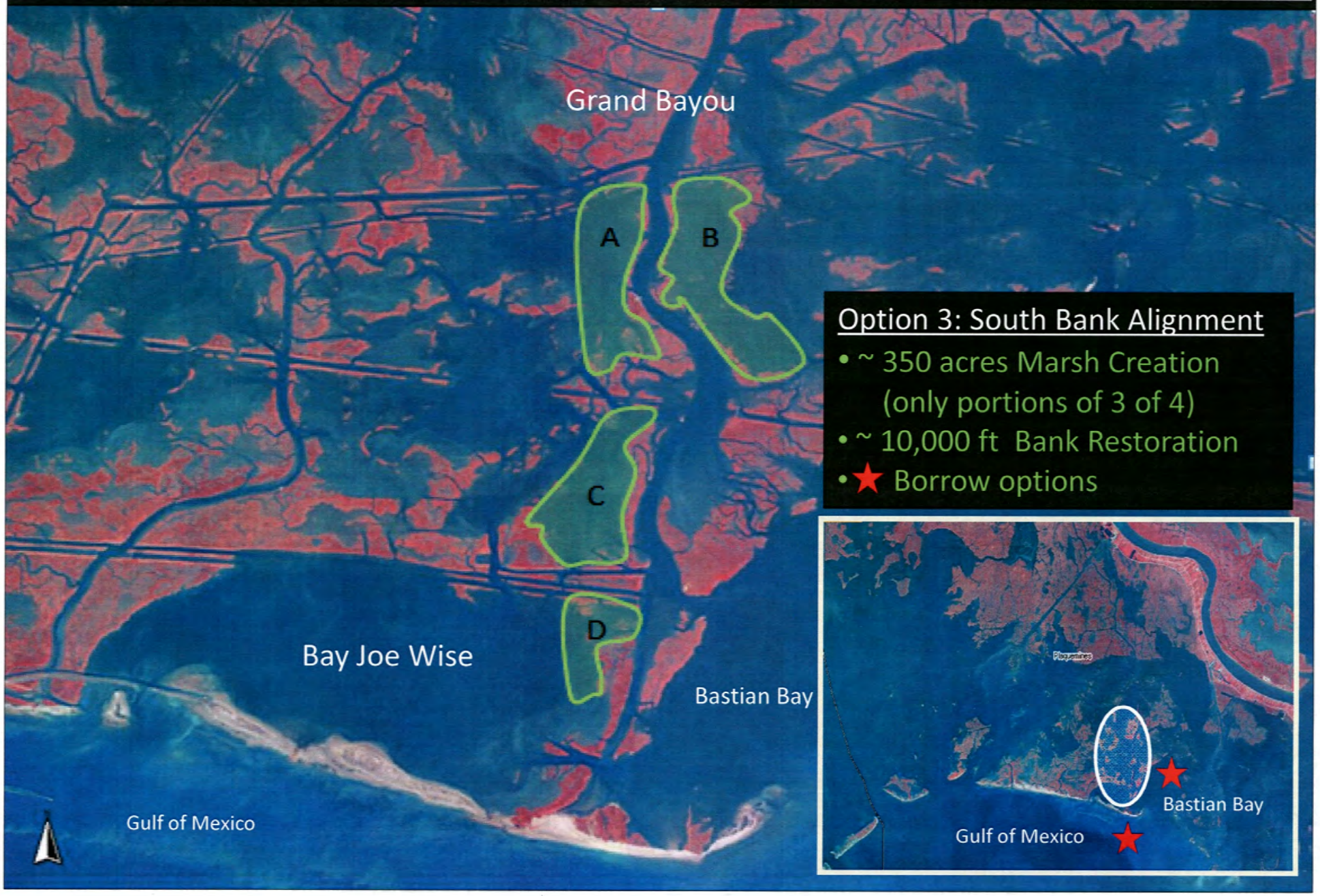
PPL22 Grand Bayou Marsh Creation



PPL22 Grand Bayou Marsh Creation

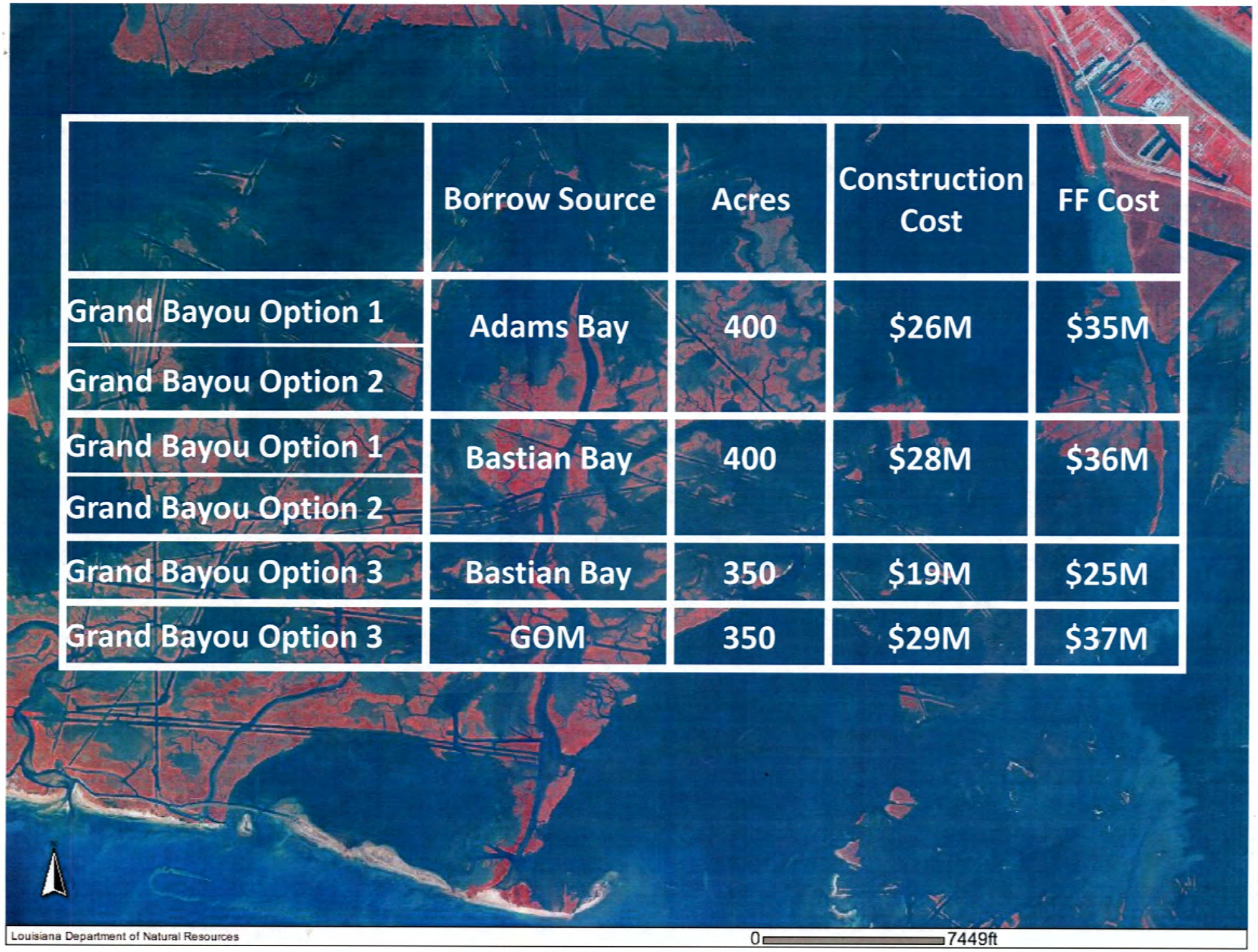


PPL22 Grand Bayou Marsh Creation



Option 3: South Bank Alignment

- ~ 350 acres Marsh Creation (only portions of 3 of 4)
- ~ 10,000 ft Bank Restoration
- ★ Borrow options

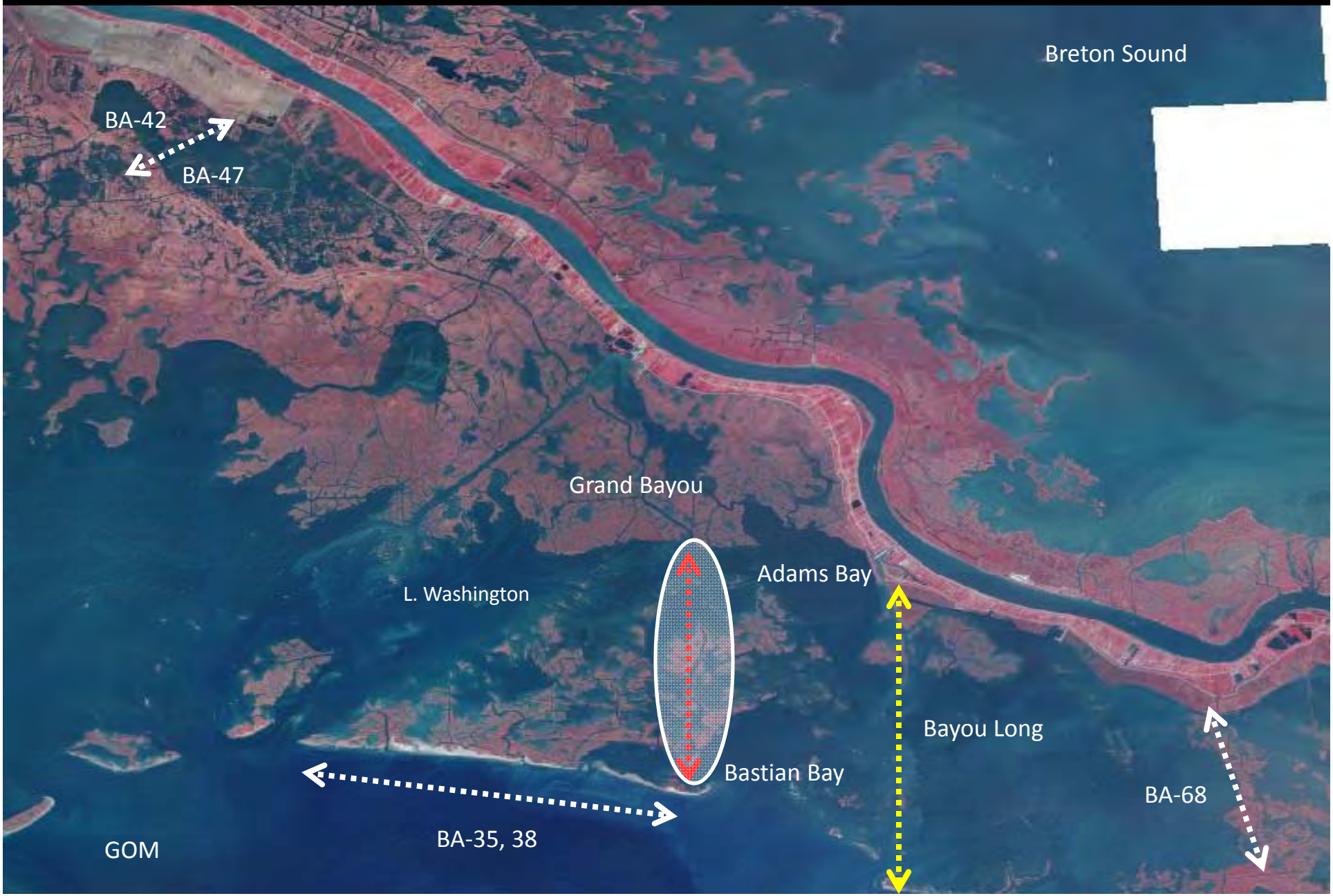


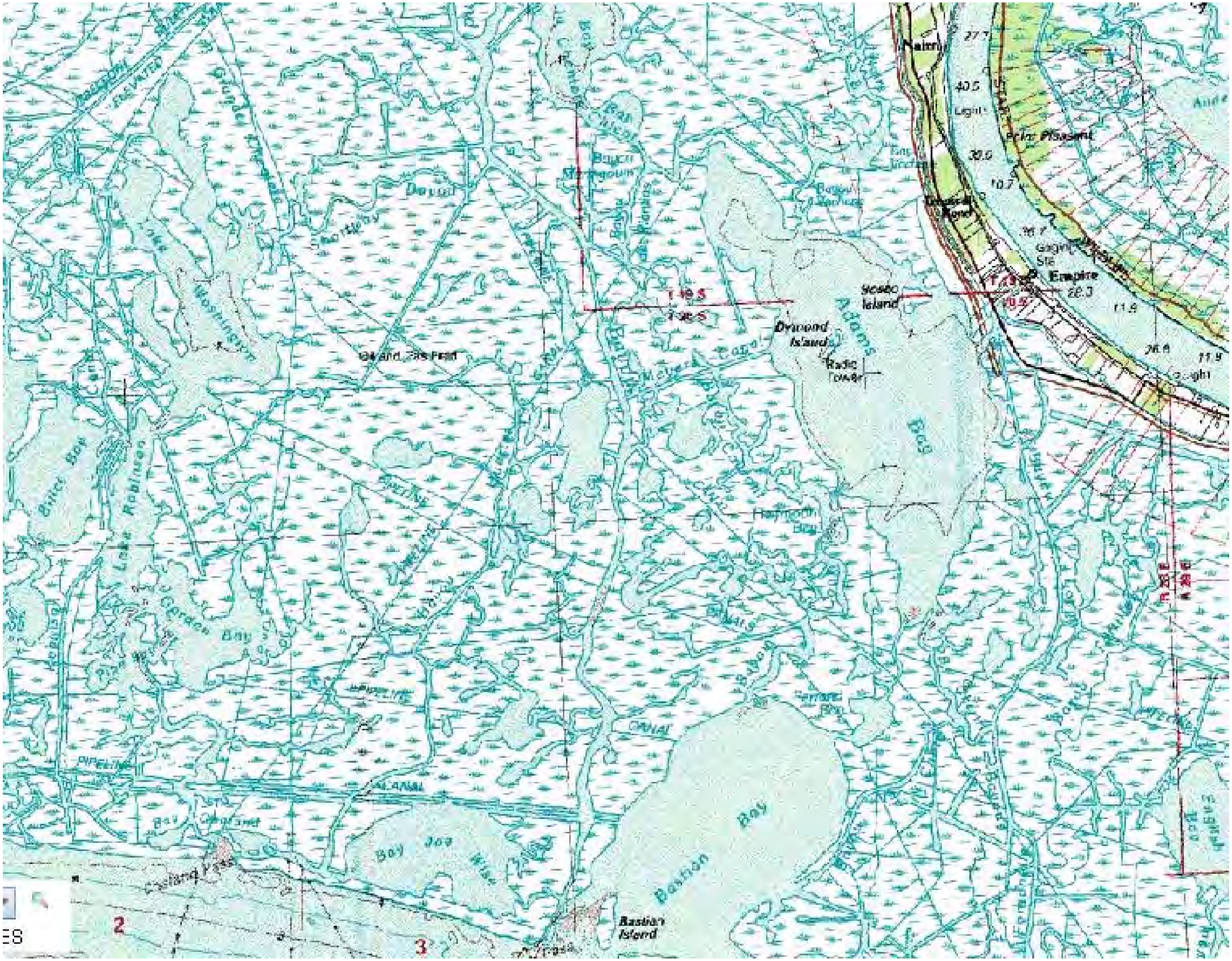
	Borrow Source	Acres	Construction Cost	FF Cost
Grand Bayou Option 1	Adams Bay	400	$26M	$35M
Grand Bayou Option 2				
Grand Bayou Option 1	Bastian Bay	400	$28M	$36M
Grand Bayou Option 2				
Grand Bayou Option 3	Bastian Bay	350	$19M	$25M
Grand Bayou Option 3	GOM	350	$29M	$37M

Louisiana Department of Natural Resources

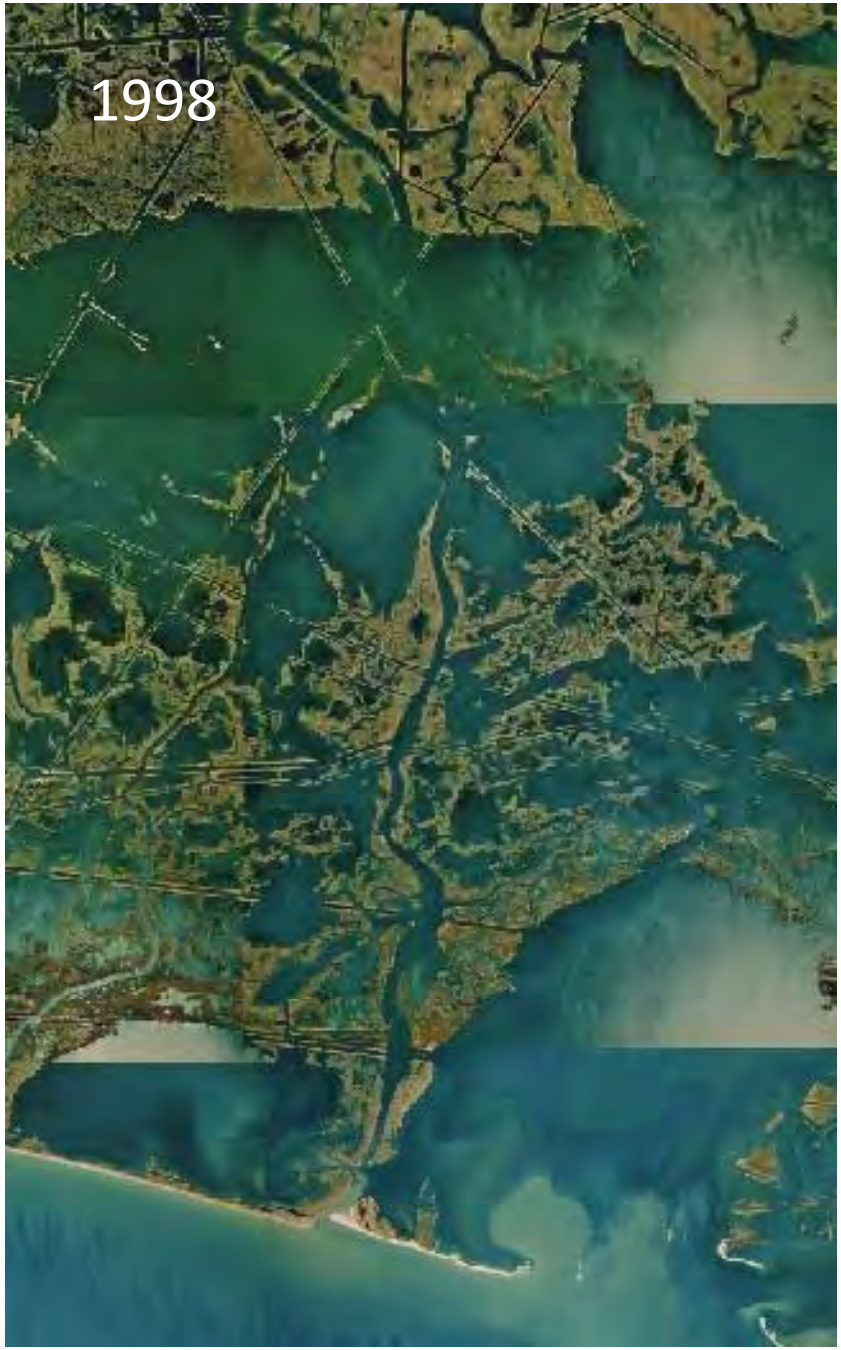
0 7449ft

PPL22 Grand Bayou Marsh Creation



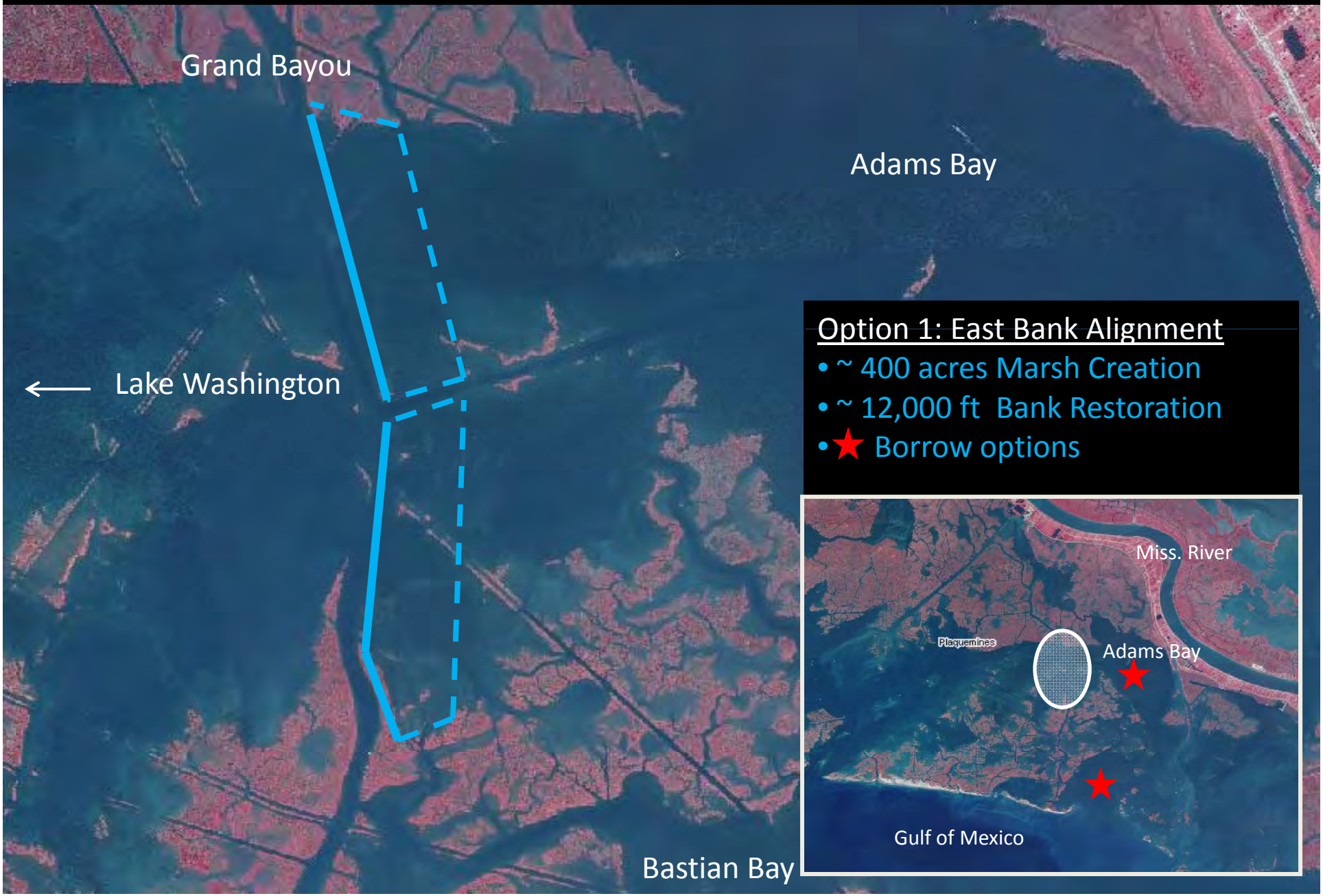

Nairn
Empire
Diamond Island
Radio Tower
Oil and Gas Field
Adams Bay
Bastian Bay
Bastian Island
Bay Joe Wise
CANAL
PIPELINE
2
3

