REGION 1

Coastal Wetlands Planning Protection & Restoration Act

22nd Priority Project List

Region 1

Regional Planning Team Meeting

January 26, 2012
New Orleans, LA

1. Welcome and Introductions

- RPT Region 1 Leader: Chris Allen - CPRA

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 1 Parishes

- Eligible parishes for Pontchartrain Basin in Region 1 include:
  - **Plaquemines Parish**
  - **Jefferson Parish**
  - **Orleans Parish**
  - **St. Bernard Parish**
  - **Ascension Parish**
  - **Livingston Parish**
  - **St. James Parish**
  - **St. Charles Parish**
  - **St. John the Baptist Parish**
  - **St. Tammany Parish**
  - **Tangipahoa 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

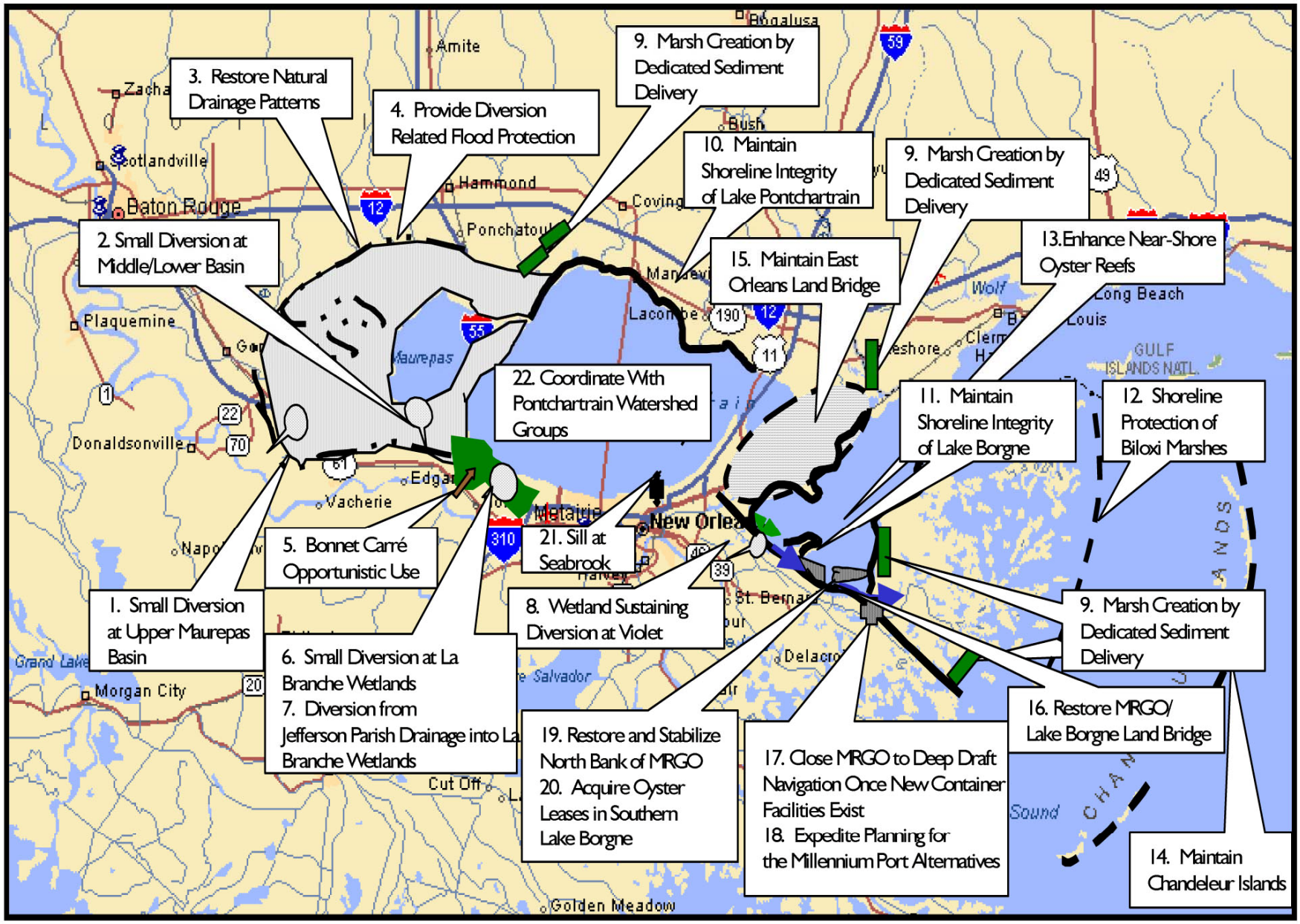
- 2 public meetings to present Phase 0 evaluation results:
  - Abbeville, Courthouse, Nov. 14, 2012, 7:00 pm
  - New Orleans, Corps of Engineers, Nov. 15, 2012, 7:00 pm
- Technical Committee votes to select up to 4 candidate projects and up to 1 demo to recommend for Phase 1.
  - Dec. 12, 2012, Baton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