1978

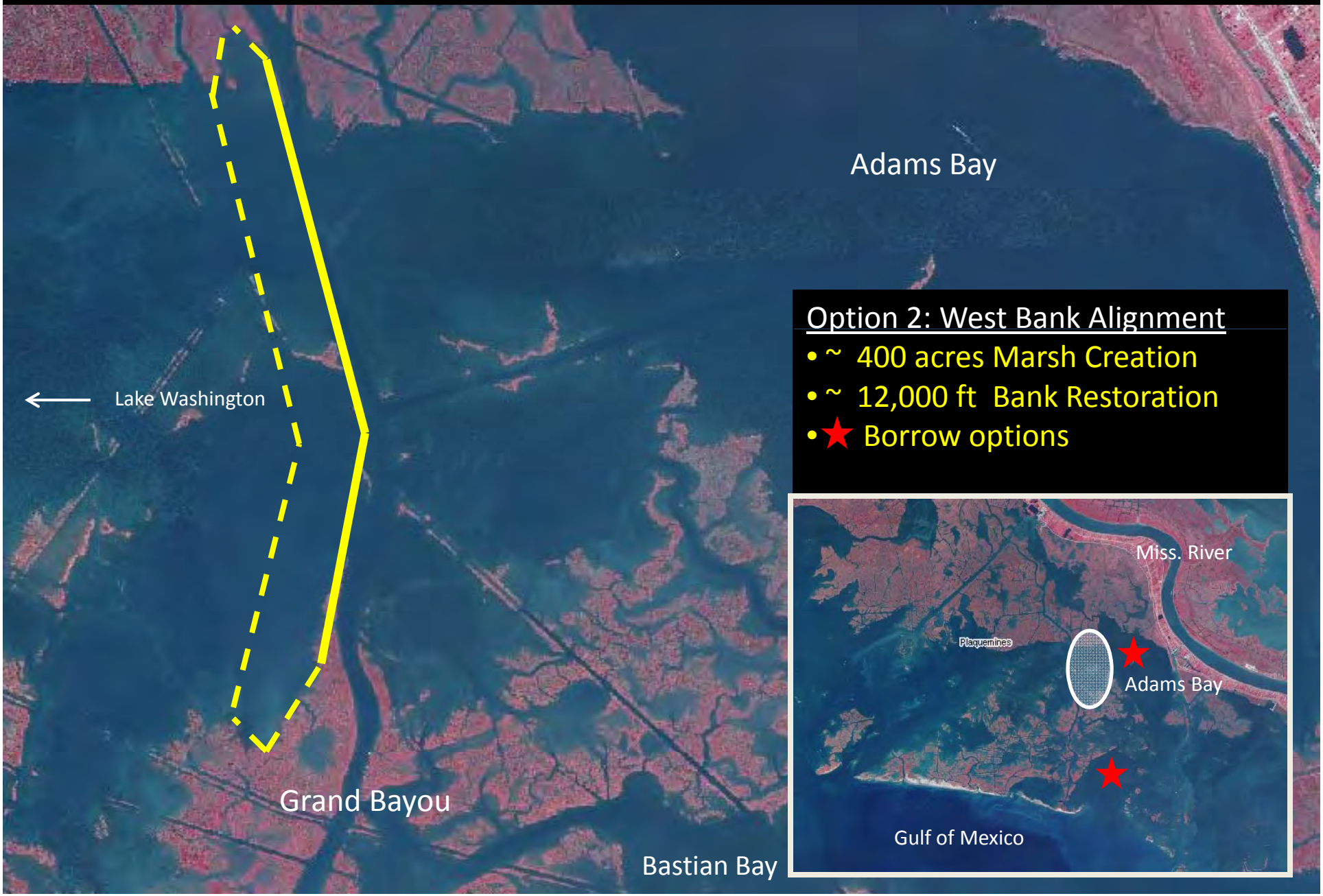

1998

2008

PPL22 Grand Bayou Marsh Creation



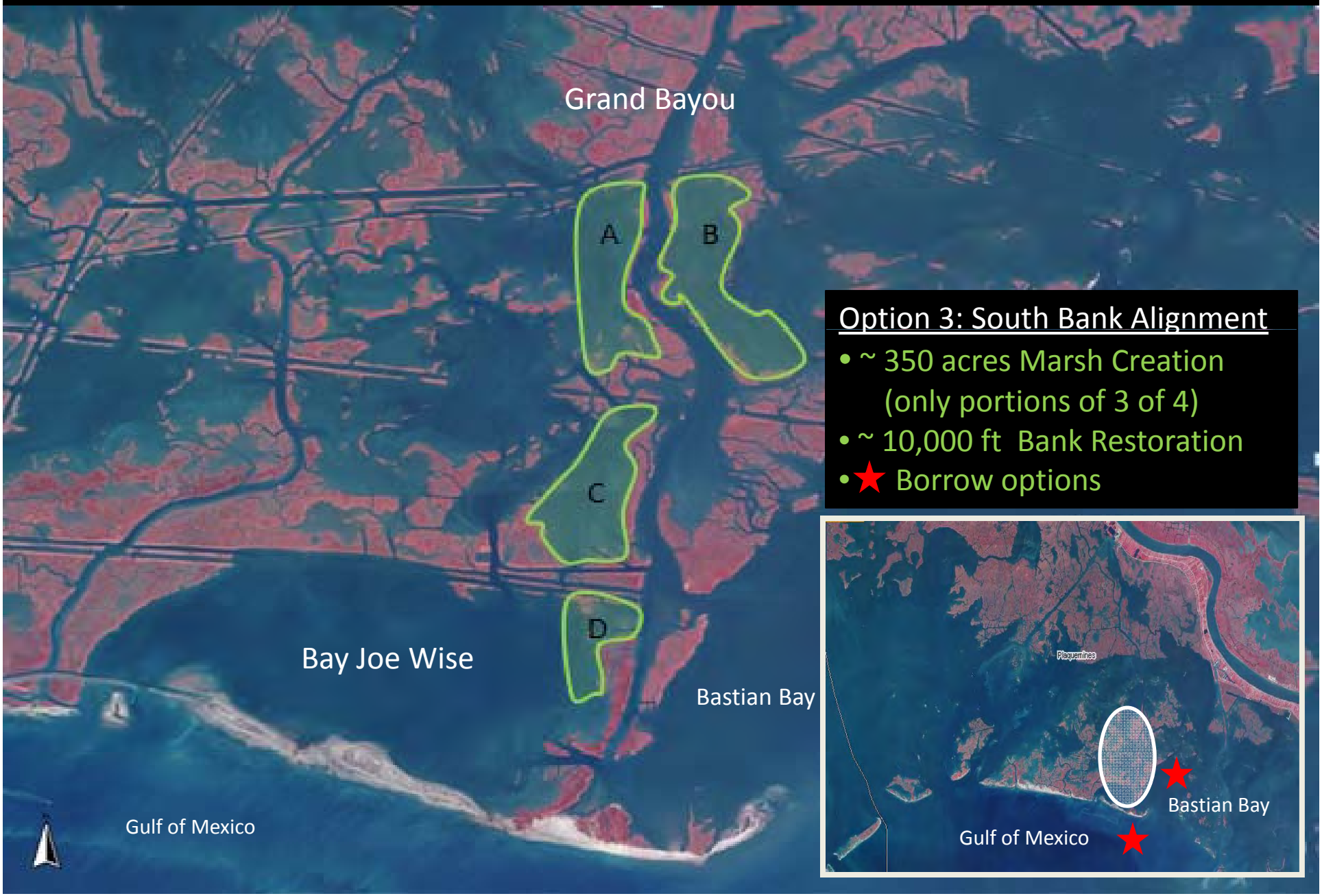
PPL22 Grand Bayou Marsh Creation



Option 2: West Bank Alignment

- ~ 400 acres Marsh Creation
- ~ 12,000 ft Bank Restoration
- ★ Borrow options

PPL22 Grand Bayou Marsh Creation

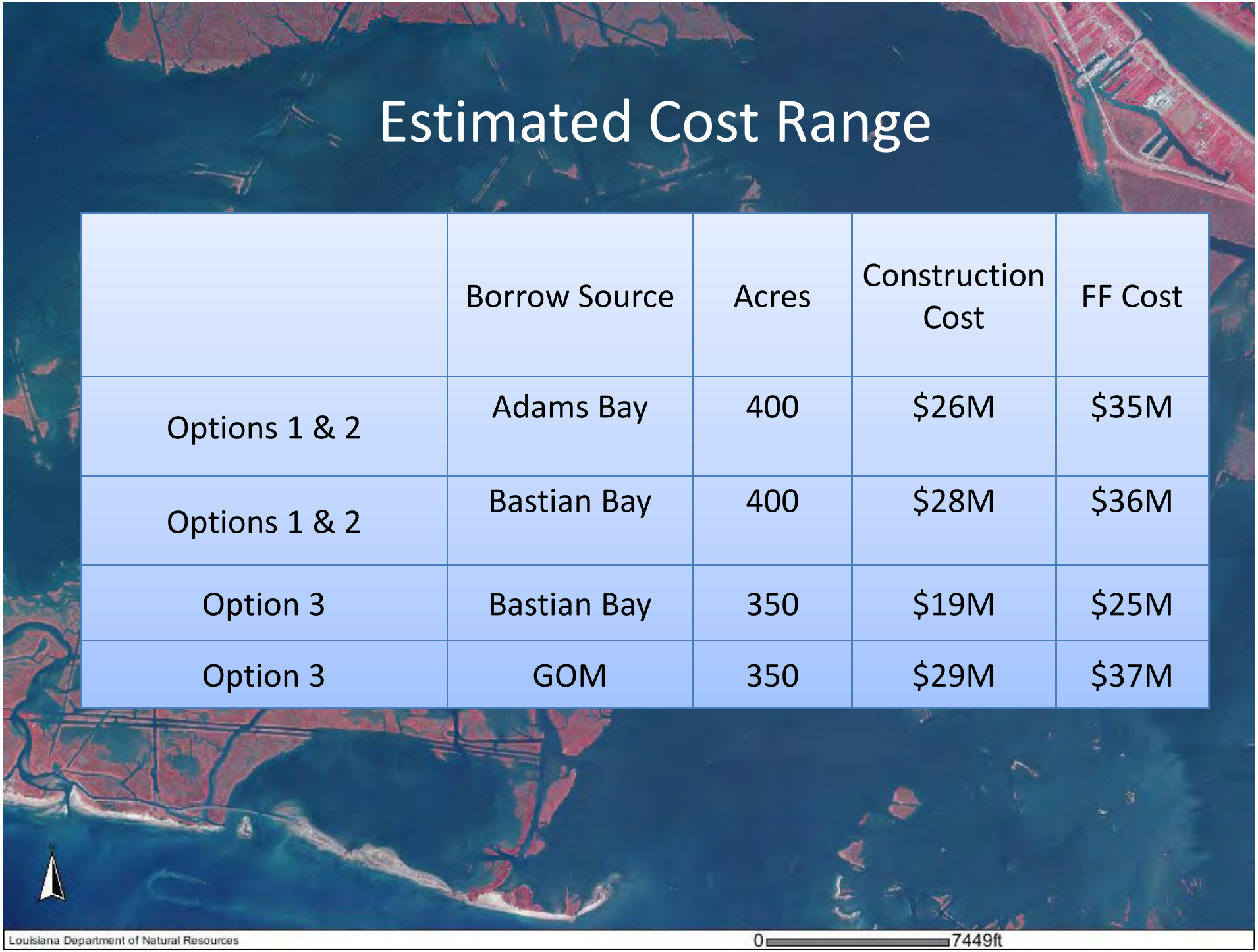


Option 3: South Bank Alignment

- ~ 350 acres Marsh Creation (only portions of 3 of 4)
- ~ 10,000 ft Bank Restoration
- ★ Borrow options

Estimated Cost Range

	Borrow Source	Acres	Construction Cost	FF Cost
Options 1 & 2	Adams Bay	400	$26M	$35M
Options 1 & 2	Bastian Bay	400	$28M	$36M
Option 3	Bastian Bay	350	$19M	$25M
Option 3	GOM	350	$29M	$37M



Comparison of Options

Option 1 or 2

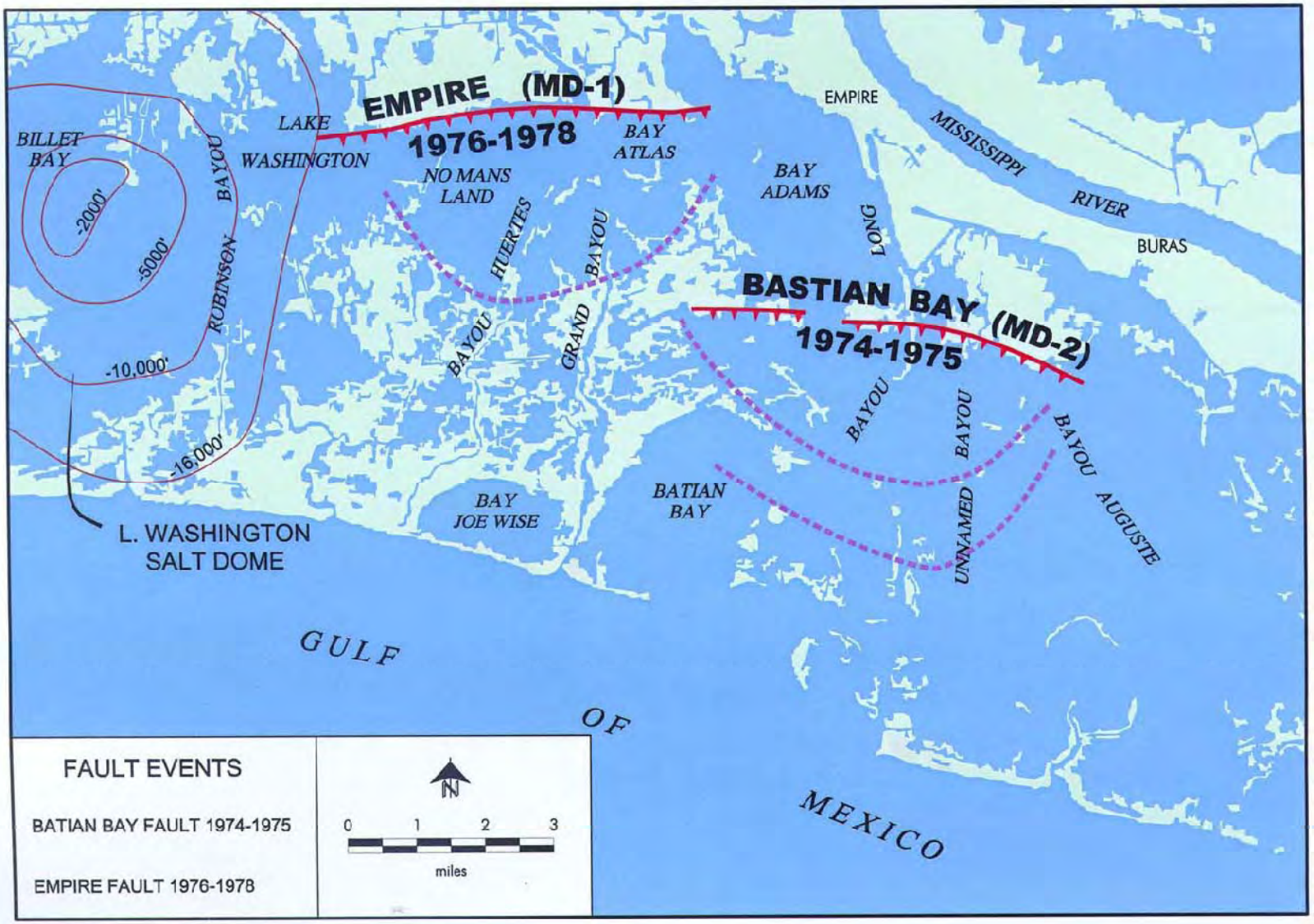
- Restore historic bayou/hydrologic connection
- Reduce open water fetch across adjacent bays
- Challenges with water depths, and oysters

Option 3

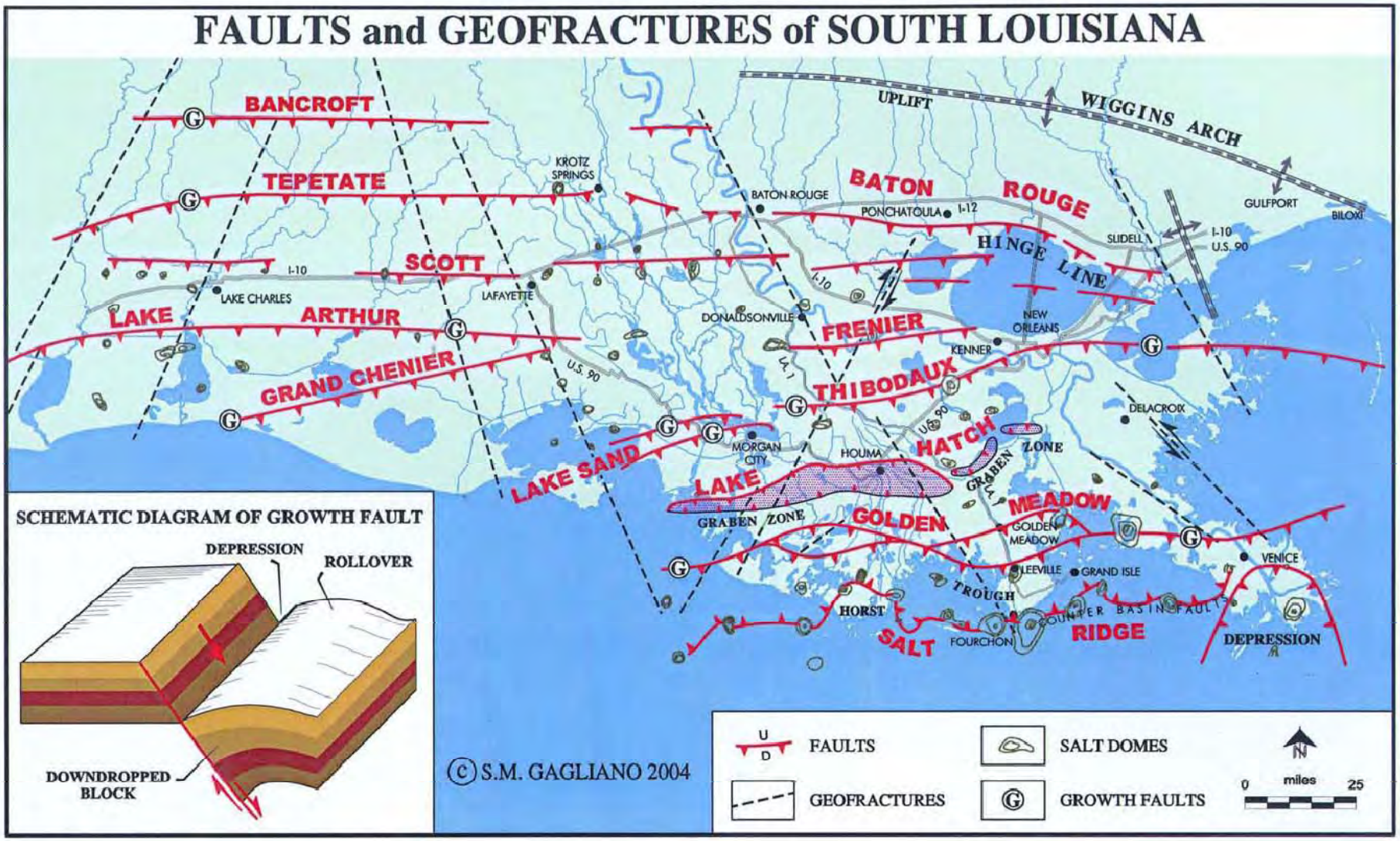
- Maintain portion of existing bayou
- Opportunity to utilize external source of borrow
- Might have less challenges with water depths and oysters

QUESTIONS ?

Kimberly Clements
NOAA Fisheries
(225) 389-0508



Gagliano, Sherwood M., Ph.D. "Effects of Earthquakes, Fault Movements, and Subsidence on the South Louisiana Landscape". The Louisiana Civil Engineer: Journal of the Louisiana Section of The American Society of Civil Engineers, Baton Rouge, Louisiana. February 2005: Volume 13, Number 2, pp. 5-7, 19-22.



Gagliano, Sherwood M., Ph.D. "Effects of Earthquakes, Fault Movements, and Subsidence on the South Louisiana Landscape". The Louisiana Civil Engineer: Journal of the Louisiana Section of The American Society of Civil Engineers, Baton Rouge, Louisiana. February 2005: Volume 13, Number 2, pp. 5-7, 19-22.

R2-BA-15

Grand Pierre Barrier Island Restoration

R2-BA-15

PPL 22 PROJECT NOMINEE FACT SHEET
January 2012

Project Name:
Grand Pierre Barrier Island Restoration

Coast 2050 Strategy:
Barrier Island Restoration

Project Location:
Region 2, Plaquemines/Barataria Barrier Shoreline Complex, Plaquemines Parish, Louisiana, approximately 8.5 miles northeast of Grand Isle and immediately east of the East Grand Terre Island Restoration Project (BA-30).

Problem:
The barrier islands along Louisiana's Gulf coast suffer from high shoreline retreat rates. Beach and marsh restoration is needed to maintain their geomorphic function and the habitats which they support. The barrier islands provide the first line of defense for coastal Louisiana during large wave events protecting essential fish habitats and nurseries, infrastructure, property, and residents that populate the region.

Restoration efforts have been completed throughout the island complex including Grand Isle, East Grand Terre, Chaland Headland, Bay Joe Wise, among other projects further to the east and west. Immediately to the east, Chenier Ronquille is currently under design. The Grand Pierre project would fulfill a vital link for approximately 14 miles of the barrier island complex and complement state and federal funding that has been invested in the region.

Goals:
- Create 127 acres of beach to reintroduce sediment into the sand deprived littoral system.
- Create 229 acres of marsh to provide habitats and nurseries supporting fish and wildlife that inhabit the region, which is unique to Louisiana.
- Enhance the barrier island complex and create synergistic effects with the adjacent restoration efforts.

Proposed Solution:
The proposed project would consist of a beach along the Gulf shoreline with a backing marsh. The marsh would provide a platform for sand during overwash events, which stabilize the island and helps maintain the fronting beach elevation. The beach protects the backing marsh by acting as a barrier against high wave energy that would otherwise rapidly erode the silty marsh material.

It is proposed that sediment remaining in previously developed borrow areas to the south be utilized for construction. The borrow areas were used to construct the East Grand Terre Island Restoration Project (BA-30) completed in 2010 and are proposed for use to construct the Chenier Ronquille Barrier Island Restoration Project (BA-76). Sufficient volumes of material could be available in the existing borrow areas construct to Grand Pierre through planning and management of the resources.

Preliminary Construction Cost:
Construction cost: $14,875,000
Fully-funded cost: Approximately $21,313,000

Preparer of Fact Sheet:
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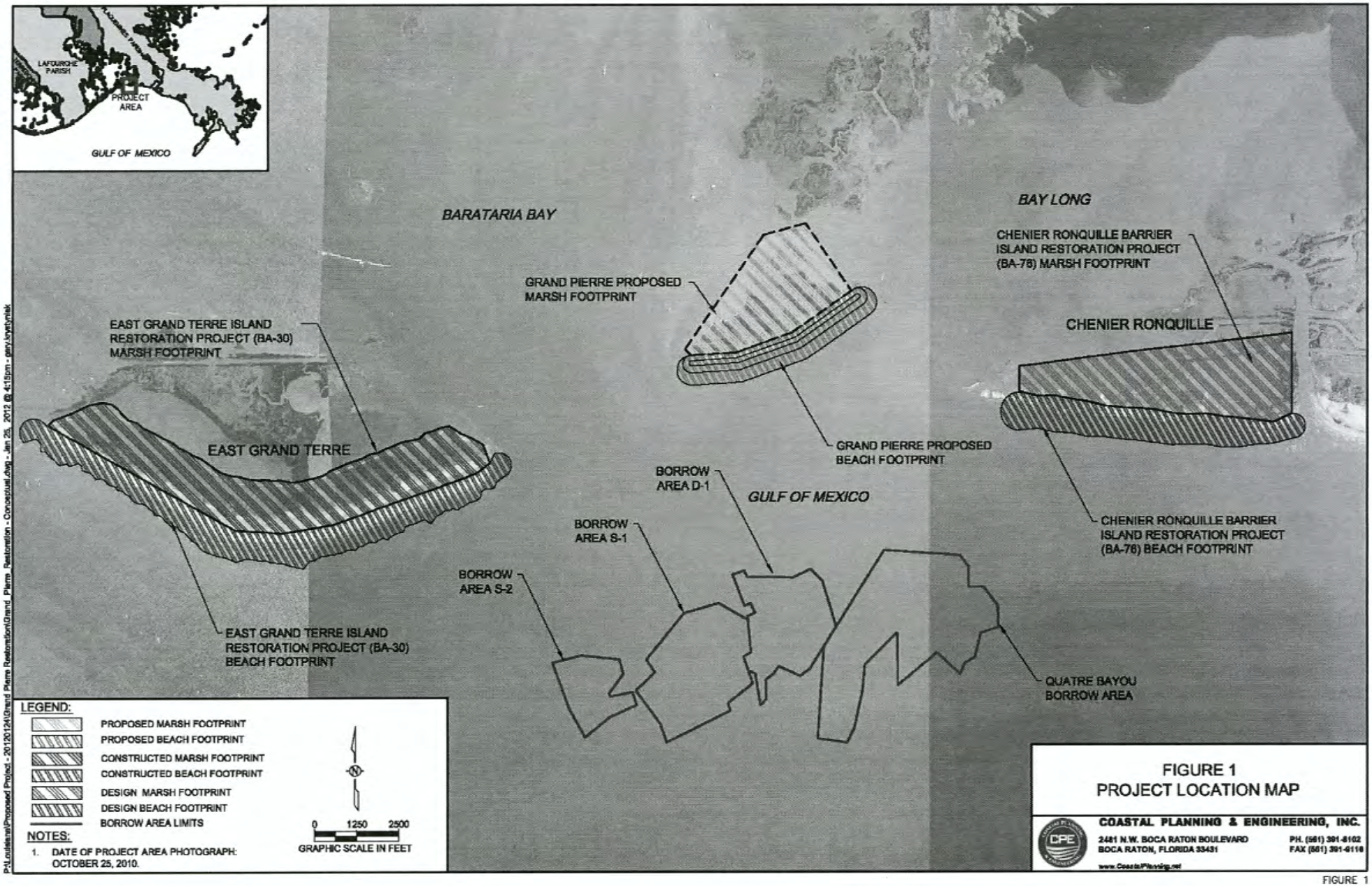
Whitney.thompson@shawgrp.com



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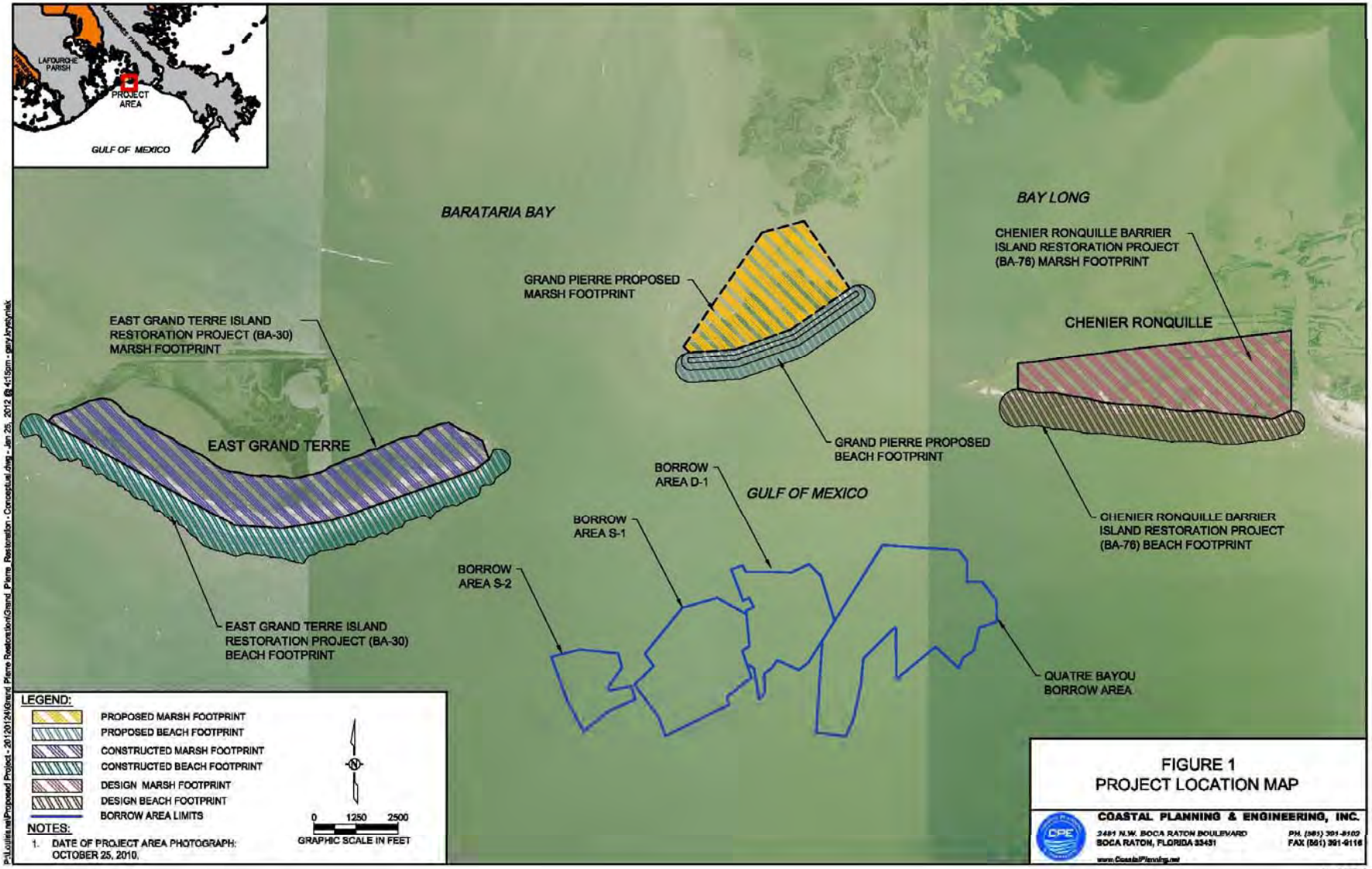
Grand Pierre Barrier Island Restoration

Prepared by:
Whitney C. Thompson, P.E.
Coastal Planning & Engineering, Inc.
A Shaw Group Company

January 26, 2012

Project Location

- Region 2, Barataria Basin, Plaquemines Parish
- Immediately east of East Grand Terre, approximately 8.5 miles northeast of Grand Isle

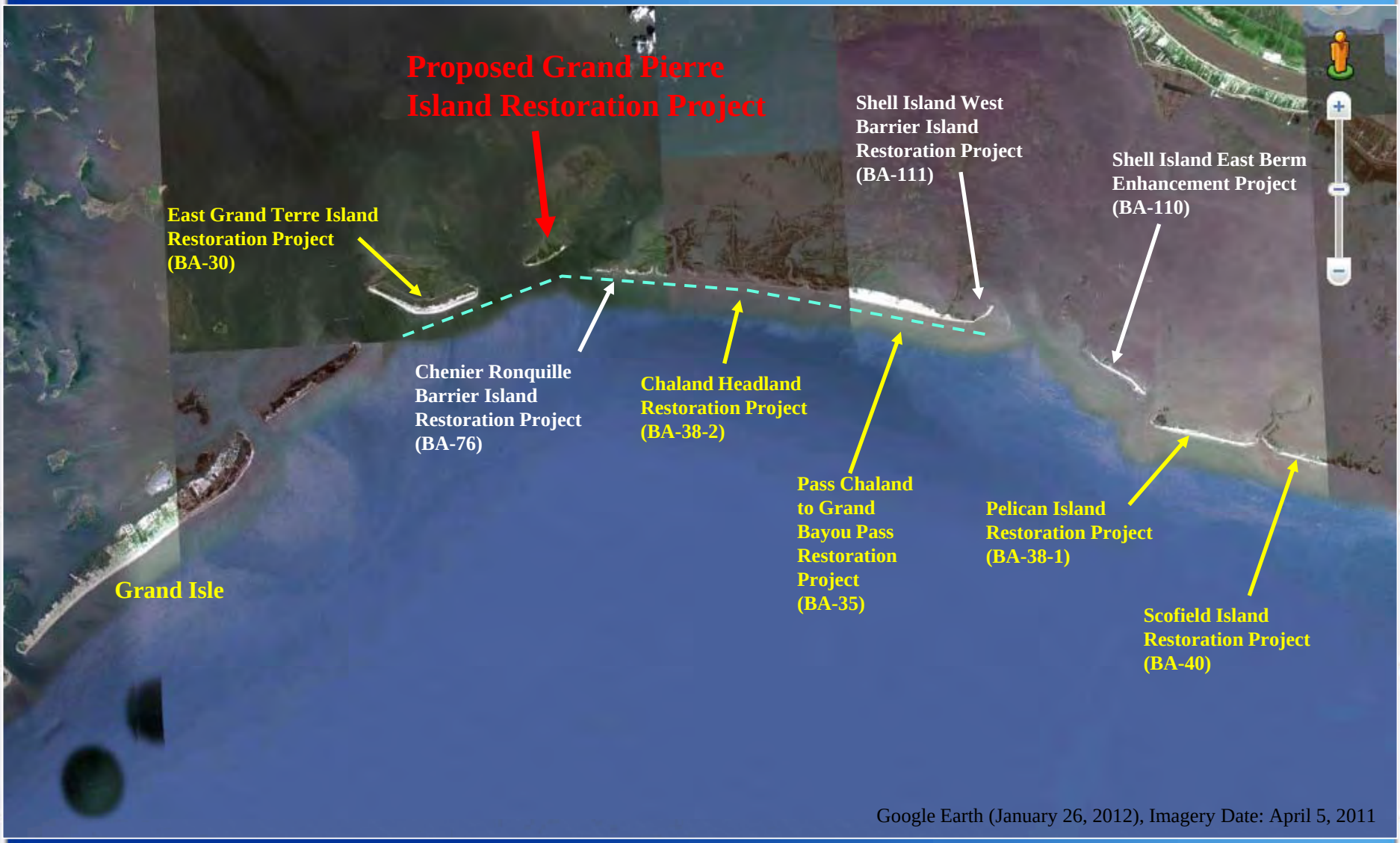

LAFOURCHE PARISH
PROJECT AREA
GULF OF MEXICO
BARATARIA BAY
BAY LONG
CHENIER RONQUILLE BARRIER ISLAND RESTORATION PROJECT (BA-76) MARSH FOOTPRINT
GRAND PIERRE PROPOSED MARSH FOOTPRINT
CHENIER RONQUILLE
EAST GRAND TERRE ISLAND RESTORATION PROJECT (BA-30) MARSH FOOTPRINT
EAST GRAND TERRE
GRAND PIERRE PROPOSED BEACH FOOTPRINT
BORROW AREA D-1
GULF OF MEXICO
BORROW AREA S-1
BORROW AREA S-2
CHENIER RONQUILLE BARRIER ISLAND RESTORATION PROJECT (BA-76) BEACH FOOTPRINT
EAST GRAND TERRE ISLAND RESTORATION PROJECT (BA-30) BEACH FOOTPRINT
QUATRE BAYOU BORROW AREA
LEGEND:
PROPOSED MARSH FOOTPRINT
PROPOSED BEACH FOOTPRINT
CONSTRUCTED MARSH FOOTPRINT
CONSTRUCTED BEACH FOOTPRINT
DESIGN MARSH FOOTPRINT
DESIGN BEACH FOOTPRINT
BORROW AREA LIMITS
NOTES:
1. DATE OF PROJECT AREA PHOTOGRAPH: OCTOBER 25, 2010.
N
0 1250 2500
GRAPHIC SCALE IN FEET
FIGURE 1
PROJECT LOCATION MAP
COASTAL PLANNING & ENGINEERING, INC.
2481 N.W. BOCA RATON BOULEVARD
BOCA RATON, FLORIDA 33431
PH. (561) 391-5102
FAX (561) 391-9116
www.CoastalPlanning.net
FIGURE 1

Problem

- High shoreline retreat rates
- Missing link in over 14 miles of barrier island complex

Proposed Solution

- Complete barrier island complex
  - Create 127 acres of beach/dune habitat
  - Enhance 229 acres of marsh
- Compliment federal and state funding that has been invested in the area
  - Grand Isle
  - East Grand Terre
  - Chaland Headland
  - Pass Chaland to Grand Bayou



Google Earth (January 26, 2012), Imagery Date: April 5, 2011

Construction Cost Estimate

Description	Quantity	Type	Unit Price*	Cost
Mob/Demobilization	1	LS	$2,944,000.00	$2,944,000.00
Beach Fill	550,000	CY	$9.50	$5,225,000.00
Marsh Fill	900,000	CY	$5.75	$5,175,000.00
Primary Dikes	8,400	LF	$75.00	$630,000.00
Settlement Plates	8	UNIT	$3,500.00	$28,000.00
Sand Fencing	5,900	LF	$16.50	$97,350.00
Pre-Construction	1	LS	$150,000.00	$150,000.00
As-Built Survey	1	LS	$125,000.00	$125,000.00
Vegetative Planting	238	Ac	$2,100.00	$500,000.00
Subtotal (rounded)				$14,874,350.00
25% Contingency				$3,718,650.00
Construction Total (include 25% contingency)				**$18,593,000.00**

*Unit prices obtained from Chenier Ronquille 95% design report, Appendix G

Fully Funded Cost Estimate

Item	Cost
Construction Total (include 25% contingency)	$18,593,000.00
Engineering & Design, Design Surveys, WVA, CR & NEPA	$1,300,000.00
Construction Management	$600,000.00
Project Management (State & Federal)	$600,000.00
Monitoring	$100,000.00
Oyster Leases*	$100,000.00
Land Rights	$20,000.00
Fully Funded Cost (rounded)	**$21,313,000.00**

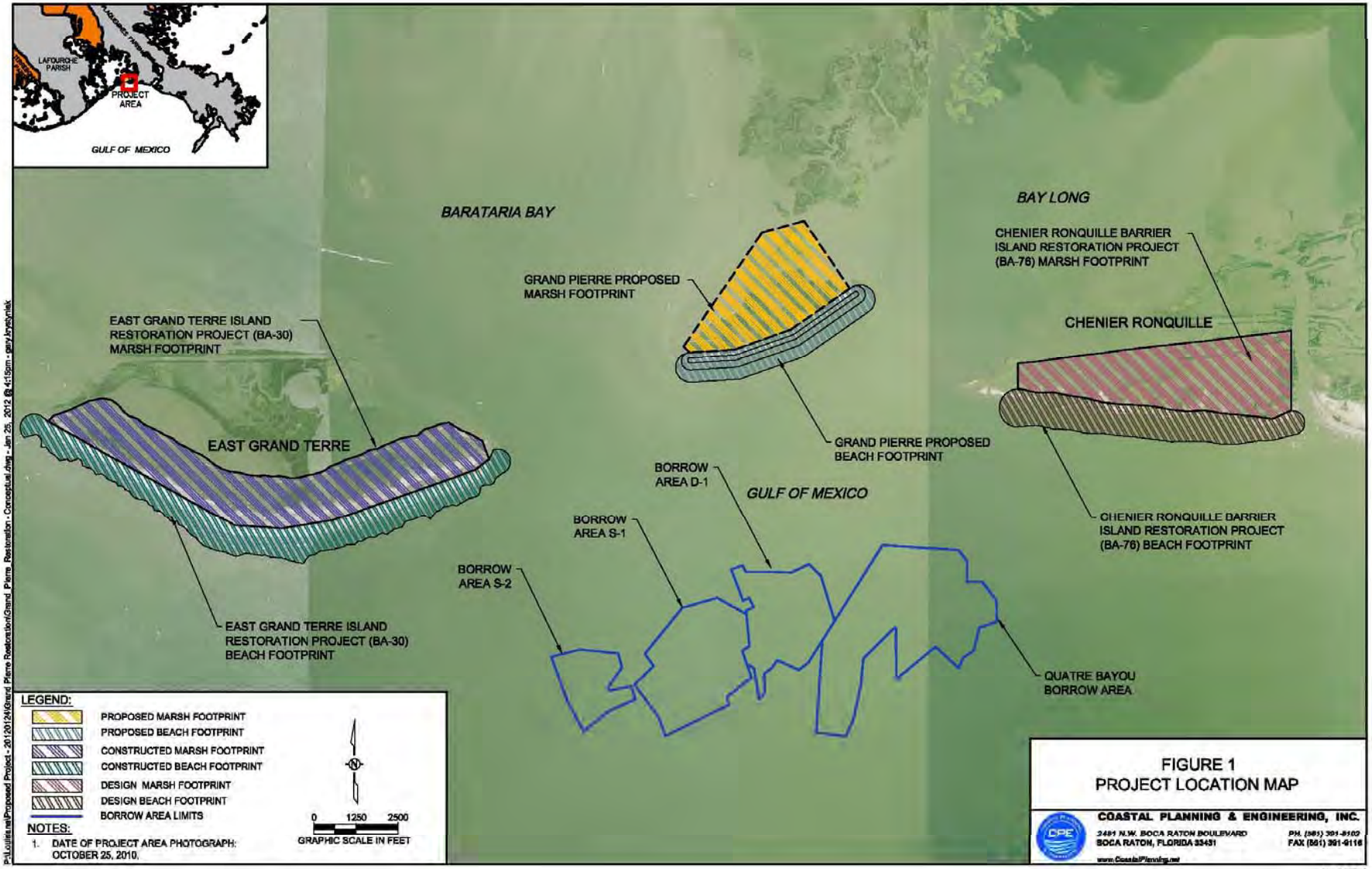
*Minimal oyster lease acquisition would be required.

Summary

- Create 127 acres of beach/dune habitat and reintroduce sediment into the sand deprived littoral system
- Enhance 229 acres of marsh to provide habitat and nurseries supporting fish and wildlife that inhabit the region
- Enhance the barrier island complex and create synergistic effects with the adjacent restoration efforts
- Existing near-shore borrow areas
- Construction cost = $14,875,000
- Fully funded cost = $21,313,000

Questions?

Whitney C. Thompson, P.E.
Coastal Planning & Engineering, Inc.
A Shaw Group Company
225-932-2568
Whitney.thompson@shawgrp.com


LAFOURCHE PARISH
PROJECT AREA
GULF OF MEXICO
BARATARIA BAY
BAY LONG
CHENIER RONQUILLE BARRIER ISLAND RESTORATION PROJECT (BA-76) MARSH FOOTPRINT
GRAND PIERRE PROPOSED MARSH FOOTPRINT
CHENIER RONQUILLE
EAST GRAND TERRE ISLAND RESTORATION PROJECT (BA-30) MARSH FOOTPRINT
EAST GRAND TERRE
GRAND PIERRE PROPOSED BEACH FOOTPRINT
BORROW AREA D-1
GULF OF MEXICO
BORROW AREA S-1
BORROW AREA S-2
CHENIER RONQUILLE BARRIER ISLAND RESTORATION PROJECT (BA-76) BEACH FOOTPRINT
EAST GRAND TERRE ISLAND RESTORATION PROJECT (BA-30) BEACH FOOTPRINT
QUATRE BAYOU BORROW AREA
LEGEND:
PROPOSED MARSH FOOTPRINT
PROPOSED BEACH FOOTPRINT
CONSTRUCTED MARSH FOOTPRINT
CONSTRUCTED BEACH FOOTPRINT
DESIGN MARSH FOOTPRINT
DESIGN BEACH FOOTPRINT
BORROW AREA LIMITS
NOTES:
1. DATE OF PROJECT AREA PHOTOGRAPH: OCTOBER 25, 2010.
N
0 1250 2500
GRAPHIC SCALE IN FEET
FIGURE 1
PROJECT LOCATION MAP
COASTAL PLANNING & ENGINEERING, INC.
2481 N.W. BOCA RATON BOULEVARD
BOCA RATON, FLORIDA 33431
PH. (561) 391-5102
FAX (561) 391-9116
www.CoastalPlanning.net
FIGURE 1

Region 2 – BRETON SOUND BASIN

R2-BS-01

Wills Point Marsh Creation

R2-BS-01

PPL 22 PROJECT FACT SHEET
26 January 2012

Project Name
Wills Point Marsh Creation

Coast 2050 Strategy
Coastwide Strategy: Dedicated Dredging for Wetland Creation

Project Location
Region 2, Breton Sound Basin, Plaquemines Parish, east bank of Mississippi River, northeast of Wills Point and adjacent to local 40-Arpent levee.

Problem
The project area is mostly shallow water that appeared when marsh was lost between 1958 and 1974. Katrina caused some loss in the project area and extensive loss adjacent to it. The area lies between the natural ridge of Rive aux Chenes and Tigers Ridge. It is adjacent to the local 40-Arpent levee. Another hurricane could open the area more and impact the two natural ridges.

Proposed Project Features
Approximately 2.4 million CY of material would be mined from the Mississippi River from the point bar at Wills Point. It would be used to restore 630 acres of marsh near the Rive aux Chenes and Tigers Ridges.

Goals
1. Restore 630 acres of marsh (478 acres created/152 acres nourished)
2. Provide additional protection to the 40-Arpent levee
3. Provide additional protection to the natural ridges of Rive aux Chenes and Tigers Ridge.

Preliminary Project Benefits
1) What is the total acreage benefited both directly and indirectly?
478 acres of marsh would be created immediately, and 152 acres of marsh would nourished

2) How many acres of wetlands will be protected/created over the project life?
Applying the half of the 0.93 % per year loss rate from the Caernarvon Outfall LCA loss polygon to 478 acres created for 20 years shows 448 acres remaining after 20 years.

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

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.
Project protects 40-Arpent Levee, natural ridge of Rive aux Chenes and Tigers Ridge.

5) What is the net impact of the project on critical and non-critical infrastructure?
Project protects 40-Arpent levee, which could be critical to inhabitants of Bertrandville, Linwood, and Greenwood.

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

The project provides synergy with the White Ditch project to the south, which also protects Rive aux Chenes.

Identification of Potential Issues

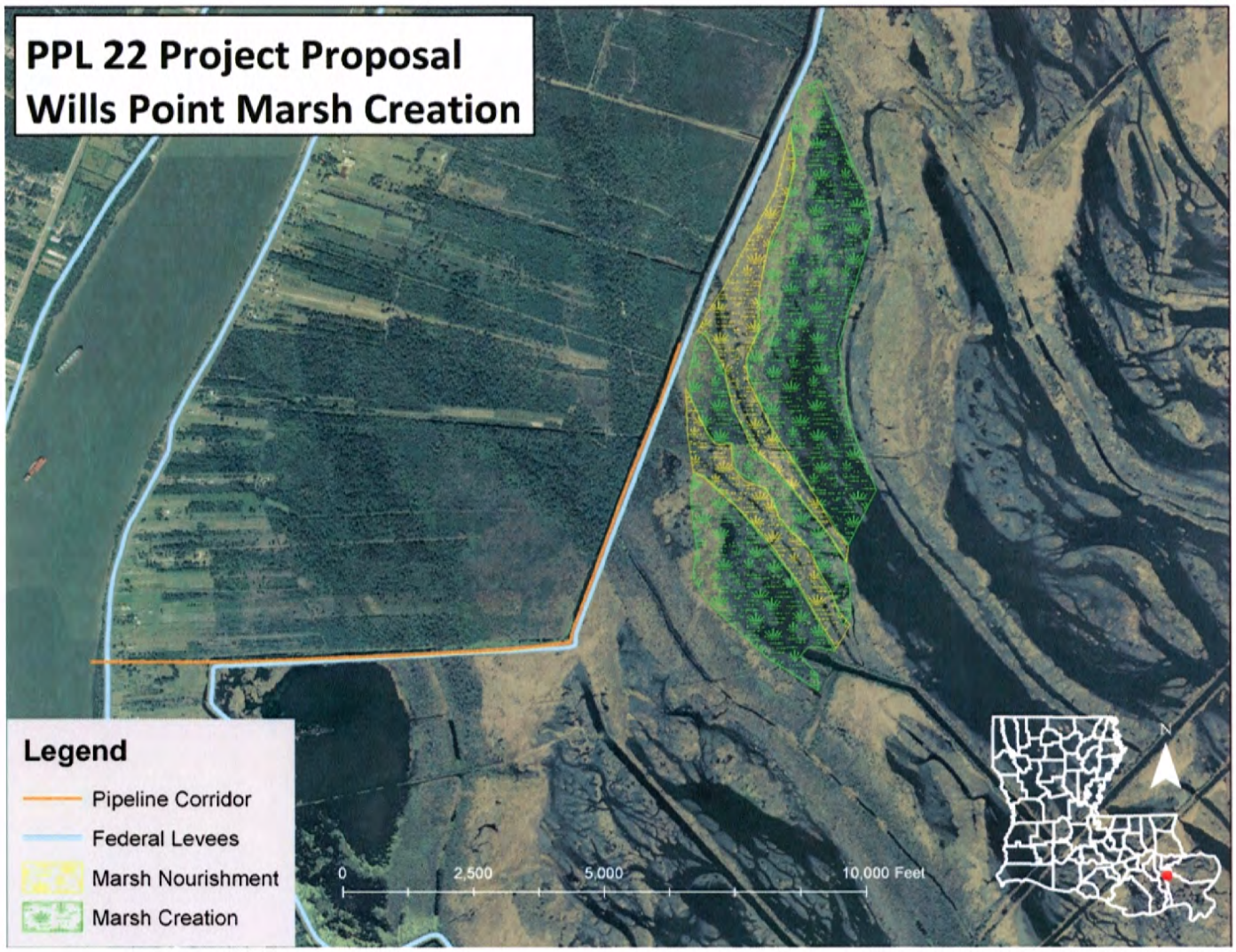
There are pipelines in the vicinity which could be a potential issue.

Preliminary Construction Costs

The estimated construction cost including 25% contingency is $26,000,000.

Preparers of Fact Sheet

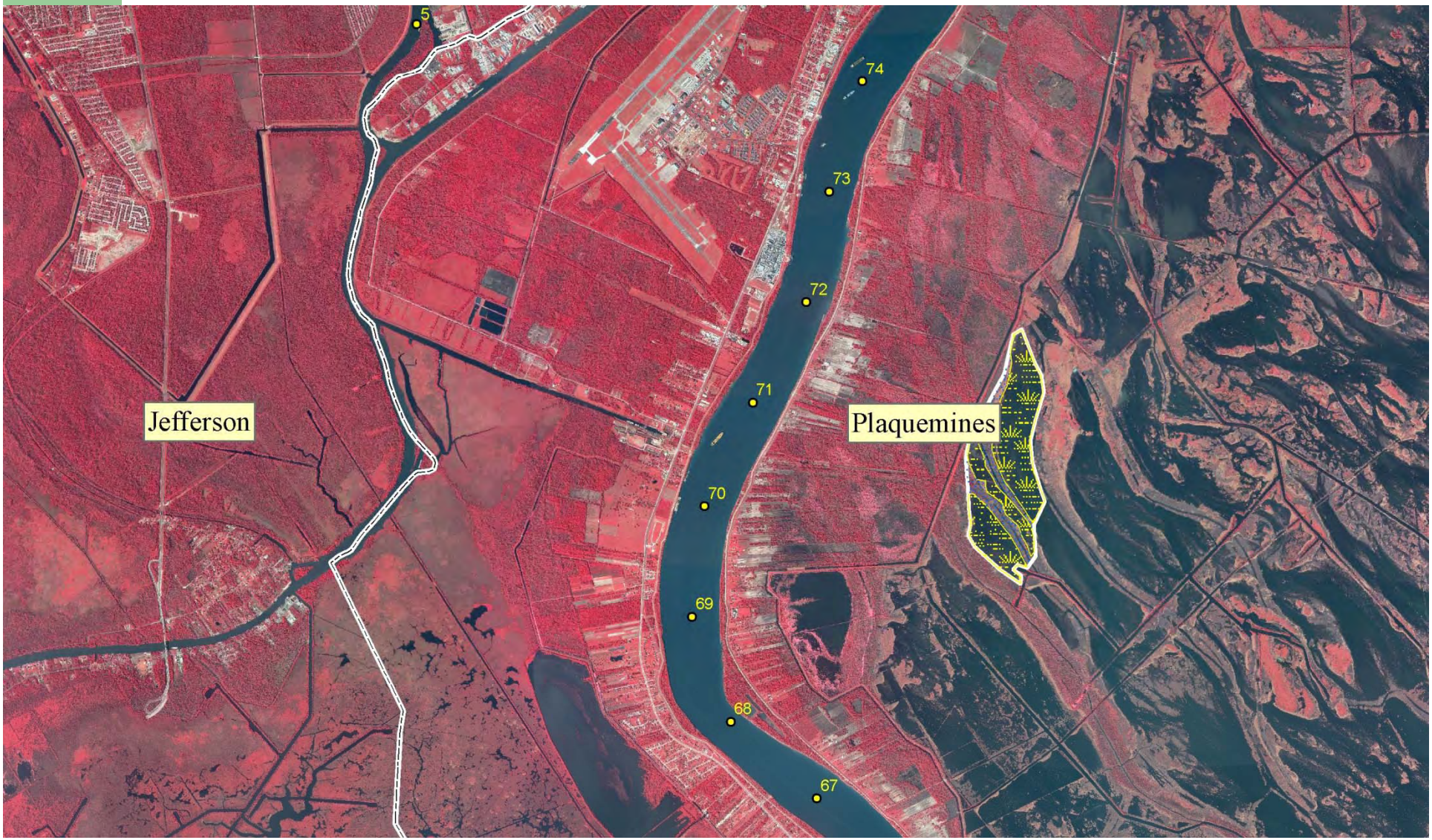
Scott Wandell, USACE, 504-862-1878 Scott.F.Wandell@usace.army.mil


PPL 22 Project Proposal
Wills Point Marsh Creation
Legend
Pipeline Corridor
Federal Levees
Marsh Nourishment
Marsh Creation
0
2,500
5,000
10,000 Feet
N

Wills Point Marsh Creation

PPL 22
Region 2
Breton Sound Basin

Project Area:

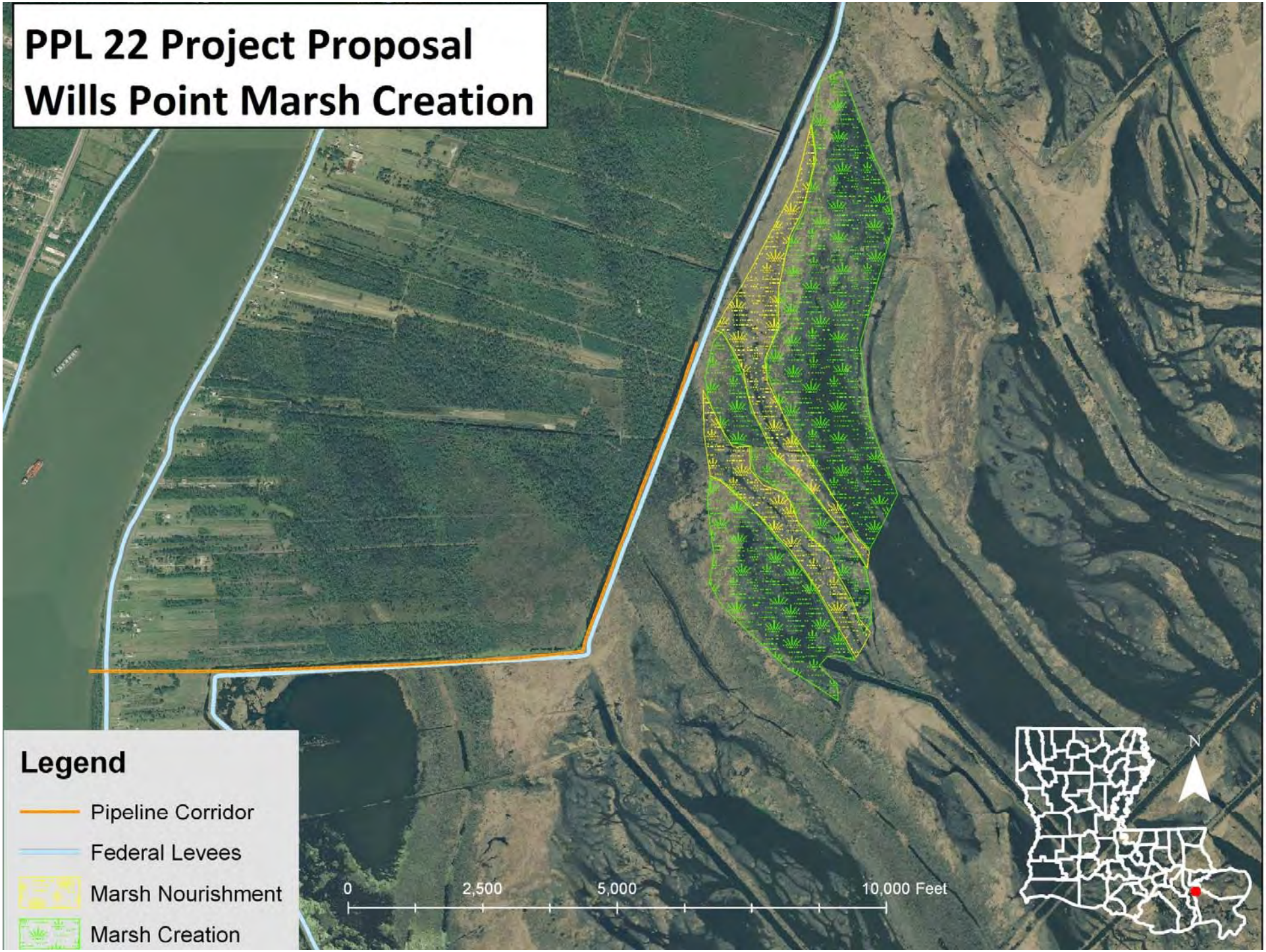


Problem:

- The project area is mostly shallow water that appeared when marsh was lost between 1958 and 1974.
- Katrina caused additional loss in the project area.
- The location is adjacent to the back levee behind the communities of Bertrandville, Greenville, and Linwood.

Proposed Project Features:

- Restore 630 acres of marsh (478 acres created/152 acres nourished)
- Approximately 2.4 million CY of material would be mined from the Mississippi River
- The existing canals and ridges would be used to contain the dredge material.
- Containment Dikes would be used on the southeast side of the marsh creation cell.