3. Region 1 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 1 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 2012.
- 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 1:00 P.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 I

PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER/EMAIL
Corey Miller	CHART - UNO	(504) 494 0431
~~SETH DOMAN~~		
[illegible]	PPL	504.912.5923
Honora Buras	CPRA	225 342 4604
Vickie Duffourc	Jeff Par / Shaw	504-342-1369
Susan Testroet-Bergeron	CWPPRA Outreach	337-266-8623 Bergeron.S@usgs.gov
Catherine Schoen	CWPPRA - Lake Des Allemands	225-265-7211
Jeff Supak	Global Green	504 525 2121
April Dykes	Weston Solutions	225-297-5414
Tracy Nelson	Ex. Director - LAW CSED	504 430 9041
John Lopez	LPBF	504 421-7348
DARRYL MALEK-WILEY	SIERRA CLUB	861-4835
Sarah Mock	Terra Resources / EPA	504-339-4547
Andrew Baker	LPBF	
BRIAN FORTSON	St. Tammany Parish	mjd@stpgov.org
BARRY AERSENT	LDWF	bhebert@LDWF.la.gov
April Dykes	Weston Solutions	225-297-5414
John Day	LSU	225-773-7165

LMV FORM 583-R
JAN 88

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

Region 1 – PONTCHARTRAIN BASIN

Project Number	Project Proposals
R1-PO-01	Central Wetlands Marsh Creation/Marsh Nourishment with Mississippi River Sediment
R1-PO-02	Guste Island Marsh Creation
R1-PO-03	North Goose Point Marsh Restoration
R1-PO-04	New Orleans Landbridge Shoreline Stabilization and Marsh Creation
R1-PO-05	Small Mississippi River Reintroduction into LaBranche Wetlands
R1-PO-06	Golden Triangle Marsh Creation
R1-PO-07	Shell Beach Marsh Creation
R1-PO-08	Bonnet Carre Long Distance Sand Transport
R1-PO-09	Triangle- Restoring Cypress-Tupelo Swamp and Marsh

R1-PO-01

Central Wetlands Marsh Creation/Marsh Nourishment with Mississippi River Sediment

R1-PO-01

PPL22 PROJECT NOMINEE FACT SHEET
January 27, 2012

Project Name
Central Wetlands Marsh Creation/Marsh Nourishment With Mississippi River Sediment

Coast 2050 Strategy
Coastwide Strategy: Dedicated dredging to create, restore, or protect wetlands: Off-shore and riverine sand and sediment resources.
Region 1 Regional Ecosystem Strategy: Dedicated delivery of sediment for marsh building. Some swamp will also be established.

Project Location
Region 1, Lake Pontchartrain Basin, St. Bernard Parish, between the Mississippi River and the Mississippi River Gulf Outlet, in the Central Wetlands Unit, north of the Bayou La Loutre Ridge.

Problem
First, construction of the Mississippi River Levee cut off the Central Wetlands from freshwater, sediment, and nutrient input from the Mississippi River. Subsidence is relatively high. Construction of the MRGO beginning in 1958, resulted in many acres of wetlands being filled, greatly increased salinity, over 10,000 ac of swamp killed, and impoundment of the Central Wetlands. By 1978, most of the cypress swamps were dead, and remaining marsh had become brackish. Between 1932 and 1990, 13,480 ac of wetlands here were lost. Much of remaining marsh is in bad shape and shallow open water is forming.

Proposed Project Features
Create or nourish approximately 750 ac of intermediate to brackish marsh and some swamp using sediments dredged from the Mississippi River. Vegetative planting may be necessary and will be done creating floating marsh. Funds are budgeted for this contingency.