PPL 22 Project Proposal
Wills Point Marsh Creation
Legend
Pipeline Corridor
Federal Levees
Marsh Nourishment
Marsh Creation
0
2,500
5,000
10,000 Feet
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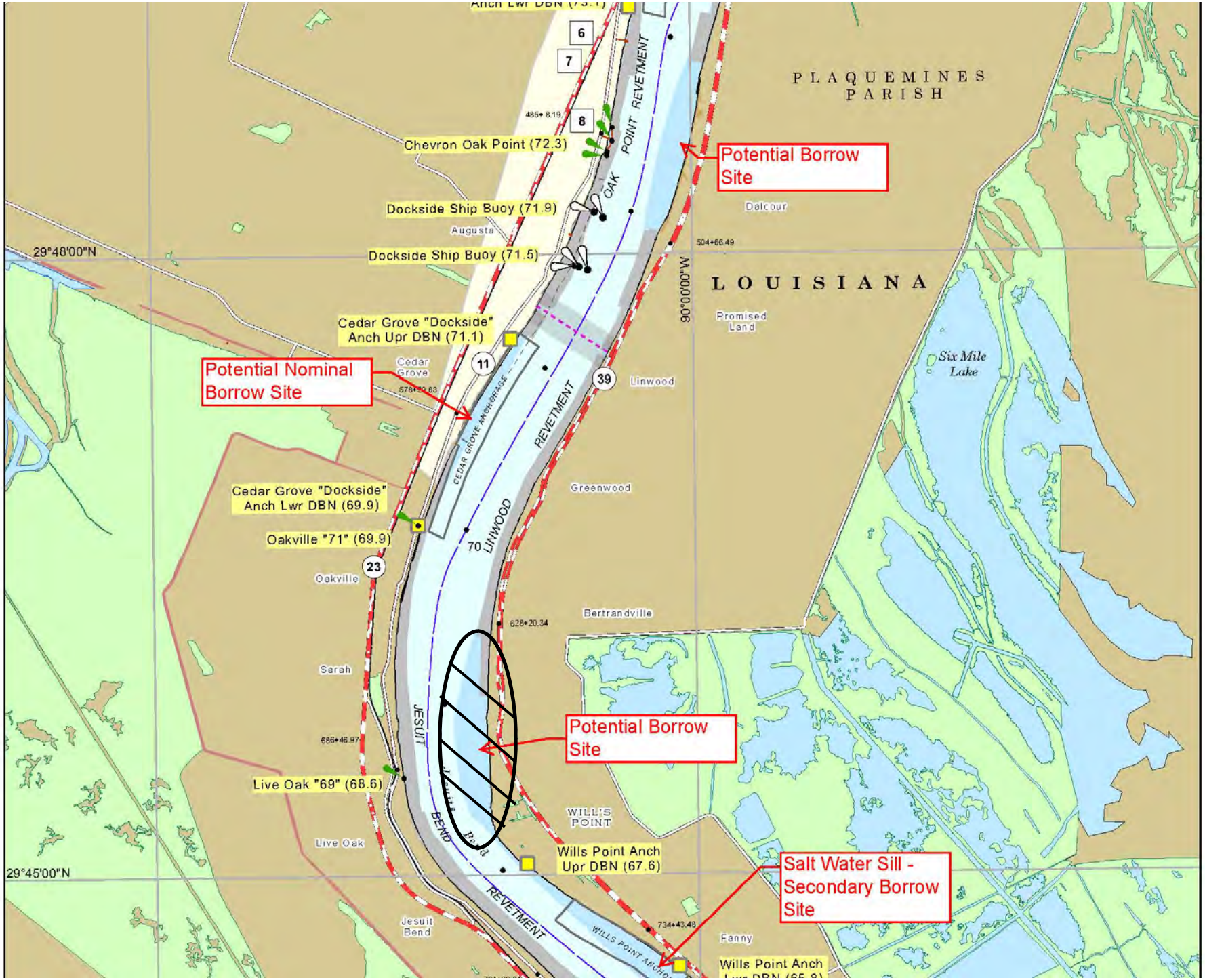

PLAQUEMINES PARISH
LOUISIANA
Potential Borrow Site
Chevron Oak Point (72.3)
Dockside Ship Buoy (71.9)
Dockside Ship Buoy (71.5)
Cedar Grove "Dockside" Anch Upr DBN (71.1)
Potential Nominal Borrow Site
Cedar Grove "Dockside" Anch Lwr DBN (69.9)
Oakville "71" (69.9)
Live Oak "69" (68.6)
Potential Borrow Site
Wills Point Anch Upr DBN (67.6)
Salt Water Sill - Secondary Borrow Site
Wills Point Anch
OAK POINT REVETMENT
LINWOOD REVETMENT
JESUIT BEND REVETMENT
CEDAR GROVE ANCHORAGE
WILLS POINT ANCHO
Augusta
Dalcour
Promised Land
Linwood
Greenwood
Bertrandville
Cedar Grove
Oakville
Sarah
Live Oak
Jesuit Bend
Fanny
Six Mile Lake
29°48'00"N
29°45'00"N
90°00'00"W

Preliminary Project Benefits:

- Create 478 acres of wetlands
- Nourish 152 acres of wetland
- Provide additional protection to the natural ridges of Rive aux Chene and Tigers Ridge.

R2-BS-02

White Ditch Marsh Creation

R2-BS-02

PPL22 White Ditch Marsh Creation Project
January 26, 2012

Coast 2050 Strategy:
Coastwide Common Strategies: Dedicated Dredging, to Create, Restore, or Protect Wetlands; Off-shore and Riverine Sand and Sediment Resources.
Region 2 Regional Ecosystem Strategies: Restore and Sustain Marshes.

Project Location:
Region 2, Breton Sound Basin, Plaquemines Parish, South of the White Ditch Siphon canal.

Problem:
The project area is a nearly-rectangular open water body immediately adjacent to the east bank of the Mississippi River levee. The area is a failed former agricultural impoundment that has also been cut off from the Mississippi River effectively eliminating any input of sediment or nutrients from the River. Surrounding marshes have changed from fresh marsh and possibly swamp, to brackish marsh over time, due to the elimination of freshwater inputs from the Mississippi River. High levels of subsidence (2.1 to 3.5 ft/century) have further exacerbated land loss and have increased water depths. The project area encompasses 380 acres. Within the project area, 23 acres were marsh, 4 acres were floating vegetation and the remaining 353 acres were open water as of 2011. Land loss rates in the area are estimated at -0.79% per year between 1984 and 2011.

Goals:
The primary goal of this project is to create/nourish emergent intermediate marsh habitat using dedicated dredged sediment from the Mississippi River. Specific project goals include (1) creating 357 acres of marsh habitat, (2) nourishing 23 acres of existing marsh habitat, and (3) creating approximately 9,500 linear feet of tidal creeks.

Proposed Solution:
Hydraulically dredge and place approximately 2 million cubic yards of dedicated dredged sediments from the Mississippi River to create 357 acres of marsh habitat, nourish 23 acres of existing marsh habitat, create approximately 9,500 linear feet of tidal creeks, and plant 50% of the created marsh area using the appropriate intermediate species. The project would complement the White Ditch Resurrection and Outfall Management project (BS-12) intended to provide increased freshwater inputs through the existing siphon at White Ditch. Freshwater input would work synergistically to help sustain the marsh created via sediment delivery from the Mississippi River.

Project Benefits:
The project would result in approximately 331 net acres of intermediate marsh over the 20-year project life.

Project Costs:
The preliminary construction cost plus 25% is $23.9 Million.

Preparer of Fact Sheet:
Paul Kaspar, EPA (214) 665-7459; kaspar.paul@epa.gov

artment of Natural Resources

0 0.54mi

White Ditch Marsh Creation

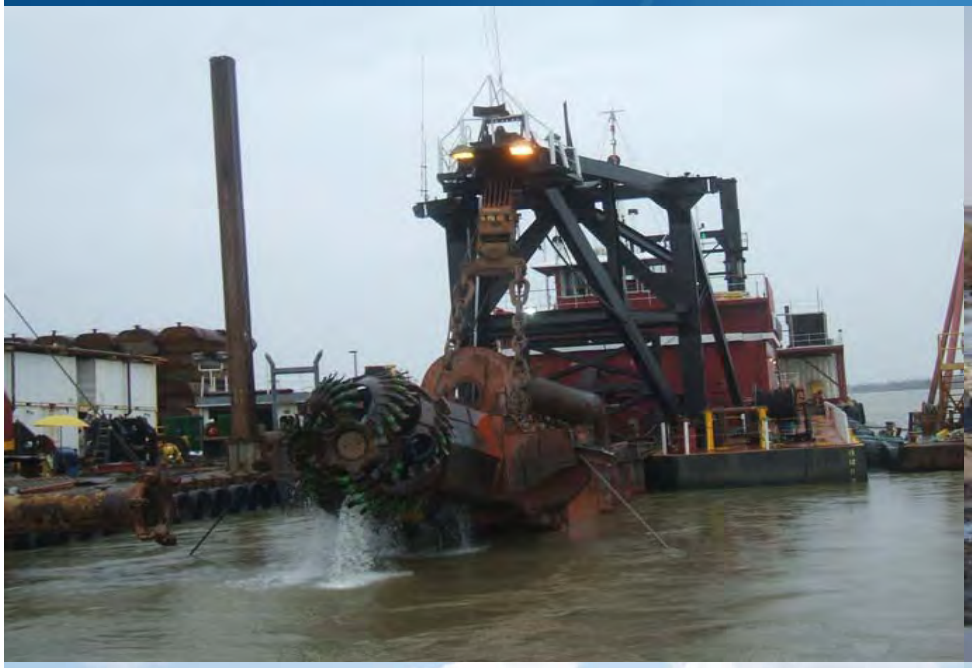
Coastal Wetlands Planning, Protection and Restoration Act

White Ditch Marsh Creation

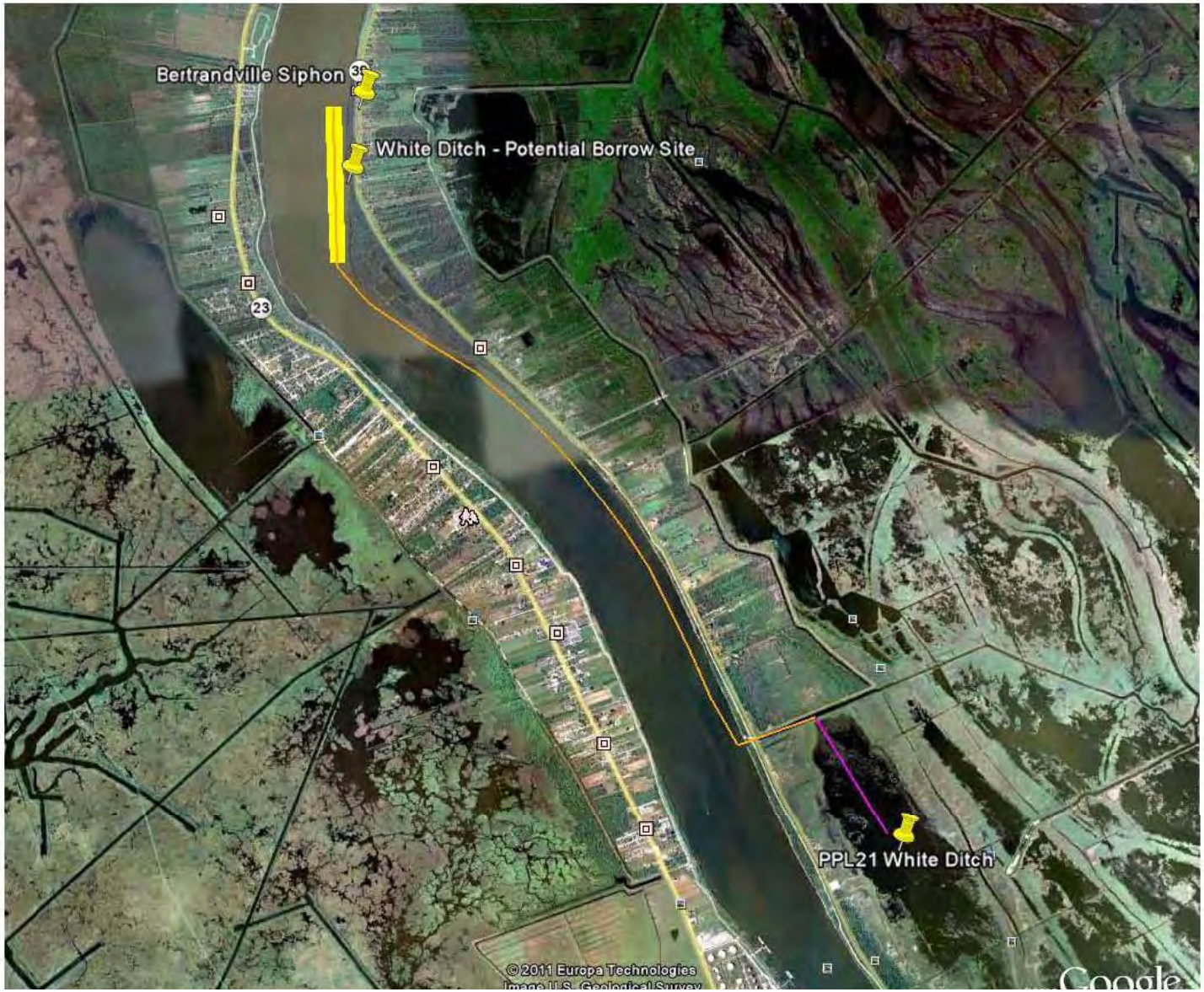
artment of Natural Resources

0 0.54mi

White Ditch Marsh Creation



White Ditch Marsh Creation



White Ditch Marsh Creation

- Create/Nourish ~380 ac intermediate marsh
- Utilizes Renewable Sediment
- Incorporates tidal creeks, ponds & plantings
- Consistent with State Master Plan
- Protects local infrastructure
- Sustainability ➔ planned diversion outfalls
- Preliminary Construction plus 25% - $23.9M

White Ditch Marsh Creation

Questions?

Paul Kaspar
EPA Region 6
(214)665-7459
Kaspar.paul@epa.gov

Coastal Wetlands Planning, Protection and Restoration Act

R2-BS-03

Delacroix Marsh Restoration

R2-BS-03

PPL 22 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name:
Delacroix Marsh Restoration Project

Coast 2050 Strategy:
Coastwide Common Strategy: Dedicated dredging to create, restore, or protect coastal wetlands.

2007 State Masterplan Strategy:
Maintain & restore the Breton Sound marshes.

Project Location:
The project is located in Region 2, in the Breton Sound Basin. It is adjacent to and east of the Town of Delacroix and LA HWY 300.

Problem:
This mapping unit, which consisted of 15, 880 acres of marsh vegetation in 1932, lost about 3,260 acres of marsh by 1990. Significant loss of marsh continued after 1990, particularly during the past decade as the result of hurricane-related impacts, the most notable being Hurricane Katrina in 2005. The lack of wetlands adjacent to the Town of Delacroix, with its runoff and discharges, invariably contribute to lessened water quality. Loss of wetlands in the area has eliminated a natural protection buffer adjacent to the Delacroix community.

Goals:
The project goal is to restore approximately 500 acres of vegetated wetlands in a marsh area heavily damaged by Hurricane Katrina.

Proposed Solution/Project Features:
The project would utilize dedicated dredging from nearby Lake Lery to create approximately 468 acres of marsh. The project would incorporate existing features (e.g. LA HWY 300 embankment and canal/slip spoil banks) to maximize its utility and cost effectiveness. The dredge pipe would be jack and bored under LA HWY 300 or placed directly across the highway. If the latter alternative is used, a temporary ramp would be constructed to accommodate local traffic.

Preliminary Project Benefits:
The project would benefit approximately 500 acres of brackish marsh .

Preliminary Construction Costs:
The construction cost estimate is $17 M.including 25% contingency is 18.5 M.

Preparers of Fact Sheet:
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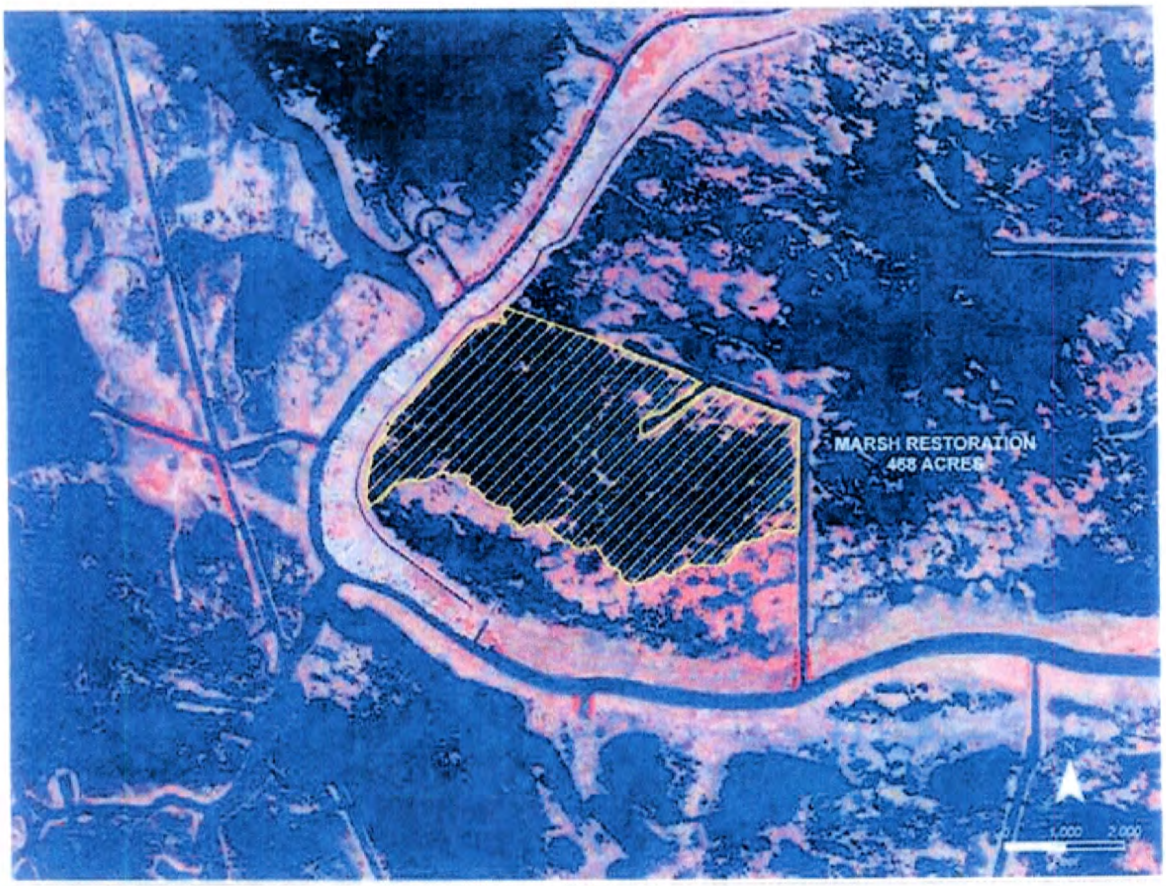
Gregory Miller, USACE, 504-862-2310, Gregory B. Miller@usace.army.mil

Breton Sound Basin

Delacroix Wetland Restoration Project

PPL-20 Project Nomination



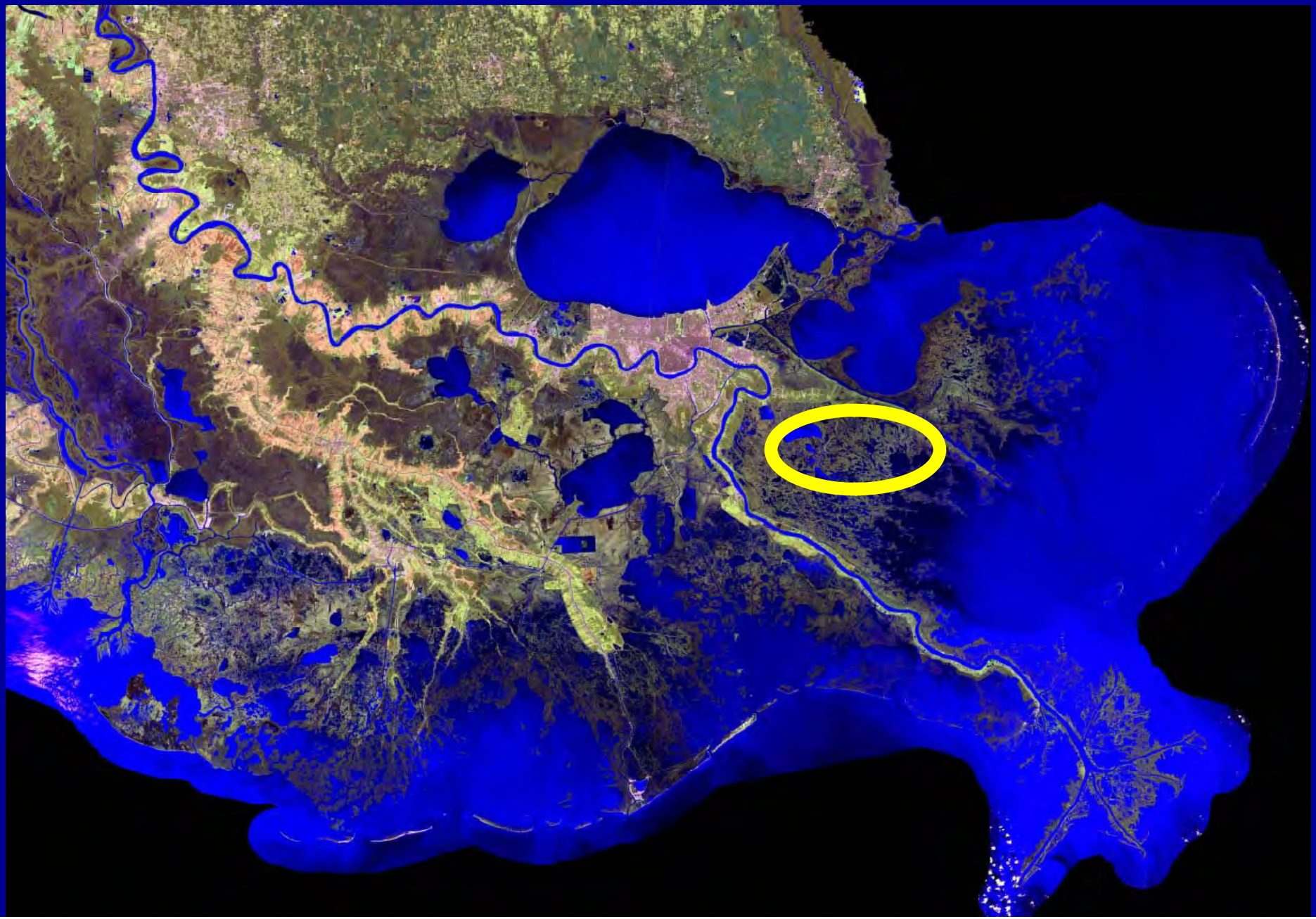
CWPPRA PPL22
Delacroix Marsh Restoration Project Nomination

Susan Hennington

January 2012

US Army Corps of Engineers®

Delacroix Wetland Restoration



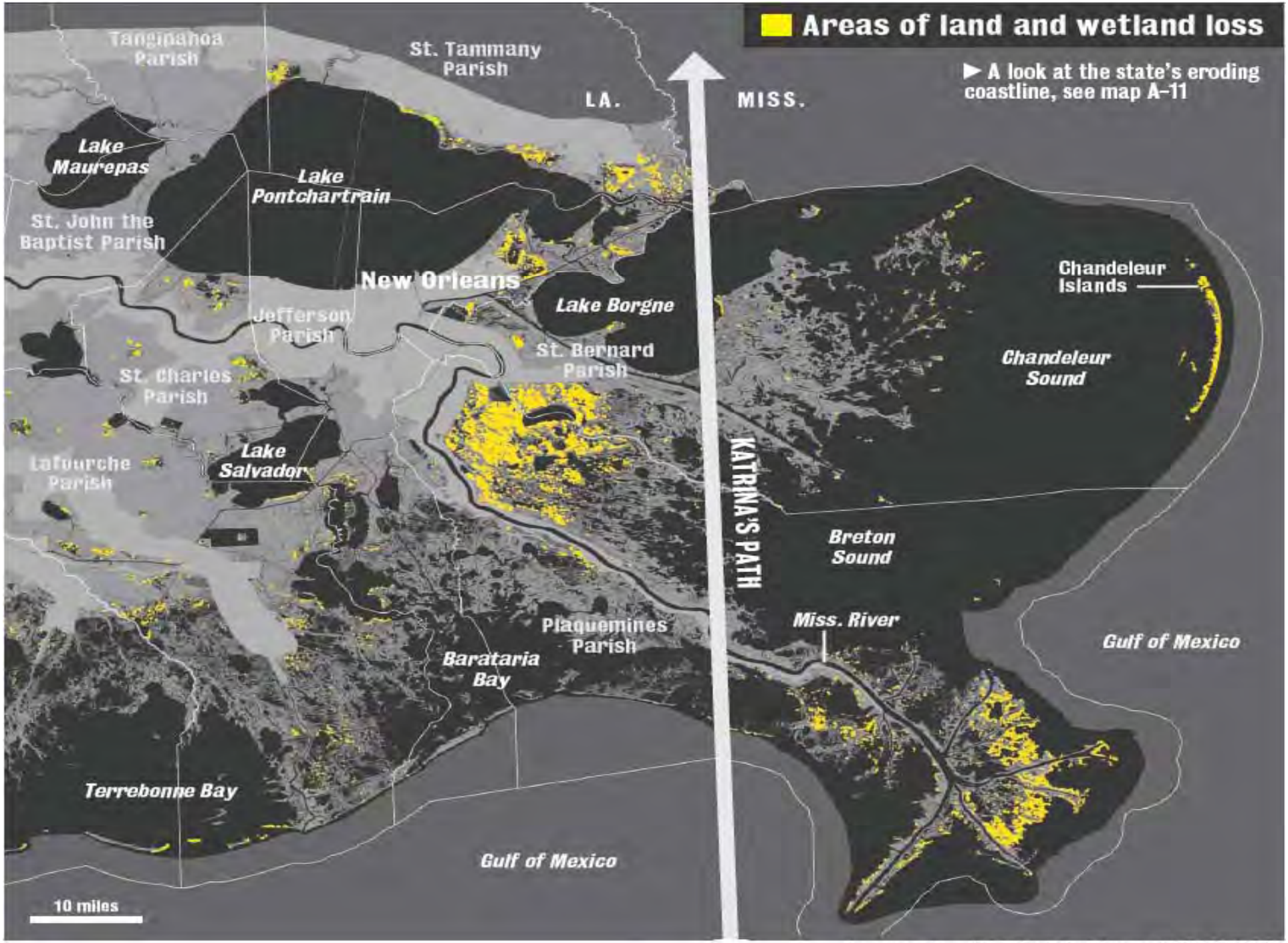
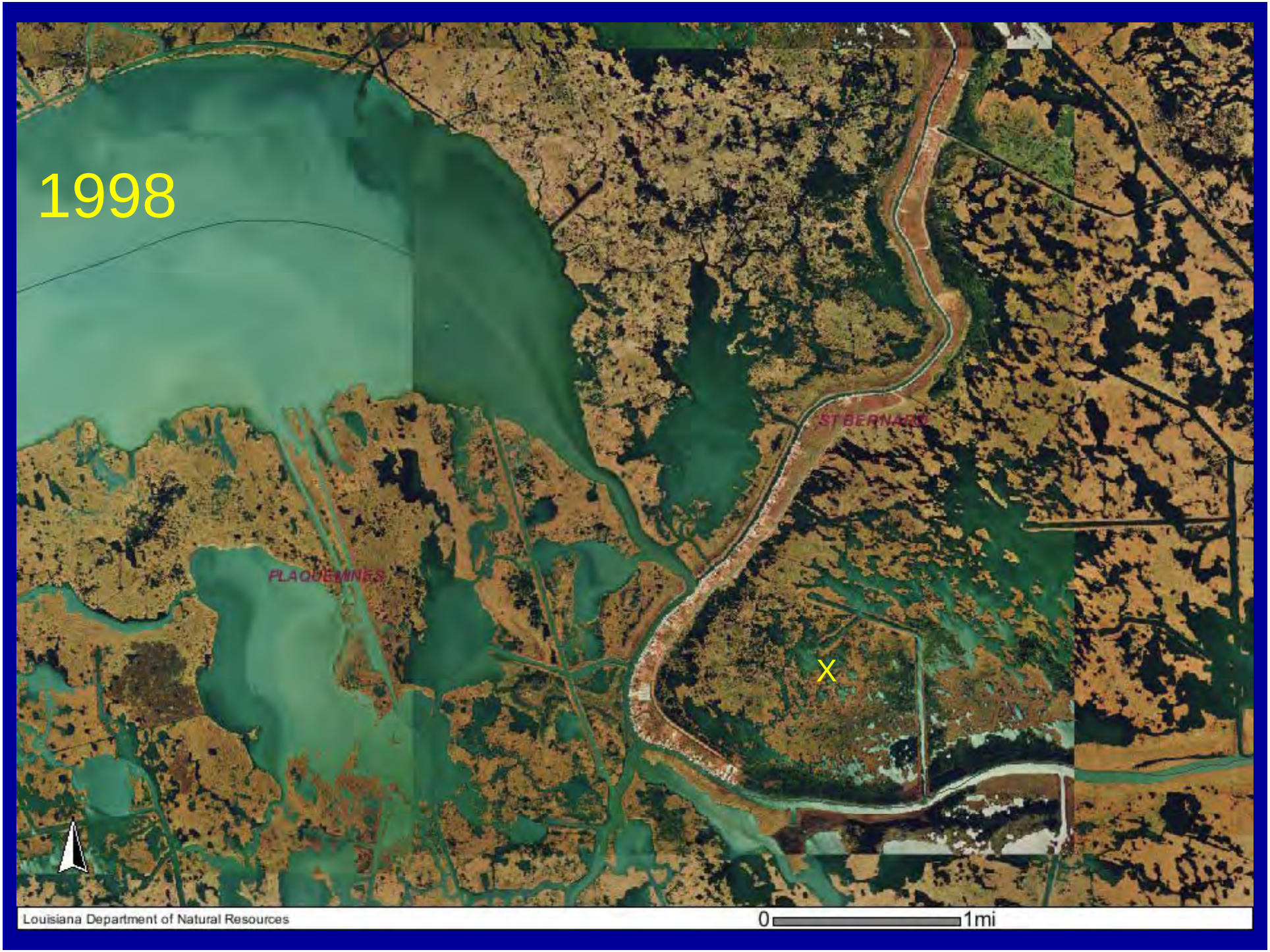


Image courtesy of U.S. Geological Survery/STAFF GRAPHIC


1998
PLAQUEMINES
ST BERNARD
X
Louisiana Department of Natural Resources
0
1mi

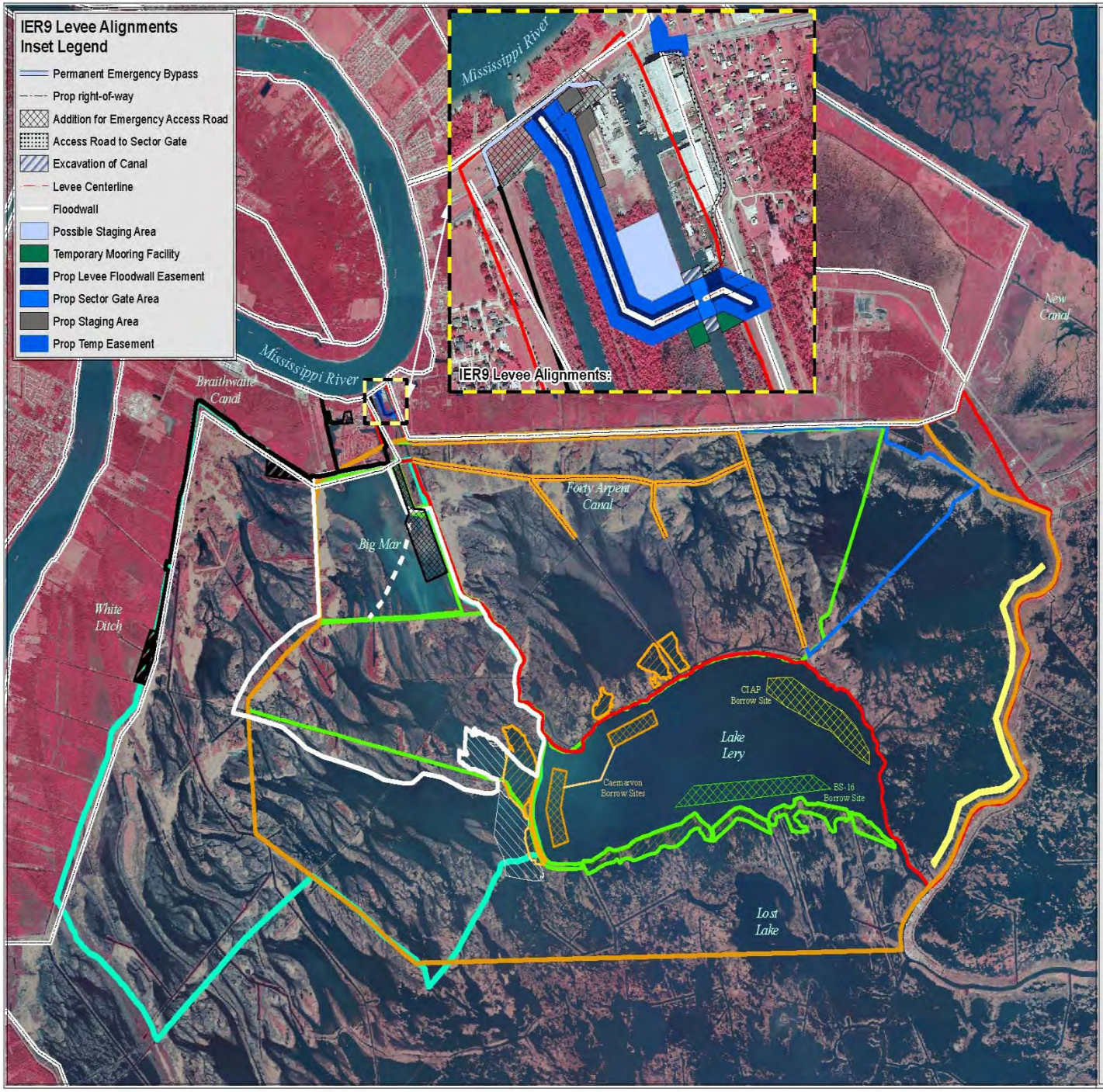
2004
ST BERNARD
PLAQUEMINES
X
Louisiana Department of Natural Resources
0
1mi

2008
ST BERNARD
X
Louisiana Department of Natural Resources
0
1mi

MARSH RESTORATION
468 ACRES
N
0
1,000
2,000
Feet

Proposed Project Features

- Containment for dredged material
- Hydraulic fill to create marsh elevation
- Vegetative plantings
- Containment dike gapping



Caernarvon Area Projects

- BS-03b Caernarvon Diversion Outfall
- BS-06 Lake Lery Hydrologic Restoration
- BS-03a Caernarvon Diversion Outfall Management
- BS-16 Caernarvon Outfall Mangement/Lake Lery Shoreline Restoration
- BS-16 Borrow Site

PPL19 Proposed Project:
Dedicated Sediment Delivery and Water Conveyance for Marsh Creation West of Big Mar

- Conveyance Channel
- Marsh Creation
- Project Boundary

Braithwaite Mitigation Project:

- Access Routes
- Mitigation Site
- Borrow Area

Caernarvon 4th Supplemental:

- Dredged Canals
- Shoreline Protection
- Borrow Sites
- Marsh Creation
- Project Boundary

CIAP: Lake Lery Marsh Creation - St. Bernard Parish:

- CIAP - Borrow Site
- CIAP - Marsh Creation

IER9 Levee Alignments:

(See Inset Area)

- MVN Levees

DRAFT

Kilometers: 0 0.5 1 2 3

Miles: 0 0.5 1 2 3

N

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La

Map ID: USGS-NWRC 2009-04-0062
Map Date: September 8, 2009

Supports Goals of Other Plans

- Coast 2050
- State of LA – 2007 CPRA Master Plan
- St. Bernard Parish

R2-BS-04

Terracing and Marsh Creation South of Big Mar

R2-BS-04

PPL22 PROJECT NOMINEE FACT SHEET

Project Name: Terracing and Marsh Creation South of Big Mar

Coast 2050 Strategy

- Coastwide: Dedicated dredging to create, restore, or protect wetlands
- Coastwide: Terracing
- Coastwide & Regional Ecosystem Strategy: Manage outfall of existing diversions

Project Location

Region 2, Breton Sound Basin, Plaquemines Parish, south of Big Mar and west of Lake Lery.

Problem

From 1932 to 1990, the Caernarvon Mapping Unit lost 14,240 acres of its marsh. Prior to Hurricane Katrina, the greatest lost documented occurred between 1956 and 1974 and coincided with Hurricane Betsy and extensive canal building. Hurricane Katrina devastated the area resulting in substantial marsh loss. According to USGS Open File Report (2006-1274), approximately 39 square miles of marsh around the upper and central portions of Breton Sound were converted to open water by ripping of the marsh or by marsh submergence.

Goals

The primary goal is to create terraces in the shallow open water areas within the Caernarvon Diversion outfall area. Terraces will reduce wave fetch in the large open water areas and promote conditions conducive to growth of marsh vegetation and submerged aquatic vegetation. Additional benefits may be achieved through capturing suspended sediments. Marsh creation is also proposed in the open water areas adjacent to the Lake Lery Shoreline Restoration Project (BS-16).

Proposed Project Features

1. Approximately 65,000 linear feet of terraces (60 acres) will be constructed with in-situ material to reduce fetch and turbidity and capture suspended sediment.
2. Sediments will be hydraulically dredged from Lake Lery and pumped via pipeline to create approximately 388 acres of marsh in the project area.

Preliminary Project Benefits

1) The total acreage benefited directly would be 448 acres (388 acres of marsh creation/nourishment and 60 acres of terraces). Indirect benefits would occur within the 4 terrace fields which encompass approximately 900 acres.
2) The total net acres protected/created over the project life would be between 400-500 acres.
3) Background loss rates would be reduced by 50% in the marsh creation and marsh nourishment areas.
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.? See # 6.
5) What is the net impact of the project on critical and non-critical infrastructure?
   None identified.
6) This project will work synergistically with the following projects to 1) maintain the integrity of Lake Lery, 2)provide storm surge benefits to areas to the north, 3) protect and enhance fish and wildlife resources for Breton Sound Basin, and 4) better utilize sediments and freshwater delivered by the Caernarvon Freshwater Diversion:

   - Caernarvon Freshwater Diversion Project,
   - Caernarvon Diversion Outfall Management (BS-03a), and,
   - Caernarvon Outfall Mangement/Lake Lery Shoreline Restoration (BS-16).

Identification of Potential Issues

There are no known potential issues to this project. The major landowner, Delacroix Corp., is fully aware of the project concept and has voiced their support. There are pipelines in the area which should be avoidable with no issue. There are no oyster leases.

Preliminary Construction Costs

Preliminary construction costs are estimated at $20.4 million, which includes 25% contingency.

Preparer of Fact Sheet

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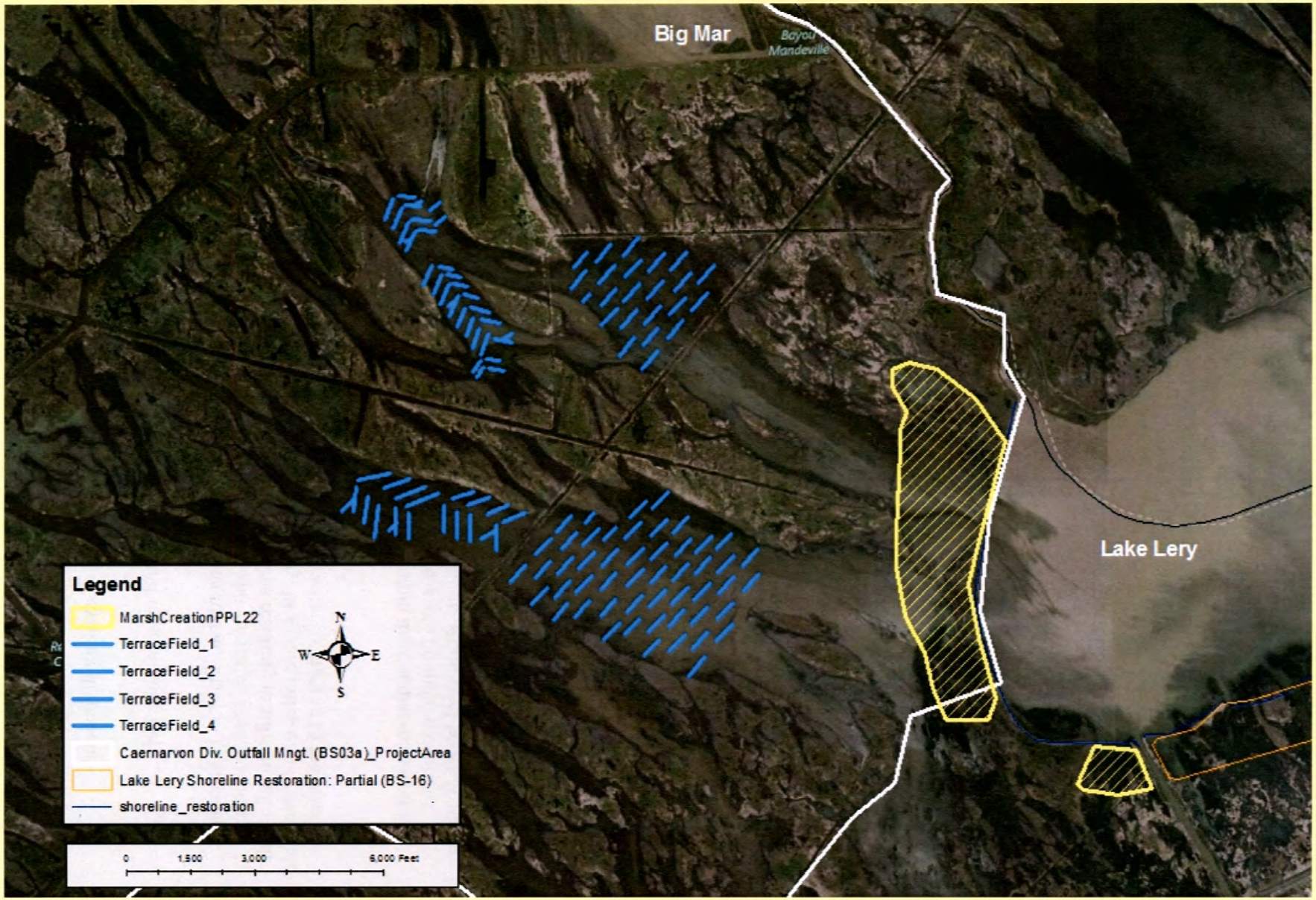
U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

Terracing and Marsh Creation South of Big Mar (PPL 22)



USFWS/ACT/ 20120113 Microsoft Virtual Earth

Terracing & Marsh Creation
South of Big Mar

PPL 22

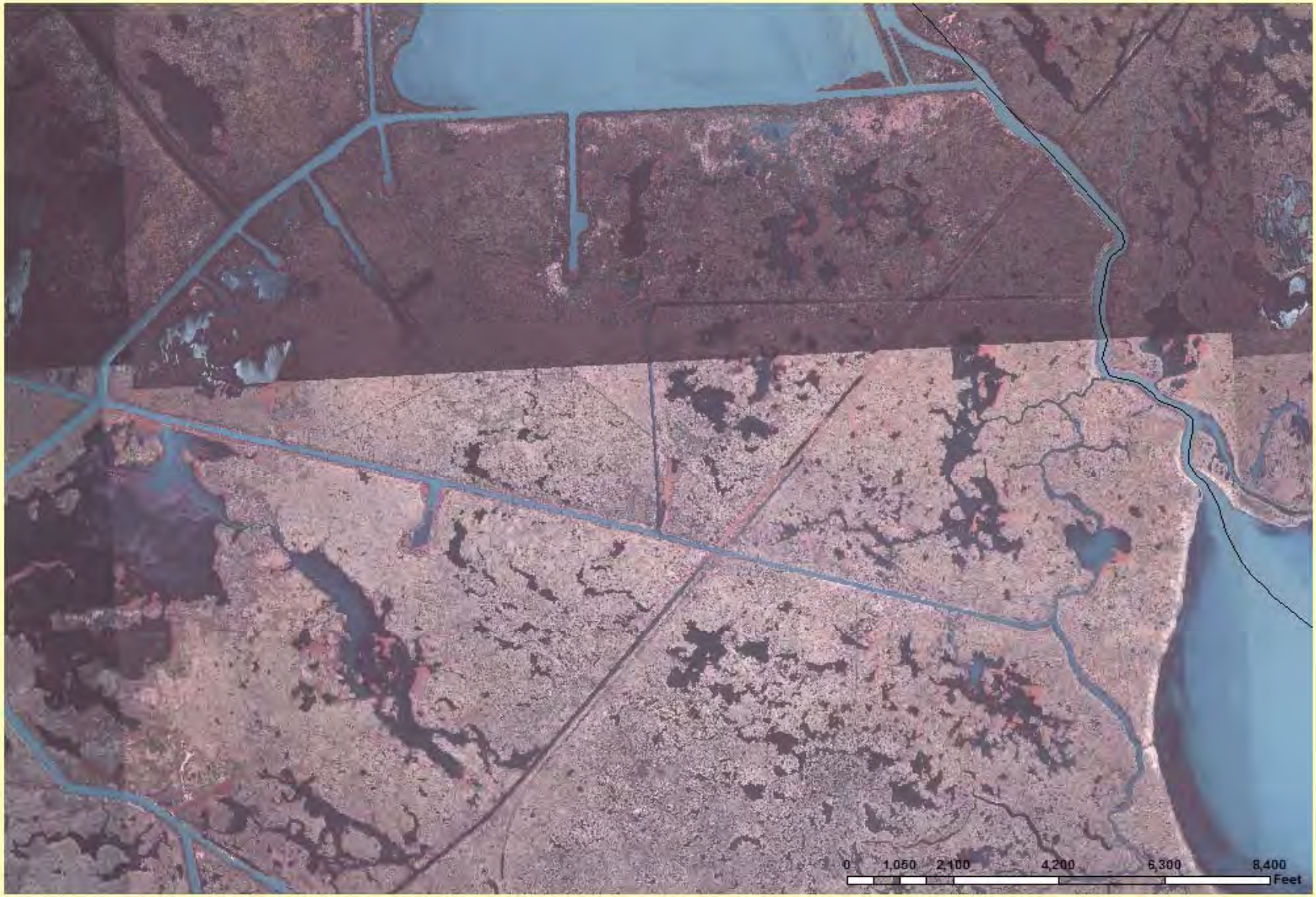
Region 2, Breton Sound Basin

U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

2004 DOQQ

Terracing and Marsh Creation South of Big Mar (PPL 21)



U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

2010 DOQQ

Terracing and Marsh Creation South of Big Mar (PPL 21)

U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

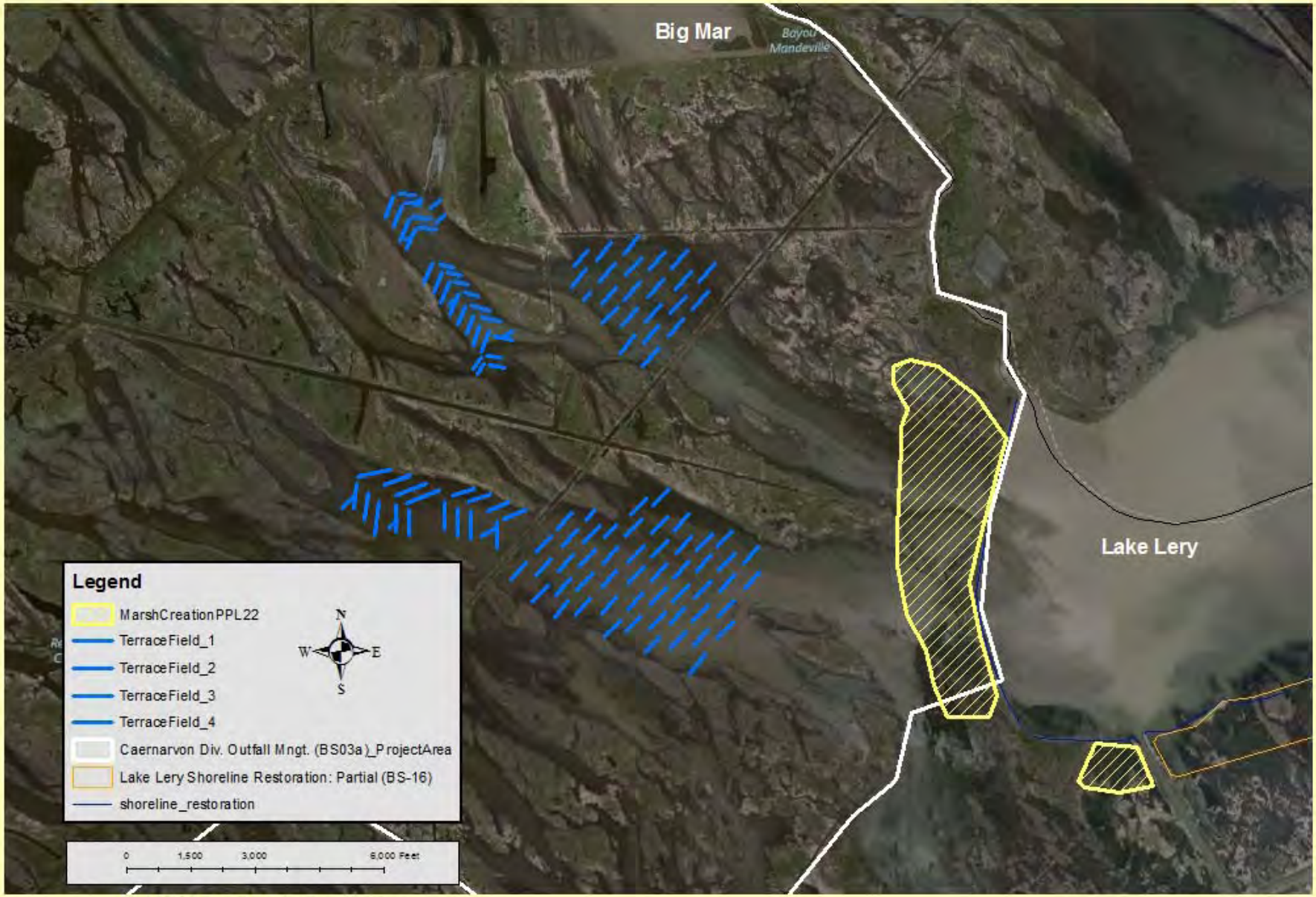
2010 DOQQ

Terracing and Marsh Creation South of Big Mar (PPL 21)

U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

Terracing and Marsh Creation South of Big Mar (PPL 22)



USFWS/ACT/ 20120113 Microsoft Virtual Earth

R2-BS-05

Monsecour Siphon

R2-BS-05

PPL22 Project Nominee Fact Sheet
January 26, 2012

Project Name
Monsecour Siphon

Coast 2050 Strategy
Coastwide Common Strategies:
11.) Diversions and river discharge
12.) Management of diversion outfall for wetland benefits
Region 2 Regional Ecosystem Strategies:
- Restore and Sustain Marshes
  8.) Construct most effective small diversions

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

Problem
This area has been disconnected from the Mississippi River since levees were constructed during the early 20th century. The lack of overbank flooding/crevasses ensures that wetlands here do not have sufficient sediment input to maintain elevation against subsidence. In addition, drainage canals and oil and gas canals and associated spoil banks probably create some undesirable impoundment and tidal scour/saltwater intrusion in the area. In addition to impoundment caused by canals and spoil banks, the area is probably somewhat naturally impounded due to natural ridges. Aerial photography clearly demonstrates the significant loss of marsh in this area.

Proposed Project Features
The proposed project features include a 2000 cfs maximum capacity siphon (estimated average flow=1145 cfs) from the Mississippi River that empties into the marsh. A conveyance channel will be constructed at the siphon outflow to aid in delivery of Mississippi River water. Additional features may be required to aid in the delivery and management of siphon discharge throughout the outfall area. Based on current information that was run through the Boustany model, this project will introduce, on average, 1145 cfs of water per day from the Mississippi River carrying 120 mg/L of Total Suspended Solids (TSS) and approximately 1.5 mg/L of nitrogen and phosphorus. Together, this should provide a 68% reduction in the landloss rate.

Goals/Benefits
The project goal is to protect approximately 990 ac of intermediate marsh by reducing wetland loss rates, in turn by reintroducing an average of 1,145 cfs, and a maximum of 2,000 cfs, of Mississippi River water into the project area to increase sediment and nutrient loading.

Project Costs
The preliminary construction cost plus 25% is $ 5.7 million.