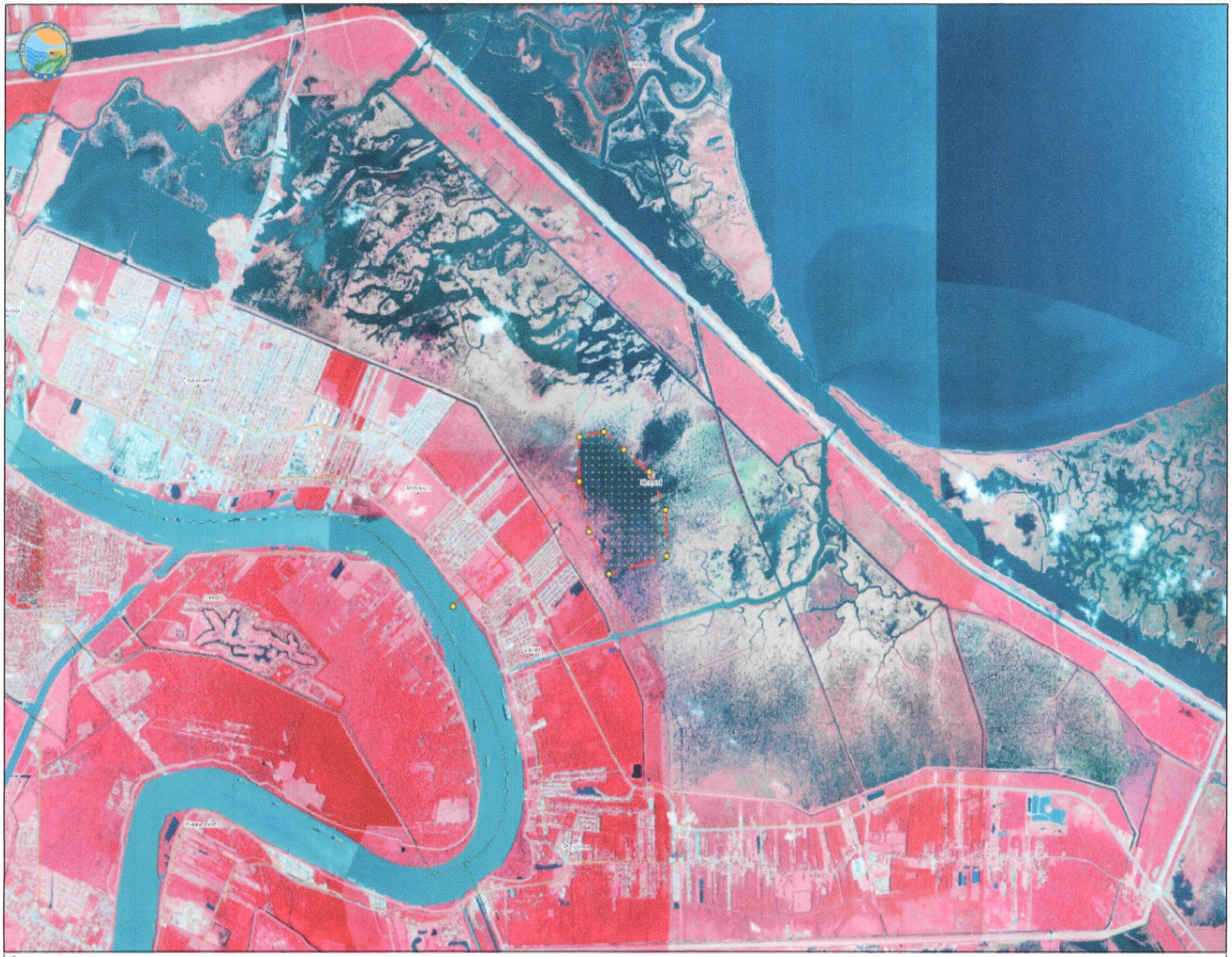
Goals
- Convert approximately 500 acres of shallow open water habitat to intermediate or brackish marsh, swamp will be planted on higher spoil elevations
- Nourish approximately 250 ac of existing intermediate or brackish marsh with Mississippi River sediment, floating marsh will be created with "marsh pillows"
- Maintain about 496 acres of created/nourished marsh over the 20-year project life. The area is adjacent to a pumping station that has maintained a small area of cypress swamp. The water discharged from the pumping station will help maintain low salinity conditions.

Preliminary Project Benefits
- See project goals above
- Protect the Mississippi River Levee in the vicinity of the project

Identification of Potential Issues
The proposed project has potential landrights issues but this is being worked out, and potential issues with dredging in the Mississippi River. An area of sediment in the river has been identified just north of where the sediment will be pumped from the river to the wetlands. Ditches and canals have been identified that will alleviate the necessity of reconstruction of roads.