Preparer(s) of Fact Sheet:
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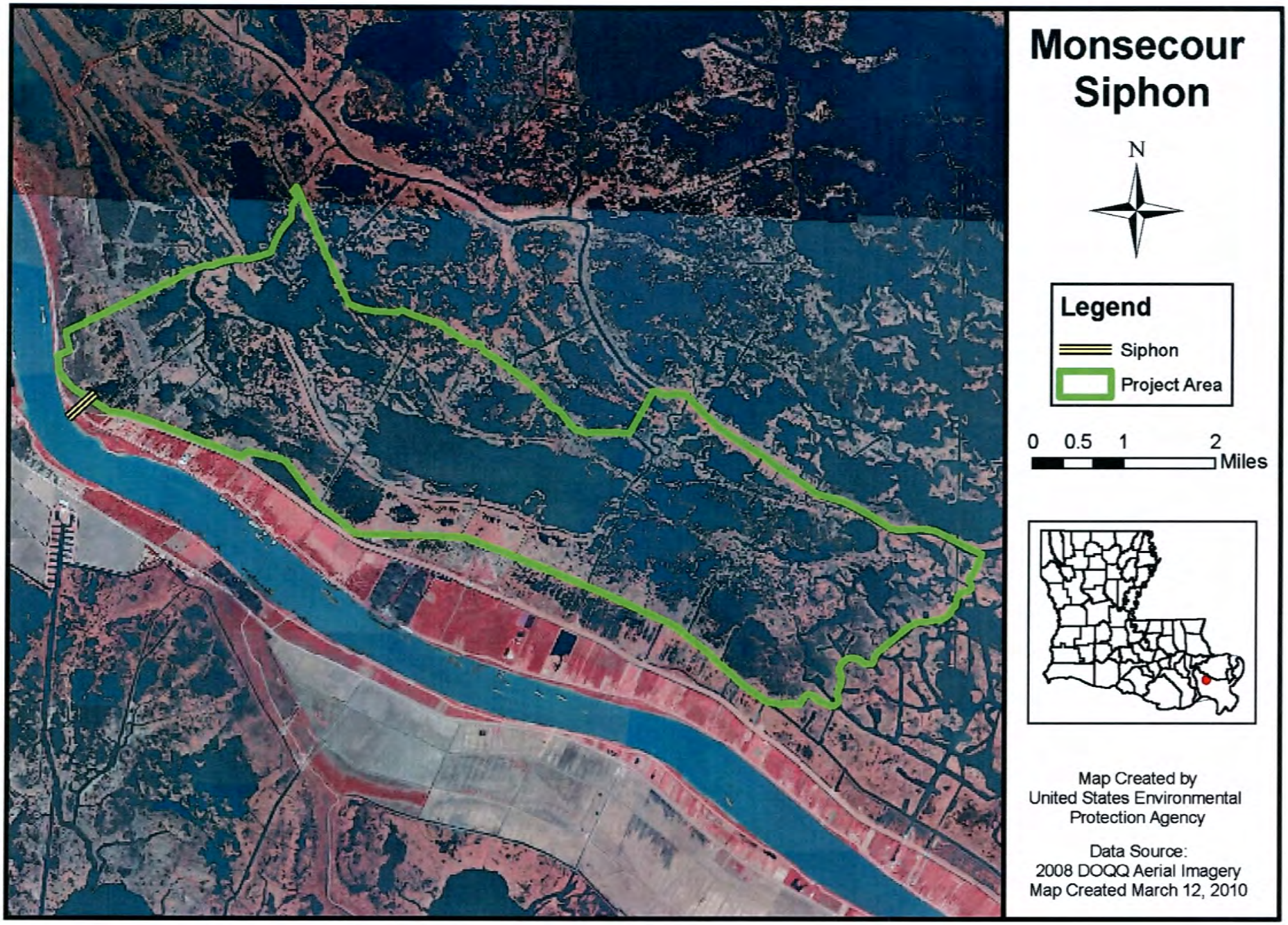
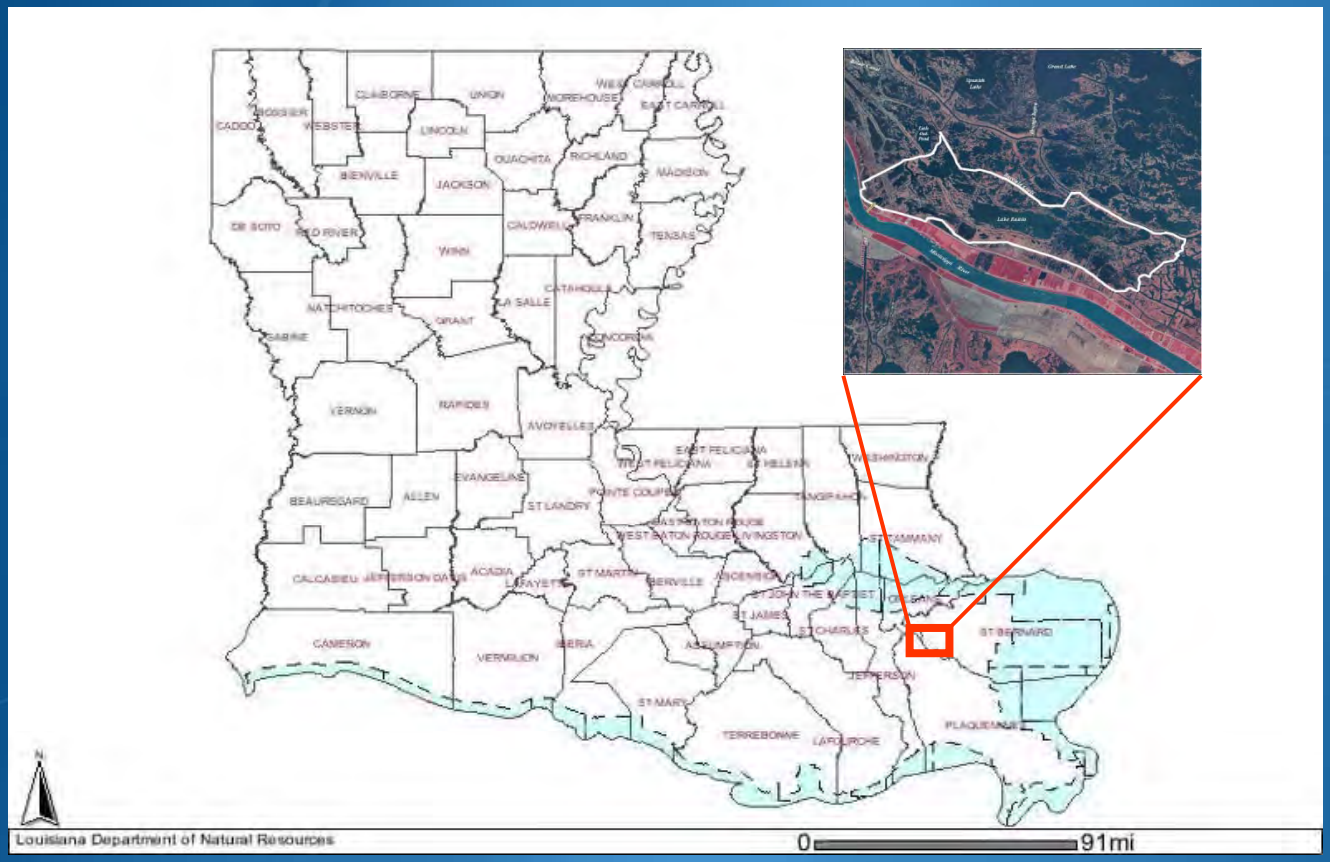
Paul Kaspar, EPA, (214) 665-7459; kaspar.paul@epa.gov

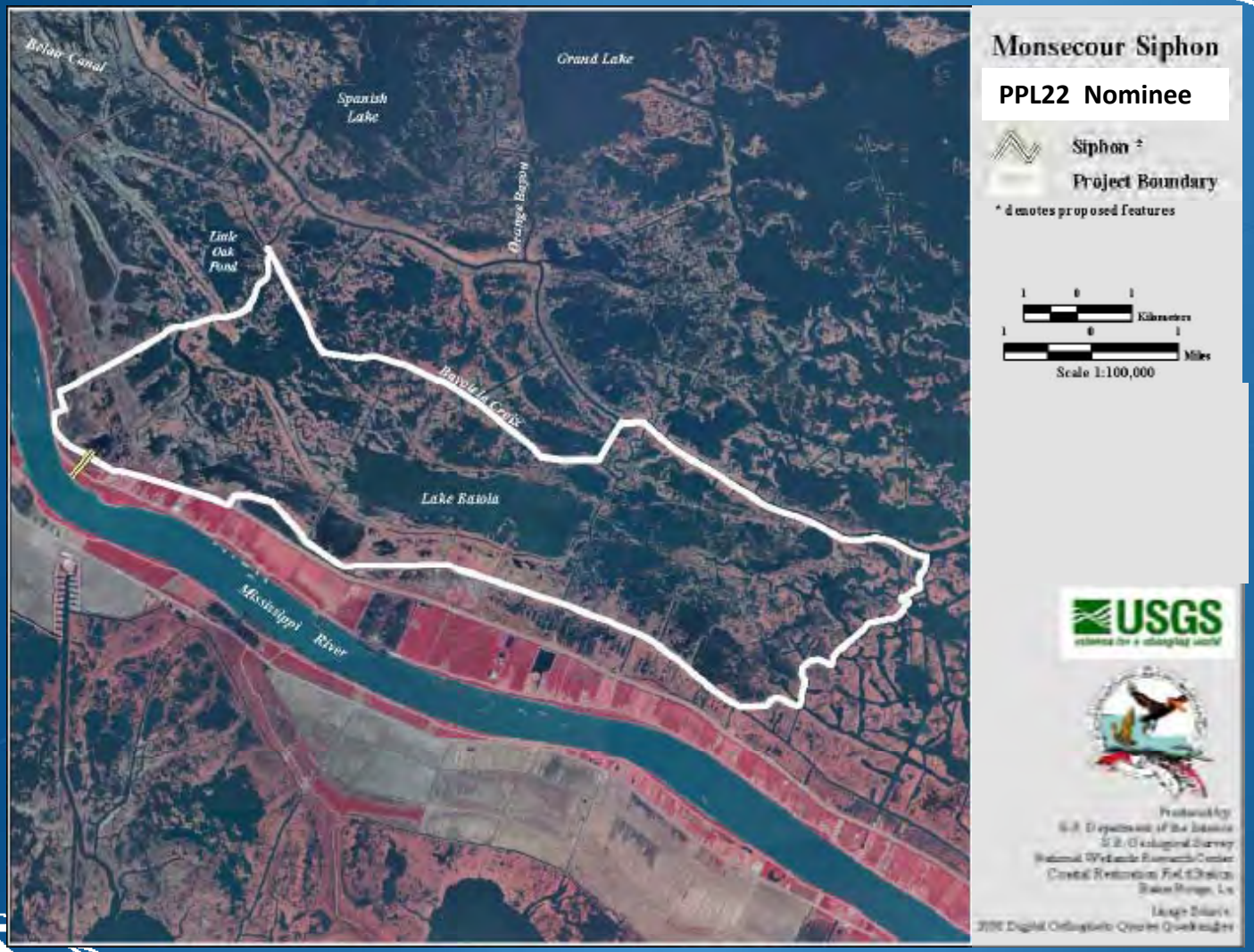

Monsecour Siphon
N
Legend
Siphon
Project Area
0 0.5 1 2
Miles
Map Created by
United States Environmental
Protection Agency
Data Source:
2008 DOQQ Aerial Imagery
Map Created March 12, 2010

Monsecour Siphon



Coastal Wetlands Planning, Protection and Restoration Act

Monsecour Siphon



Coastal Wetlands Planning, Protection and Restoration Act

Monsecour Siphon

- 2000 CFS Max
- 1145 CFS Average Flow
- 6 Pipes
- Approximate Length = 450’

Coastal Wetlands Planning, Protection and Restoration Act

Monsecour Siphon

Goals

- Reduce land loss
- Increase Submerged Aquatic Vegetation

Project Benefits

- 12,225 acres benefited

Preliminary Construction Costs +25% Contingency

- $5.7 million

Questions

Adrian Chavarria
(214) 665-3103
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Coastal Wetlands Planning, Protection and Restoration Act

R2-BS-06

Breton Land Bridge Marsh Creation (West),

River aux Chenes to Grand Lake

R2-BS-06

PPL22 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name
Breton Land Bridge Marsh Creation (West), River aux Chenes to Grand Lake

Coast 2050 Strategy
Coastwide: Dedicated dredging for wetland creation; Maintenance of bay/lake shoreline integrity

Project Location
Region 2, Breton Basin, Plaquemines Parish, Caernarvon mapping unit

Problem
The wetlands within this area have a unique history. Historically this area was nourished by the fresh water, sediment and nutrients delivered by the Mississippi River. Following the creation of levees along the lower river, these inputs ceased, with exception of levee breaches in 1923 and 1927. In 1991, the Caernarvon Freshwater Diversion Structure became operational with capabilities to divert up to 8,000 cubic feet/sec. As a result of these freshwater influences, the marshes in the area have fluctuated between fresh/intermediate and brackish/saline habitat types over time. The major cause of wetland loss for this area has been attributed to storm activity (i.e. Hurricanes Betsy and Katrina), causing both storm-induced scour and forcing salt water into the lower salinity marshes. Altered hydrology and oil/gas development have exacerbated storm-related loss. Subsidence, high in this area, ranges from 2.1-3.5 ft/century. A USGS regression analysis (1985-2009) indicates a -0.93 percent/yr land loss rate for this unit.

Proposed Solution
The proposed solution would be to create/nourish degrading marsh and restore portions of the Grand Lake shoreline, Orange Bayou, and Bayou Gentilly. The marsh and shoreline restoration would be constructed in a west-to-east configuration, across basin, creating more robust landmass between River aux Chenes and Bayou Terre aux Boeufs. It is envisioned that this restoration effort could be completed in two to four phases, approximately 500 acres each, and once restored would reduce the potential for coalescence of Lake Lery with Grand Lake and Lake Petit to its south. Sediment would be hydraulically pumped from a borrow source for marsh creation. Internal and external borrow sources have been identified; internal borrow from Grand Lake or Lake Lery is the most cost effective. Temporary containment dikes will be constructed and gapped within three years of construction to allow greater tidal exchange and estuarine organism access. Half of the constructed marsh will include vegetative plantings.

Goals
The overall, long-range, restoration goal would be to create/nourish approximately 1,000 to 2,000 acres of intermediate marsh across 7 miles of the Breton Basin from River aux Chenes to Bayou Terre Bouefs. Two conceptual alternative alignments are envisioned: 1) restore marshes and shorelines along western and northern Grand Lake and along Bayou Gentilly (individual options A, C and D below) or 2) restore marshes and bank lines along southern Grand Lake and along Bayou Gentilly (options B and D below).

Individual project options include:

- Option A: create/nourish approximately 500 acres of emergent intermediate marsh, restore one mile of Orange Bayou, west bank and restore one mile of Grand Lake western shoreline using internal or river borrow sources.

- Option B: create/nourish approximately 500 acres of emergent intermediate marsh, restore one mile of Orange Bayou, east bank and restore 2.7 miles of Grand Lake southern shoreline using internal or river borrow sources.
- Option C: create/nourish approximately 500 acres of emergent intermediate marsh and restore 1.8 miles of Grand Lake northern shoreline using internal borrow sources.
- Option D: create/nourish approximately 500 acres of emergent intermediate marsh and restore 1.9 miles of Bayou Gentilly, northwestern bank using internal borrow sources.

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
This total project area is about 500 acres (per phase).

2) *How many acres of wetlands will be protected/created over the project life?*
Approximately 373 acres of intermediate marsh would be protected/created over the project life (per phase).

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

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

5) *What is the net impact of the project on critical and non-critical infrastructure?*
The project may provide net positive benefits to non-critical infrastructure.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
The project will have a synergistic effect with the South Lake Lery Shoreline and Marsh Restoration (BS-16), Lake Lery CIAP project, and the Caernarvon Freshwater Diversion.

Identification of Potential Issues

The proposed project has potential land rights and utility/pipeline issues.

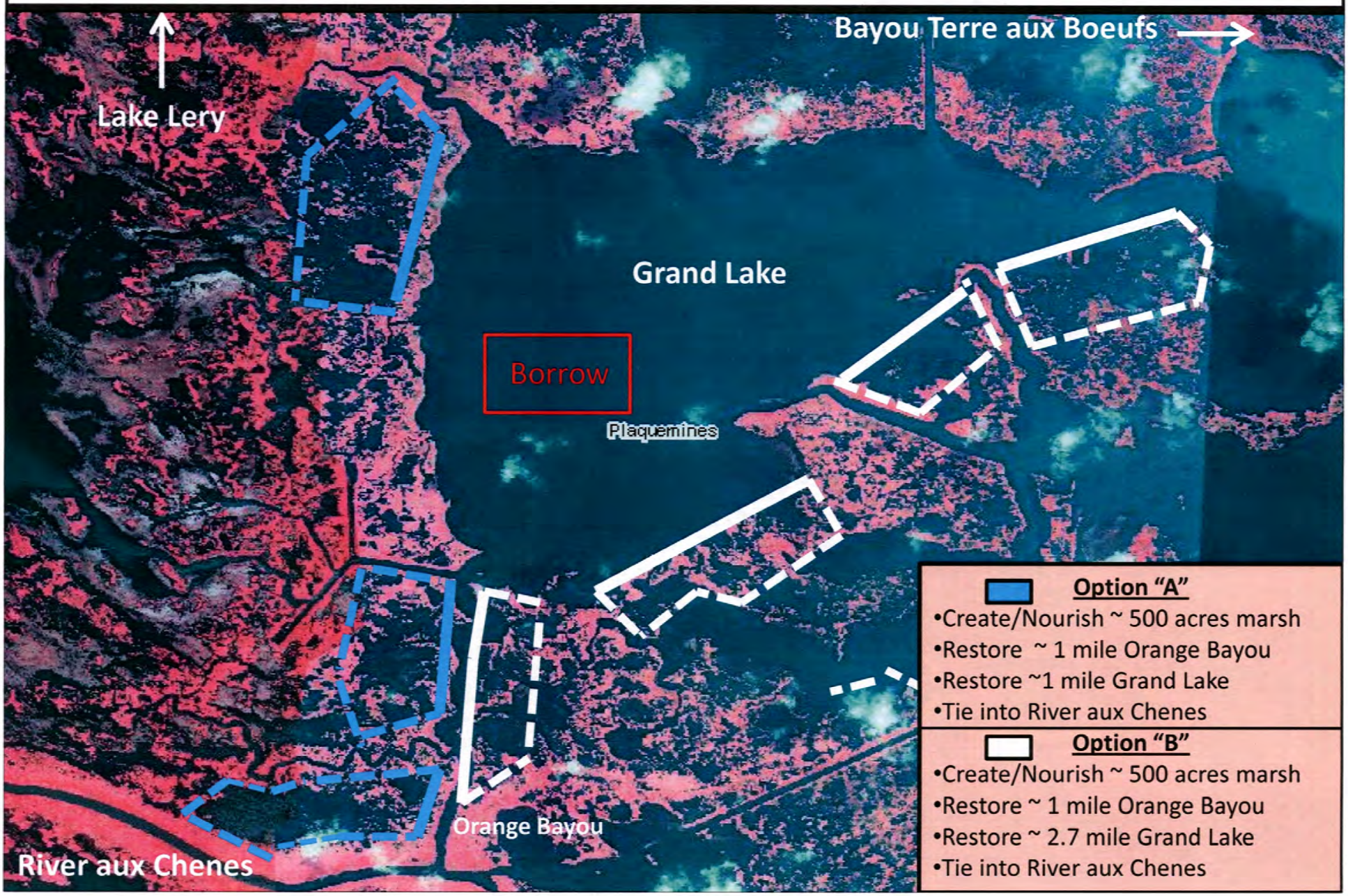
Preliminary Construction Costs

Depending on option and borrow source (river vs internal), the estimated construction costs (including 25% contingency) vary from approximately $22,400,000 to $37,200,000. The fully funded cost estimates range from $25 to $48 M.

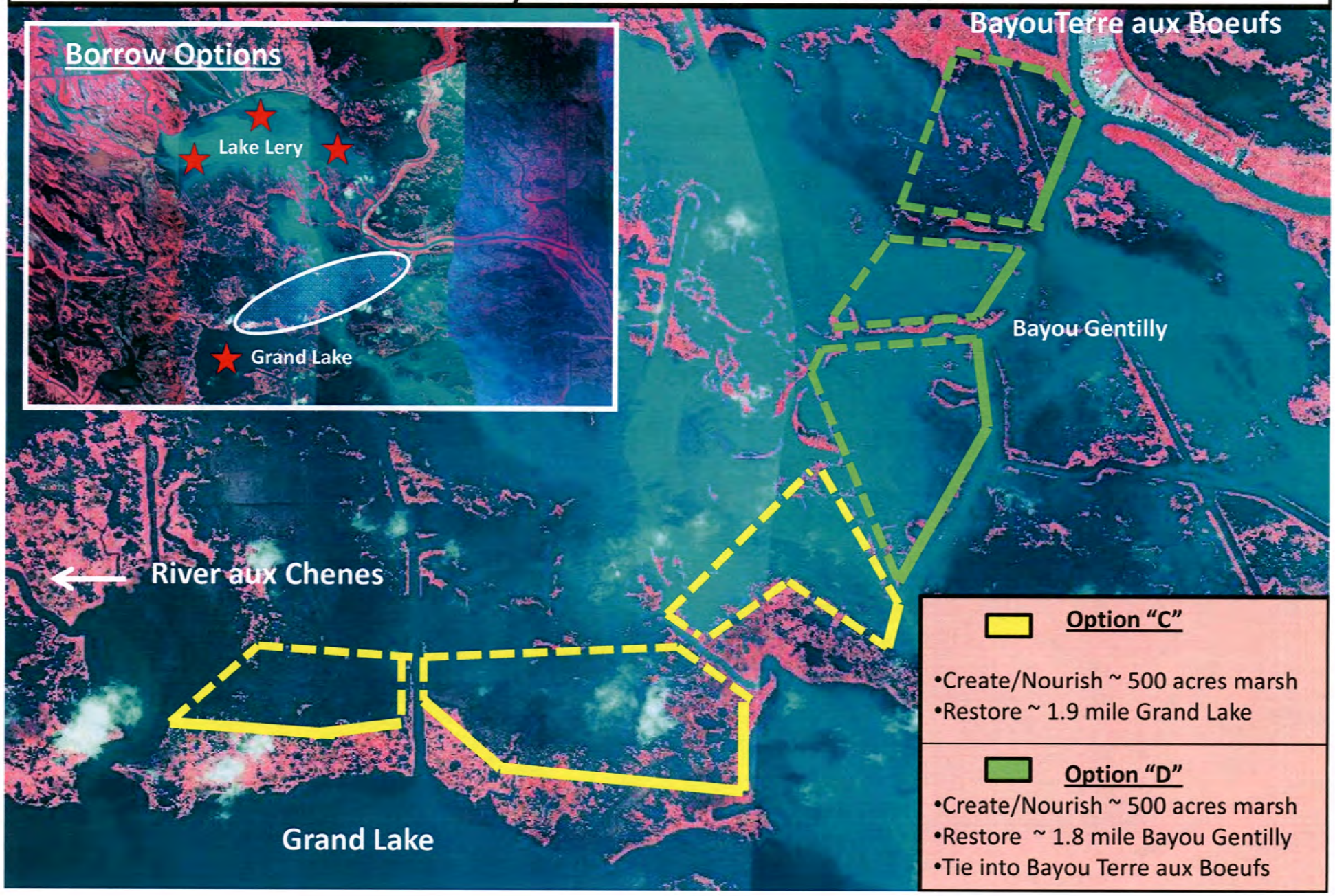
Preparer(s) of Fact Sheet:

Kimberly Clements, NMFS, 225-389-0508 x204, Kimberly.Clements@noaa.gov

PPL22 Breton Land Bridge Marsh Creation (West): River aux Chenes to Grand Lake



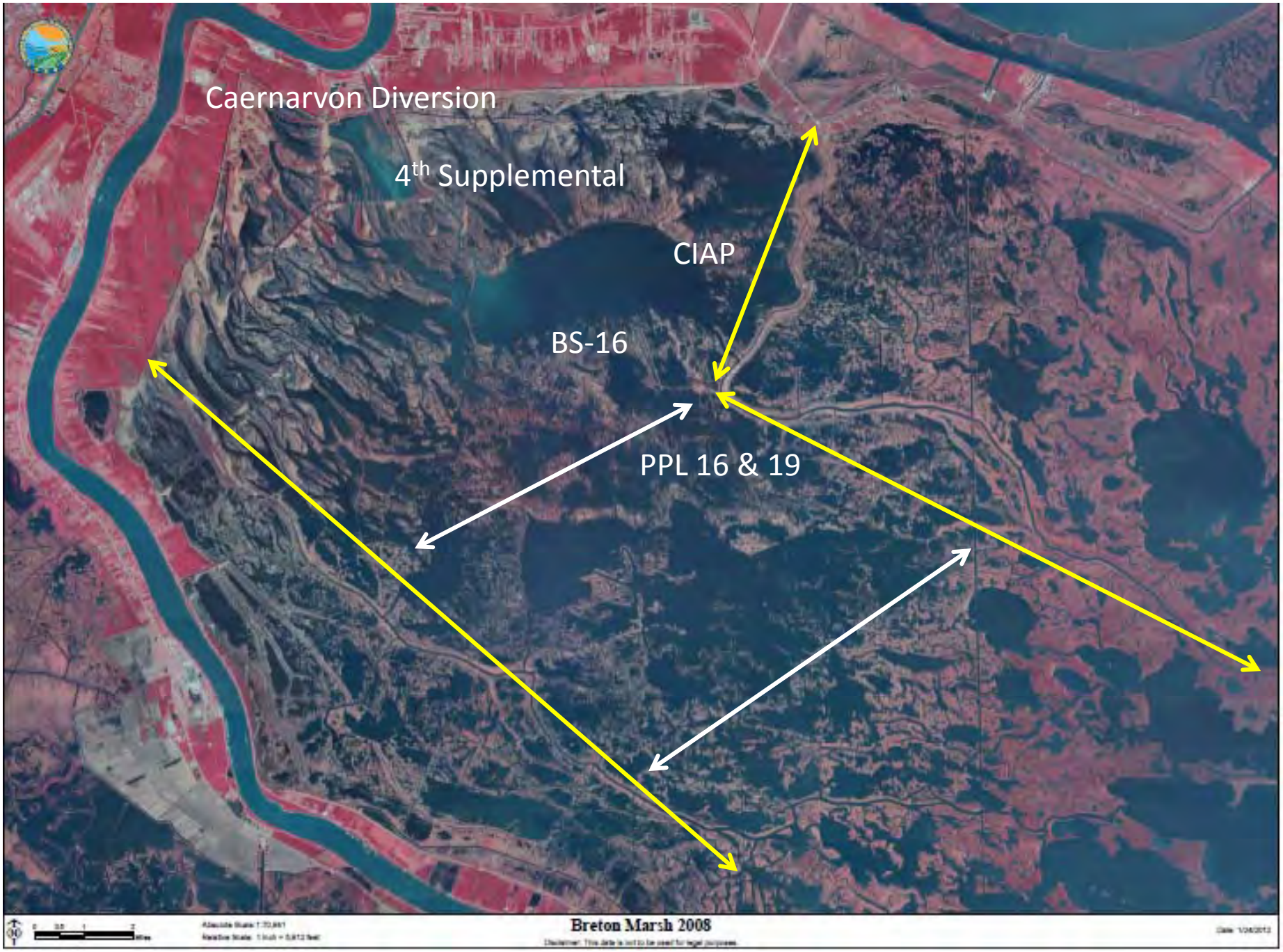
PPL22 Breton Land Bridge Marsh Creation (East): Grand Lake to Bayou Terre aux Boeufs



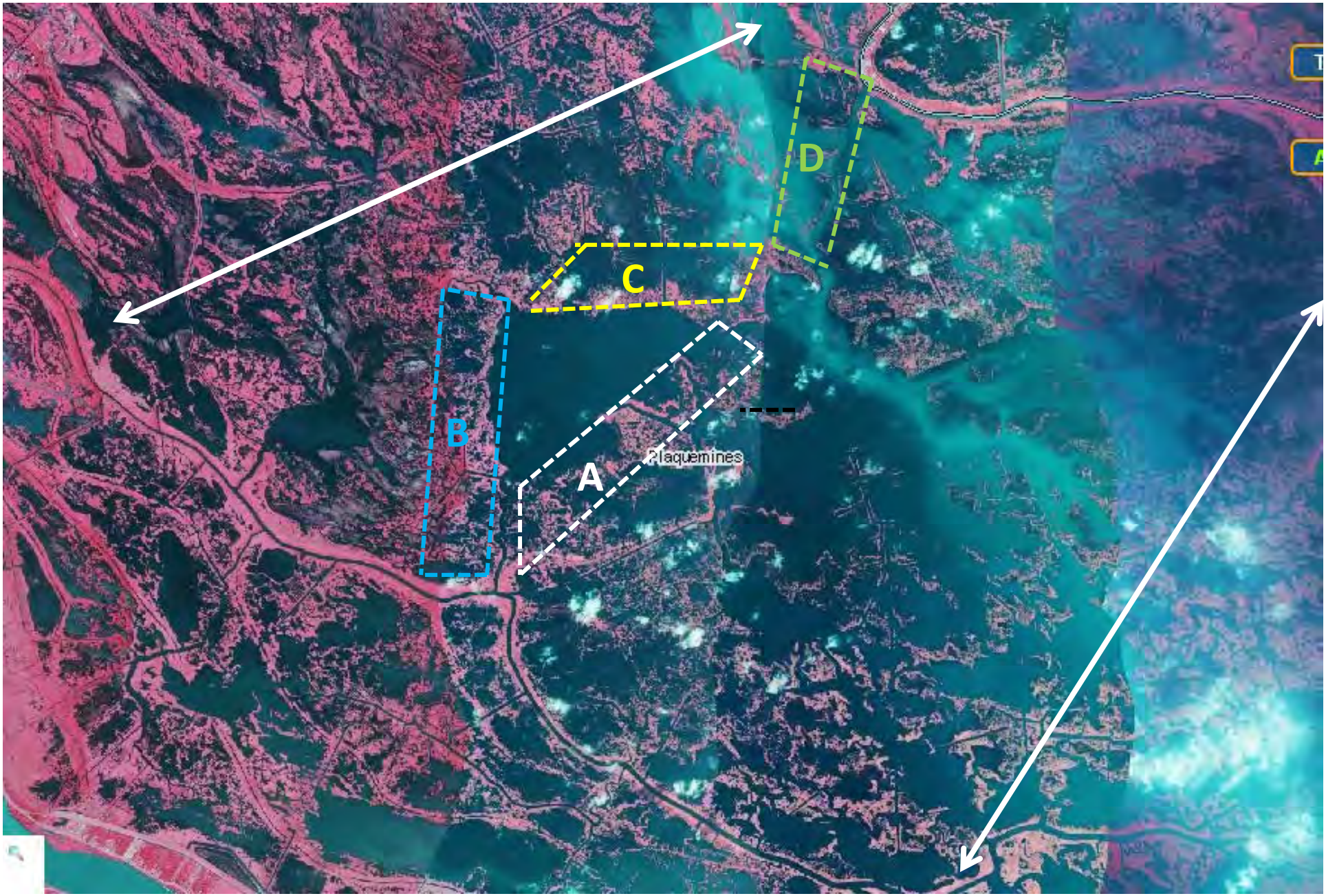
Breton Marsh 1998

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

Breton Marsh 2008


Caernarvon Diversion
4th Supplemental
CIAP
BS-16
PPL 16 & 19
Breton Marsh 2008

PPL 16 & 19
A
B
C
D
Breton Marsh 2008


D
C
B
A
Plaquemines

PPL22 Breton Land Bridge Marsh Creation (West): River aux Chenes to Grand Lake

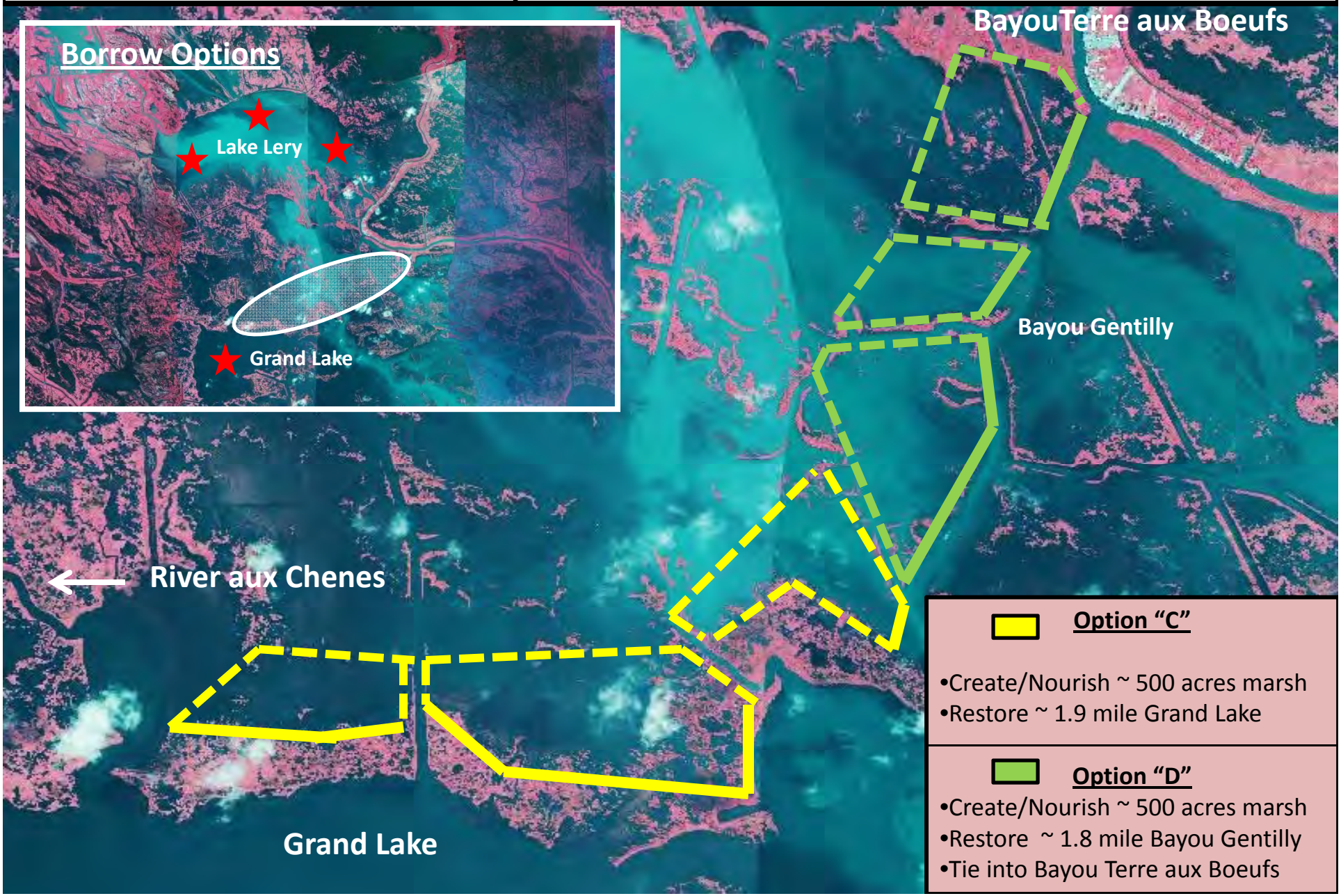
Option "A"

- Create/Nourish ~ 500 acres marsh
- Restore ~ 1 mile Orange Bayou
- Restore ~1 mile Grand Lake
- Tie into River aux Chenes

Option "B"

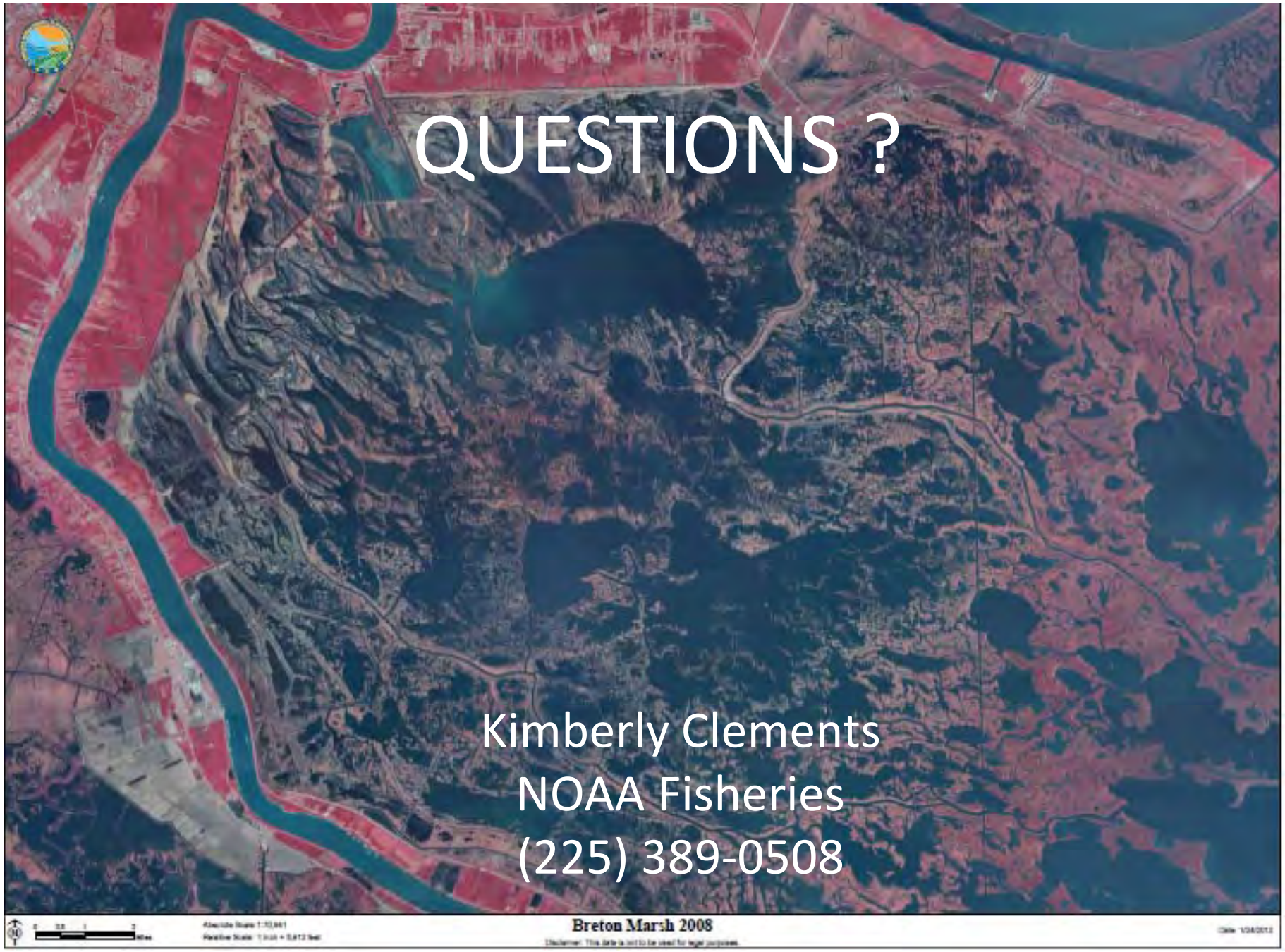
- Create/Nourish ~ 500 acres marsh
- Restore ~ 1 mile Orange Bayou
- Restore ~ 2.7 mile Grand Lake
- Tie into River aux Chenes

PPL22 Breton Land Bridge Marsh Creation (East): Grand Lake to Bayou Terre aux Boeufs



Cost Estimate

	Borrow Source	Acres	Construction Cost	FF Cost
Options A or B	Grand Lake	500	$22M	$25M
Options A or B	MSR River	500	$37M	$48M
Option C or D	Internal ?	500	$22M	$25M
Option C or D	Internal ?	500	$22M	$25M



QUESTIONS ?

Kimberly Clements
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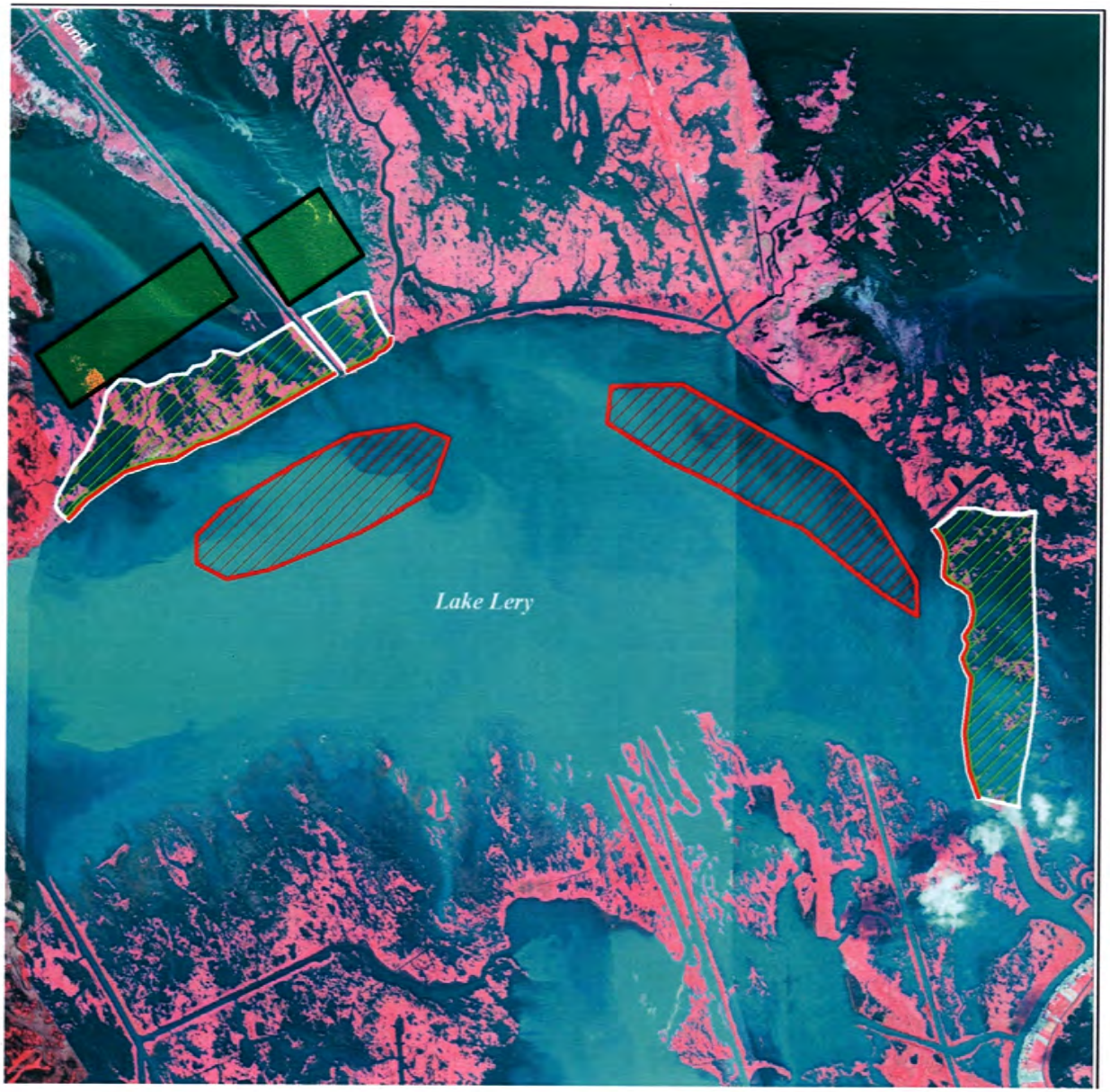
R2-BS-07

Lake Lery Marsh Creation and Terracing

Lake Lery Marsh Creation and Terracing



432 acres marsh creation and 125 acres marsh nourishment via dedicated dredging

Create 300 acre terrace field (21,000 lf/15 acres)

Estimated net acres = 412

Construction cost (including 25% contingency) $23.7 M

Estimated FFC range $30M - $35M

R2-BS-07
NOAA/Kimberly
Clements

R2-BS-08

Lonesome Island Restoration

Region 2 – MISSISSIPPI RIVER BASIN

R2-MR-01

Pass a Loutre Wildlife Management Area Marsh Creation Utilizing Gulf Saver Bags

R2-MR-01

PPL 22 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name
Pass a Loutre (PAL) Wildlife Management Area (WMA) Marsh Creation Utilizing Gulf Saver® Bags

Project Location
Region 2, Mississippi River Basin, North Pass PAL, Plaquemines Parish

Problem
North Pass PAL has naturally been filled in with sediment cutting access from PAL to the Gulf of Mexico. The resulting sand bar, also known as Popcorn Beach, has been planted with bare root plugs of native marsh grasses (Spartina alterniflora). The conventional native species re-vegetation via plug planting at Popcorn Beach has proven to take considerable time for root establishment, sediment accretion, and/or wildlife habitat creation. The traditional bare root plug planting methodology requires multiple mobilizations for re-planting over 3 to 5 years to account for erosional processes and overall plant mortality. In addition, bare root plug planting has disadvantages as effectiveness is limited along higher energy shorelines where marsh creation is critical.

Proposed Solution/Project Features
The Gulf Saver® Bag, as a biodegradable package, provides a natural supply of nutrients to support, feed, and protect marsh grasses promoting survival and growth. The Gulf Saver® Bag stabilizes and restores natural habitats reducing erosional processes eliminating the need for re-planting. In addition, the Gulf Saver® Bag decreases the time for needed 100% restoration of the project area. A demonstration project has been conducted at Popcorn Beach utilizing private funding over the past year. Results of the project have demonstrated wildly successful re-vegetation of project area including below-ground biomass. An expansion of the demonstration project is proposed to vegetate the entire Popcorn Beach area, approximately 15 acres.

Goals
- 90% total cover of native vegetation over approximately 15 acres of Popcorn Beach within 1 year;
- Creation of wildlife habitat including rookeries;
- Erosion protection for North Pass PAL

Preliminary Project Benefits
- Rapid vegetation of the project area approximately 3-5 times faster than traditional planting methods;
- Project concept is replicable, scalable and readily implementable **coast-wide**;
- Can be incorporated into existing projects to improve Discount Service Acre Year (DSAY) – conservatively estimated to be approximately 12 – 16 DSAY/acre utilizing Gulf Saver® Bag technologies

Identification of Potential Issues
None

Estimated Costs
The estimated cost, including 10% contingency is $1,598,625 ($106,575/acre) or $6,660/DSAY.

Preparer(s) of Fact Sheet
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Margo Moss, Matrix New World Engineering, Inc., mmoss@matrixneworld.com, (504) 319-1575

Restore the Earth FOUNDATION

An Innovative Solution for Early Success

Pass a Loutre (PAL) Wildlife Management Area (WMA) Marsh Creation Utilizing Gulf Savers® Bags

Priority Project List 22

January 26, 2012

MATRIXNEWORLD
Enabling Progress

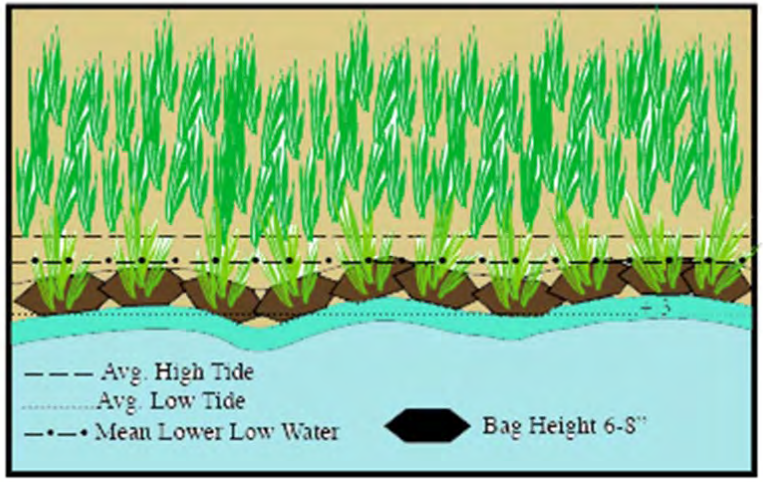
LOUISIANA WILDLIFE & FISHERIES

SUSTAINABLE ECOSYSTEM RESTORATION

Habitat Enhancement through Vegetative Plantings Using Gulf Saver Bags Conceptual Treatment

Gulf Saver Bag Specs:

Material:	Untreated all natural burlap
Size:	14” X 26” (flat)
Weight:	15 lbs, 20 lbs-22 lbs
Plugs per Bag:	3 seedlings
Cost per Bag:	$25



Gulf Saver bags are burlap bags filled with a humus mix for rapid rooting of plants that are plugged with native vegetation (demo: *Spartina alterniflora or Avicennia germinans)* for optimum growth and establishment.

PAL WMA Demonstration Project

Results to-date indicate that:

- Exceptionally rapid establishment of functional wetland (<2 yrs)
- Better storm resistance with less plant loss
- Minimum 16 DSAYs credits per acre planted
- Minimal annual maintenance required
- Successful proof of concept at Popcorn & Buttermilk (early project) Beaches-PAL WMA, Venice , LA
- Over 30 acres of wetlands within PAL WMA have been identified as needing immediate restoration, permit pending, and is ready to proceed when funding becomes available.

	8 Months	12 Months
Vegetative Cover (%)	75 – 80	65 – 90
Average Canopy Height (cm)	70 – 85	75 - 110

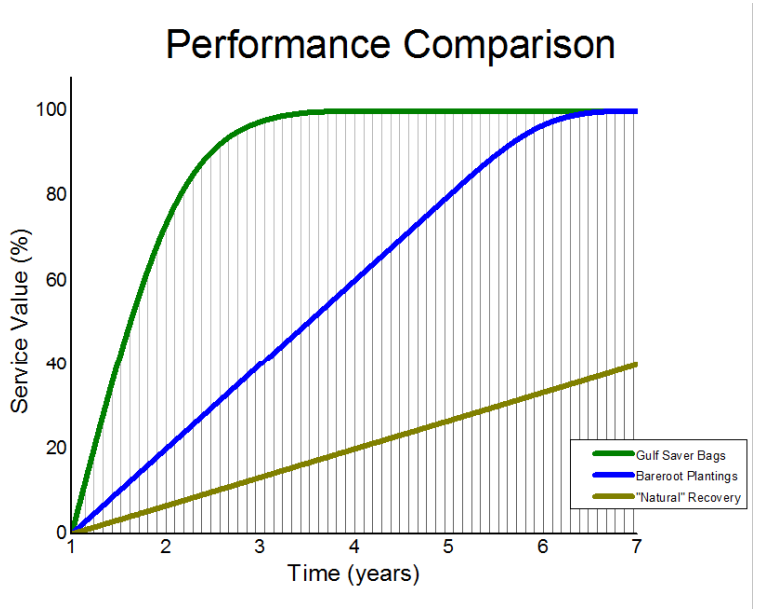
Gulf Saver bags at 4 months

Gulf Saver bags at 7 months

Gulf Saver bags at 8 months

Cost Benefit Analysis
GSB vs. Bare Root Plugs

	Gulf Saver Bags	Bare Root Plugs
Cost Per Acre	**$106,575**	**$99,048**
Spacing	1.5 meter on center	0.6 meter on center
Survivability	90-95%	50% 1st & 2nd year
Expected Replanting	5-10% at 1st year	50% at 1st year 50% at 2nd year
Service Value	**100% in 2 years**	**100% 5-10 years**
Carbon Credit Value Achieved in	1st year	5th year
Estimated DSAYs	16+ per acre	12+ per acre
Cost per DSAY	**$6,660**	**$8,254**



MATRIXNEWORLD
Enabling Progress

Proposed Project Location - North Pass PAL WMA Marsh Creation

Proposed project site is expansion of demonstration project connecting both sites. Approximately 15 acres of marsh creation.

Proposed Project Details - North Pass PAL WMA Marsh Creation

- **Goals**
  - 90% total cover of native vegetation over 15 acres within one year
  - Creation of wildlife habitat including rookeries
  - Erosion protection
- **Project Benefits**
  - Re-vegetation of project area 5 times faster than bare root planting
  - Replicable and scalable
  - Coast-Wide application
  - Easily incorporated into existing projects
- **Project Cost**
  - Total estimated project cost is **$1,598,625**

Additional Information - Benefits of Gulf Saver Bags and Initiatives

- **ACCELERATED** restoration and increase of
  - Wetlands, marshes, coastal beaches & barrier islands
  - Native re-vegetation & wildlife habitat creation
  - Remediation of soil &organic matter
  - Sediment accretion & marsh creation
  - Reduces erosion & prevents breaching into interior marsh
- Replicable and Scalable
- Site specific engineered, designed, and mixed
- Economic development with community engagement and support
- Opportunities for education in wetlands restoration
- Collaborative partnerships with national, regional, and local support

North Pass PAL WMA Demonstration Project – Site 1

Image – 12-28-2010
2 Weeks Post Plant
Approx. 887 sq meters of spatial extent

Image – 9-14-2011
Approximately 9 mos. post plant
Approx. 2846 sq meters spatial extent

North Pass PAL WMA Demonstration Project – Site 2

Image 4-7-2011
2 weeks post deployment
Approximately 807 sq meters spatial extent; Next week additional plants placed at site.

Image – 9-14-2011
5 month post-deployment
Approx. 2660 sq meters spatial extent

Gulf Savers® Bags: A Coast-wide Remedy

- Shoreline stabilization via Gulf Saver Bags, reduces erosion and prevents breaching into interior marsh
- Technology to augment planned vegetative planting and restoration projects
- Potential Applications in:
  - Bay Jimmy/Northern Barataria Bay
  - Timbalier Island
  - Isle Deniers
  - Dune Restoration (Gulf Coast-wide)

Gulf Savers® Bags: Other Potential Deployment Areas

Bay Jimmy

Promising applications of technology for oil-impacted shoreline stabilization, erosion control, and to prevent breaching into interior marsh.

Over 2.5 miles of favorable shoreline in Northern Barataria Bay area.

Timbalier Island

Potential application for shoreline stabilization and vegetation protection.

Approximately 7 miles of favorable shoreline.

R2-MR-02

Pass a Loutre Hydrologic Restoration

R2-MR-03

Pass a Loutre Crevasse Project

R2-MR-03

PPL 22Project Fact Sheet
January 2012

Project Name:
Pass a Loutre Crevasse Project

Coast 2050 Strategy
Regional Strategy - Restore/Sustain Marshes – Continue building and maintaining delta splays
Coastwide Strategy – Dedicated dredging to create, restore or protect wetlands

Project Location
Region 2, Mississippi River Delta, Plaquemines Parish, Pass a Loutre Wildlife Management Area, approximately 12 miles south of Venice, Louisiana.

Problem
The parent passes and mouths of many existing crevasses on Pass a Loutre and South Pass have experienced significant shoaling due to dredge disposal practices and the high river stages over the past few years. The shoaling of the mouths has decreased the continued land building potential of several crevasses on the Mississippi River Delta.

Proposed Project Features
Four selected crevasses will hydraulically dredged to original project dimensions and connected to the parent channel. The spoil material will be used to encourage accelerated delta growth in the outfall area and create new marsh in areas that may not be as strongly influenced by the natural delta process of the crevasse. Some material will also be used in East Bay to create a colonial waterbird nesting island. This habitat is in very limited supply on the Mississippi River delta and will be maintained by LDWF staff.

Goals
The project goals are as follows:

- Restore hydrology and land building potential in four existing crevasses
- Create 110 acres of new marsh via beneficial use of dredged material
- Creation of 800 acres of new emergent marsh via natural delta processes over the project life.
- Enhance approximately 2,000 acres of adjacent shallow water bodies from increased freshwater, sediment, and nutrients delivered by the crevasses.
- Create new waterbird nesting habitat that is in very limited supply on the MS river delta

Preliminary Project Benefits

1) *What is the total acreage benefited both directly and indirectly?*
   Approximately 110 acres of marsh will be directly created. An additional 800 acres of marsh will created over the project life by sediment depositions into adjacent open water areas. In addition, approximately 2,000 acres of adjacent

shallow water and marsh will be enhanced by sediments, nutrients, and freshwater delivered to it by the crevasses.

2) *How many acres of wetlands will be protected/created over the project life?*
   2,910
3) *Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc?*
   This project will outpace subsidence and erosion that will maintain the pass banks of South Pass, and Pass a Loutre. It will also nourish existing marsh in the area again outpacing subsidence and maintaining existing features.
4) *What is the net impact of the project on critical and non-critical infrastructure?*
   This project will not have a significant impact on critical or non-critical infrastructure.
5) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?*
   This project will have a synergistic effect with the Deltawide Crevasse CWPPRA Project by maintaining parent channels that feed them. It will also maintain and extend the productive life the original crevasses constructed by various state funding.

Identification of Potential Issues
There are a few pipelines and one power line that cross Pass a Loutre. These few structures will need to be identified and worked around.

Preliminary Construction Costs
The anticipated construction cost, with contingency, is $3 - $5 million.

Preparer of Fact Sheet
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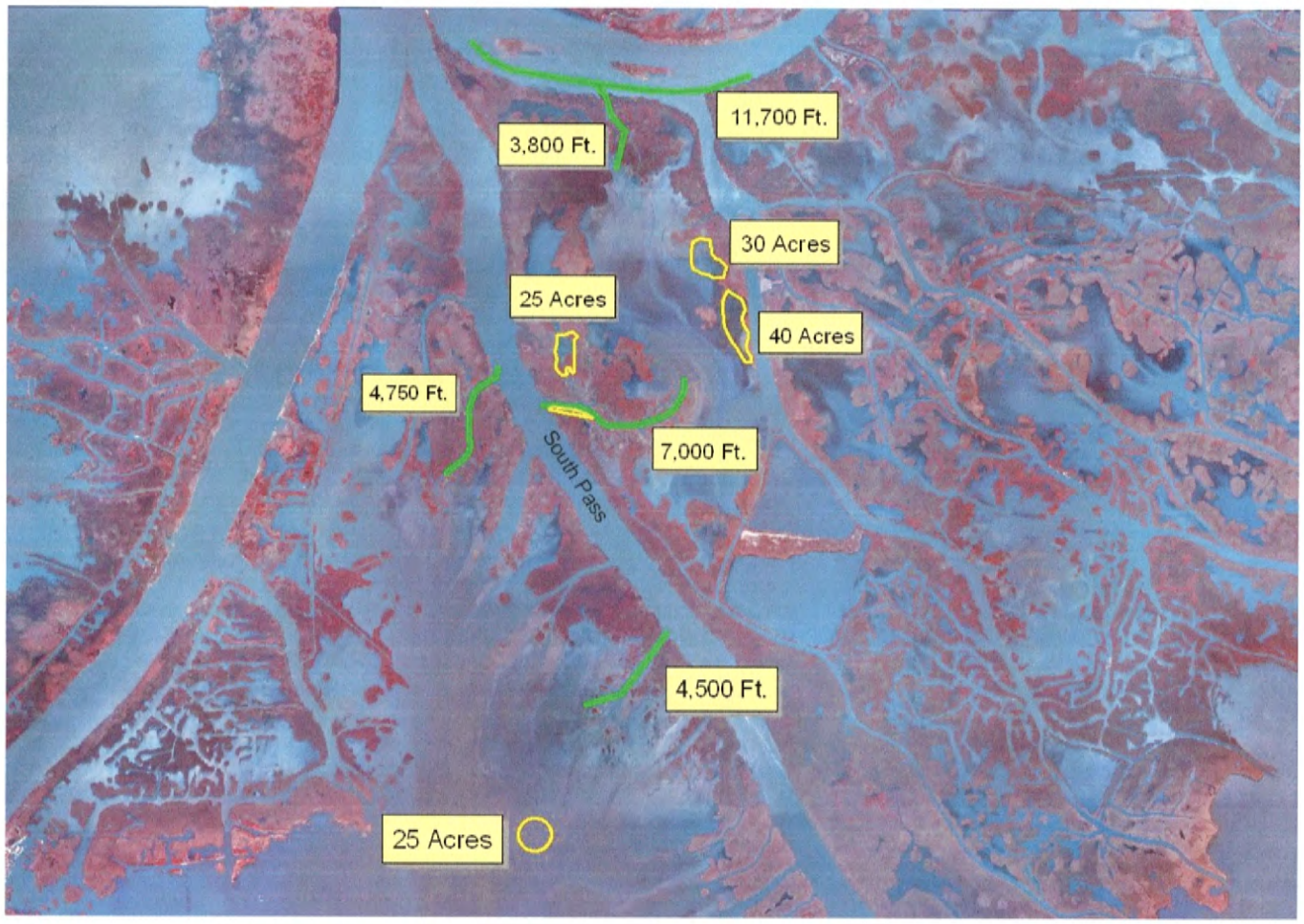
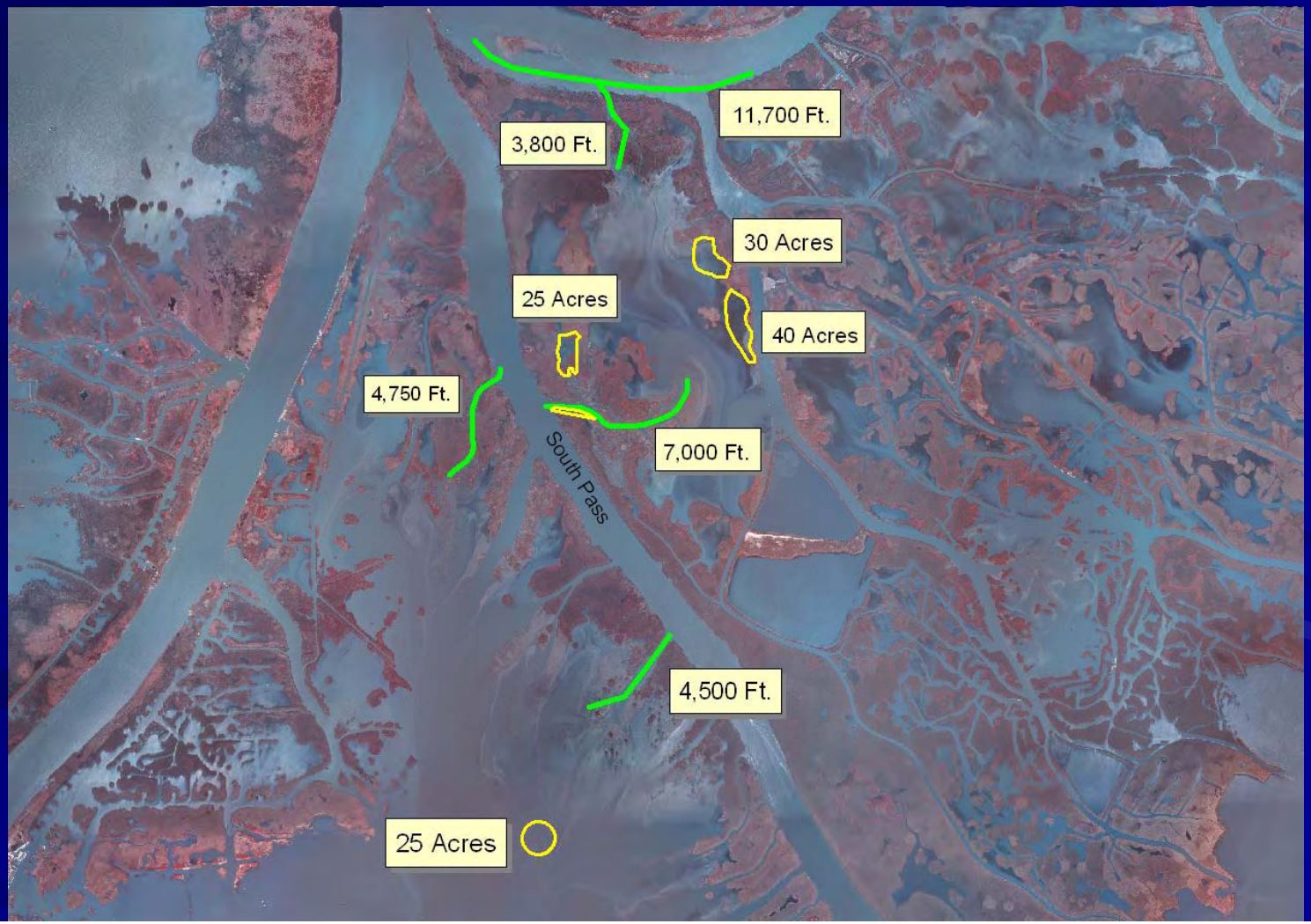
Shane Granier, LDWF, (504) 284-5267, sgranier@wlf.la.gov

Pass a Loutre Crevasse Project



Pass a Loutre Crevasse Project

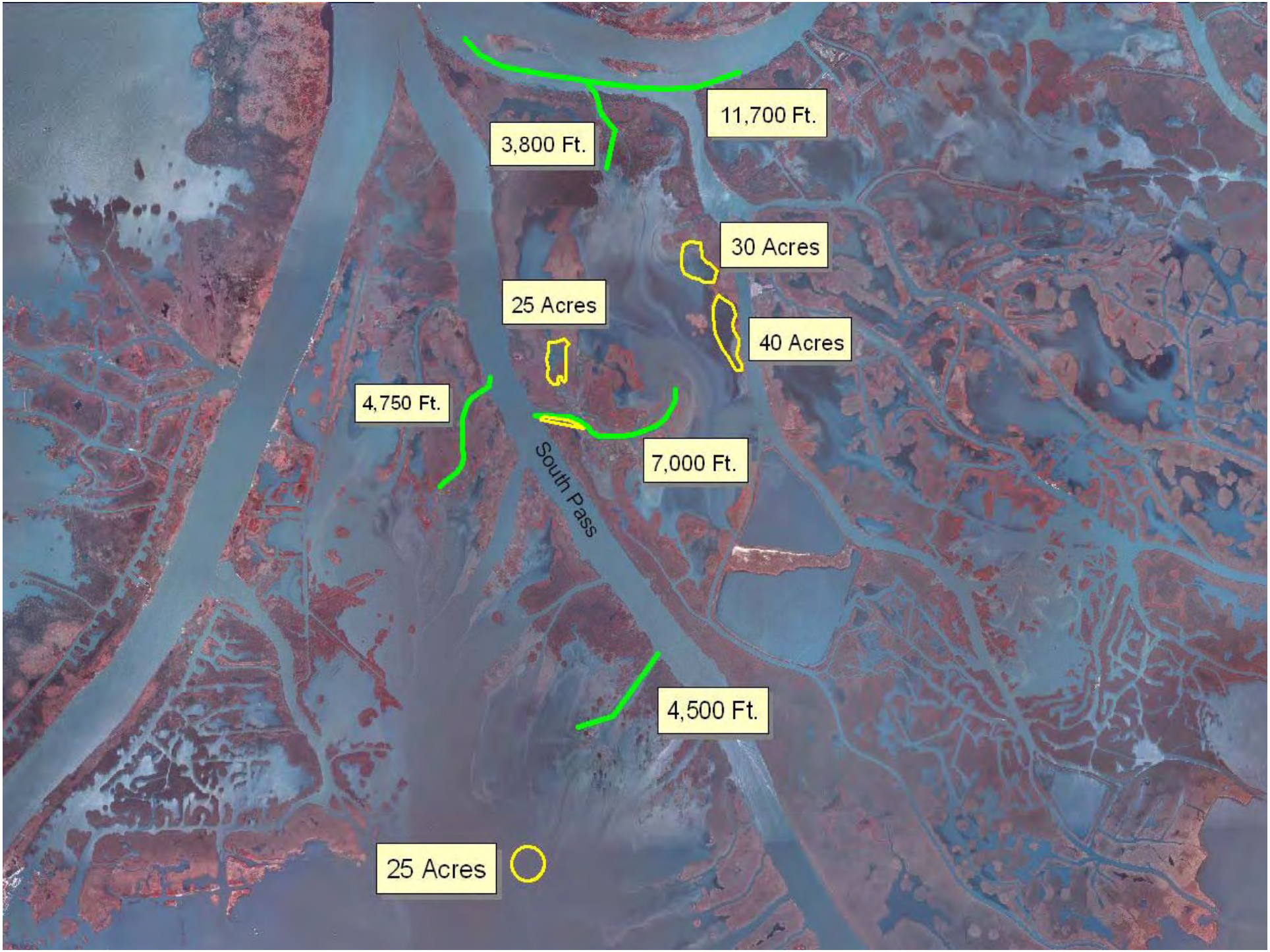


Problem

- Many of the crevasses both natural and artificial have become significantly silted in over the past few years of high river stages.
- Parent channels have shoaling at the mouths of the crevasses thus impacting marsh creation potential.

Solution

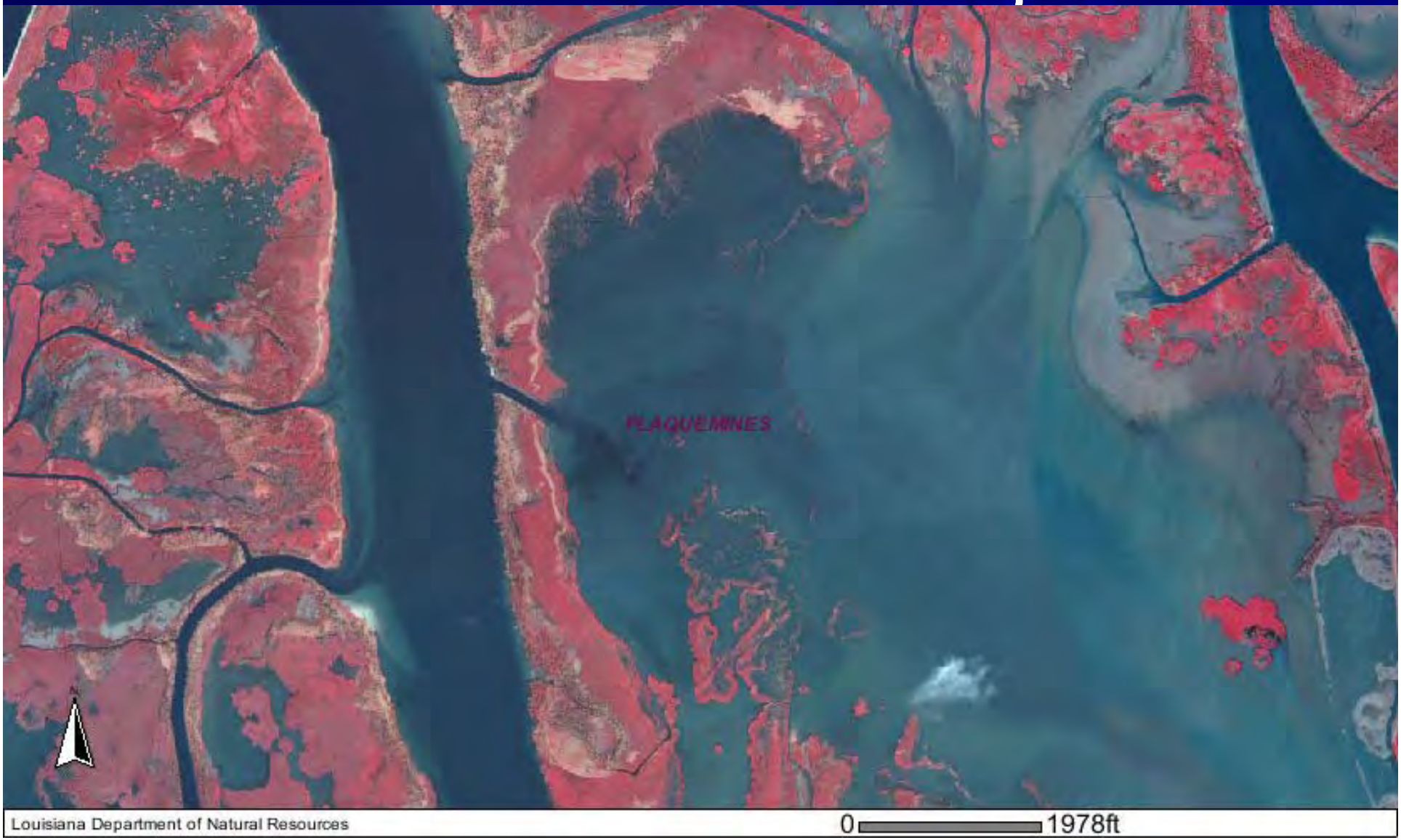
- Hydraulically dredge out the crevasses to the parent channel to reestablish delta building potential.
- Create new marsh with dredge material in locations that will enhance delta growth or have little potential for future growth
- Construct limited sensitive nesting habitat for a variety of nesting water birds and wintering habitat for a wide variety of waterfowl and migratory birds
- Estimated cost $3,000,000 to $5,000,000


11,700 Ft.
3,800 Ft.
30 Acres
25 Acres
40 Acres
4,750 Ft.
7,000 Ft.
South Pass
4,500 Ft.
25 Acres

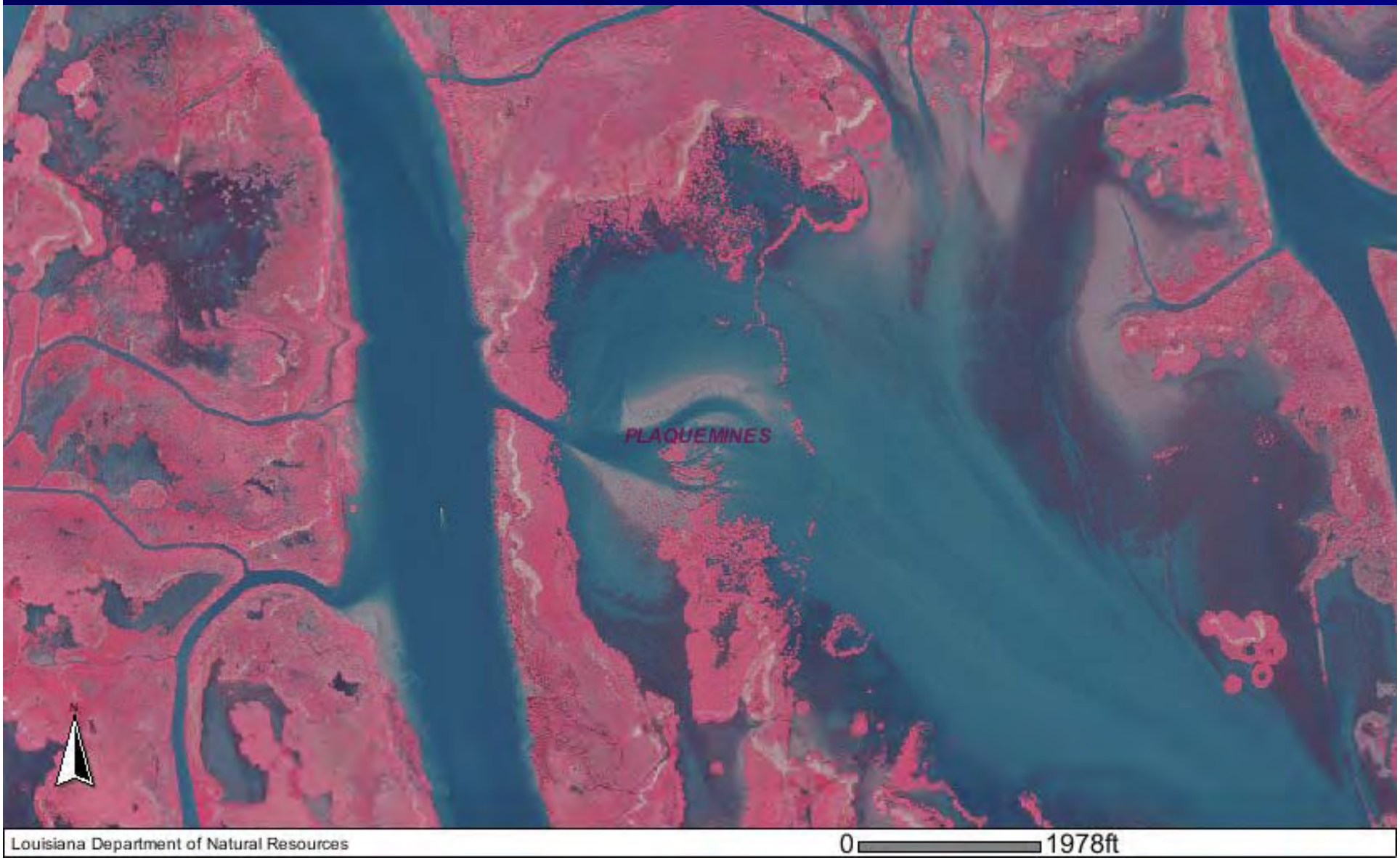
Benefits

- Creation of 110 acres of new marsh ranging from fresh to saline.
- Creation of sensitive limited nesting waterbird habitat
- Creation of 800 acres of new emergent delta marsh over the project lifespan
- Enhancement of approximately 2,000 acres of adjacent shallow water bodies.
- Extremely cost efficient

Sustainable MS River Delta
Deltawide Crevasse Proj 2005



Deltawide Crevasse 2008

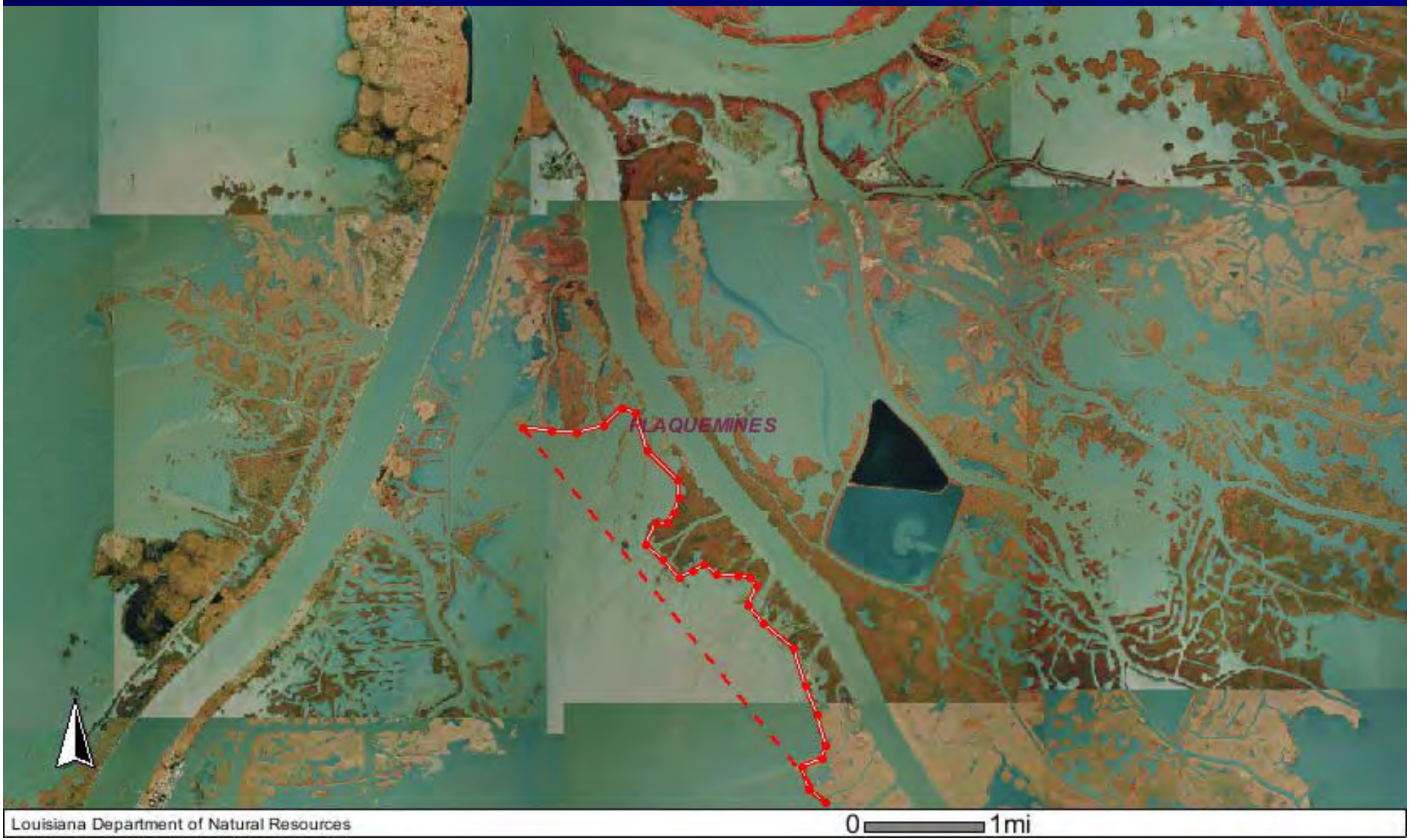


Sustainable MS River Delta

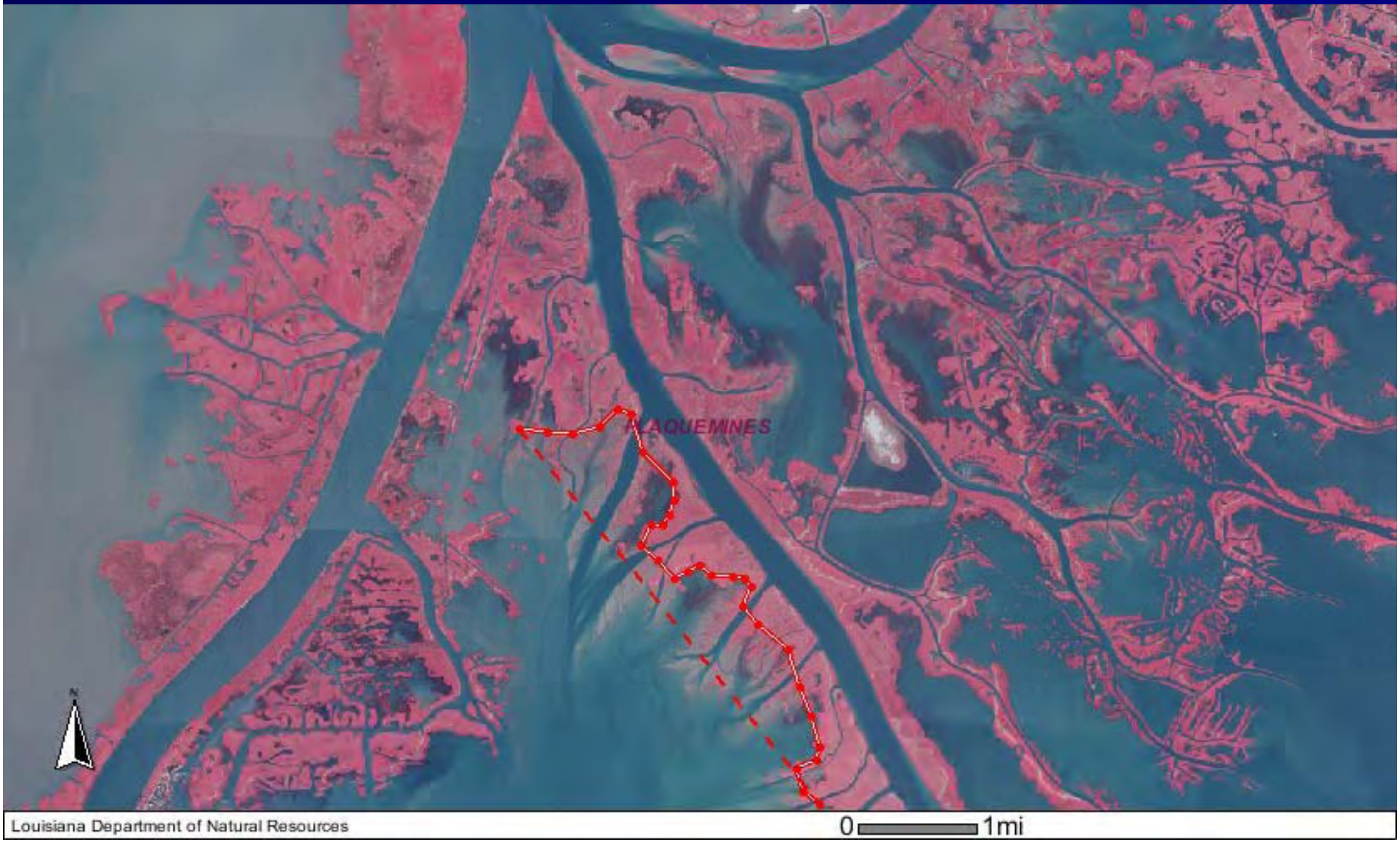
1998

2008

1998 East Bay



2008 East Bay



11,700 Ft.
3,800 Ft.
30 Acres
25 Acres
40 Acres
4,750 Ft.
7,000 Ft.
South Pass
4,500 Ft.
25 Acres