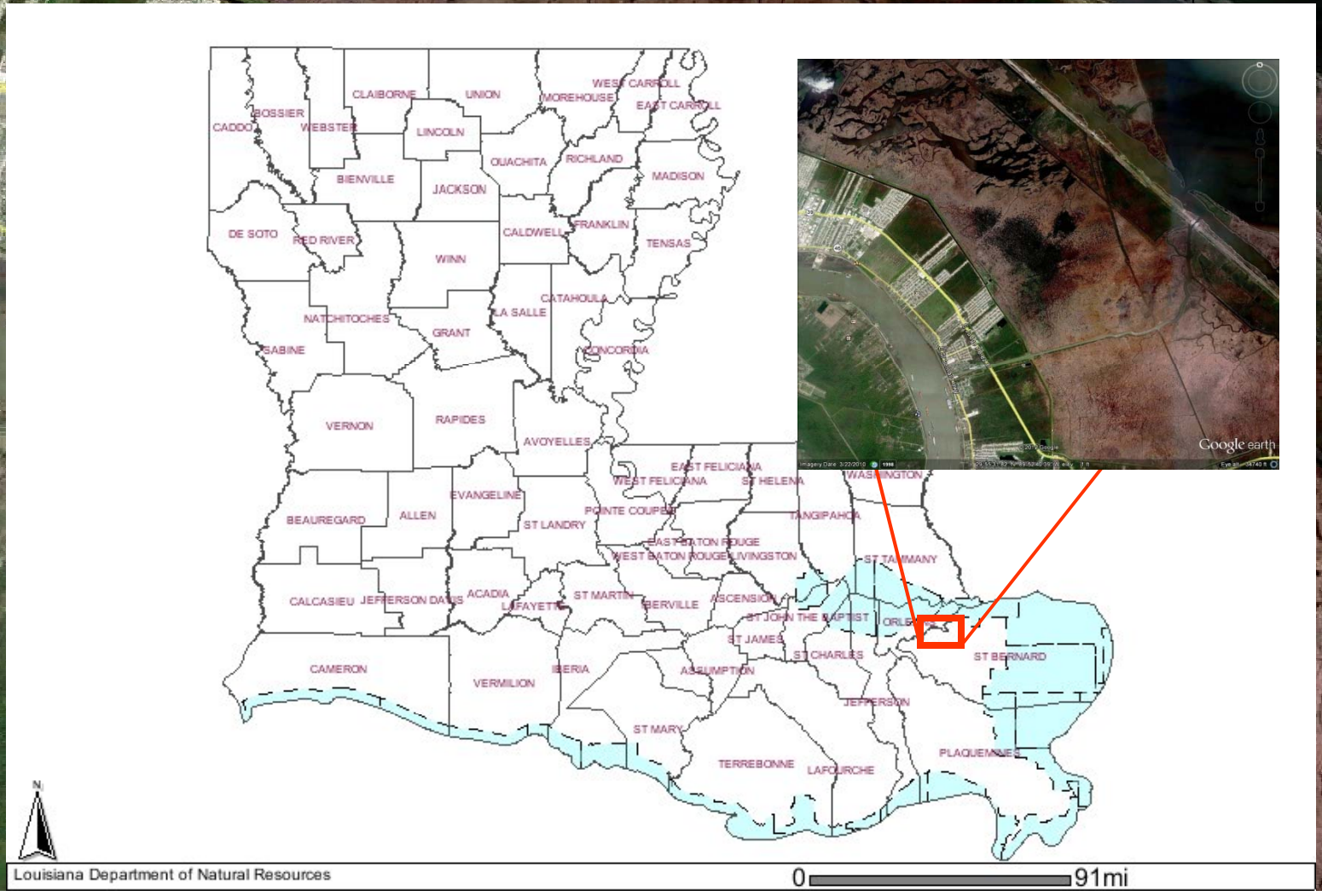
Preliminary Construction Costs
The estimated construction cost including 25% contingency is $25 million.

Preparer(s) of Fact Sheet:
Paul Kaspar, EPA Region 6, (214) 665-7459, kaspar.paul@epa.gov
Ken Teague, EPA Region 6, (214) 665-6687, teague.kenneth@epa.gov
John Ettinger, EPA Region 6, (504) 862-1119, ettinger.john@epa.gov


Absolute Scale: 1:39,601
Relative Scale: 1 inch = 3,300 feet
SONRIS Interactive Map
Disclaimer: This data is not to be used for legal purposes.
Date: 1/9/2012

Detailed image showing potential route of the pipeline. There is a canal from the railroad near the river levee to the 40 Arpent canal. The canal is larger from highway 39 to the 40 Arpent Canal than from highway 39 to the river. There are culverts under highways 39 and 46. The pipeline would have to be jack and bored under the railroad next to the river levee.

Central Wetlands Marsh-Swamp Creation/Marsh Nourishment With Mississippi River Sediment



Marsh Creation Using Sediment Delivery

Central Wetlands Marsh Creation/Marsh Nourishment With Mississippi River Sediment

Goals:

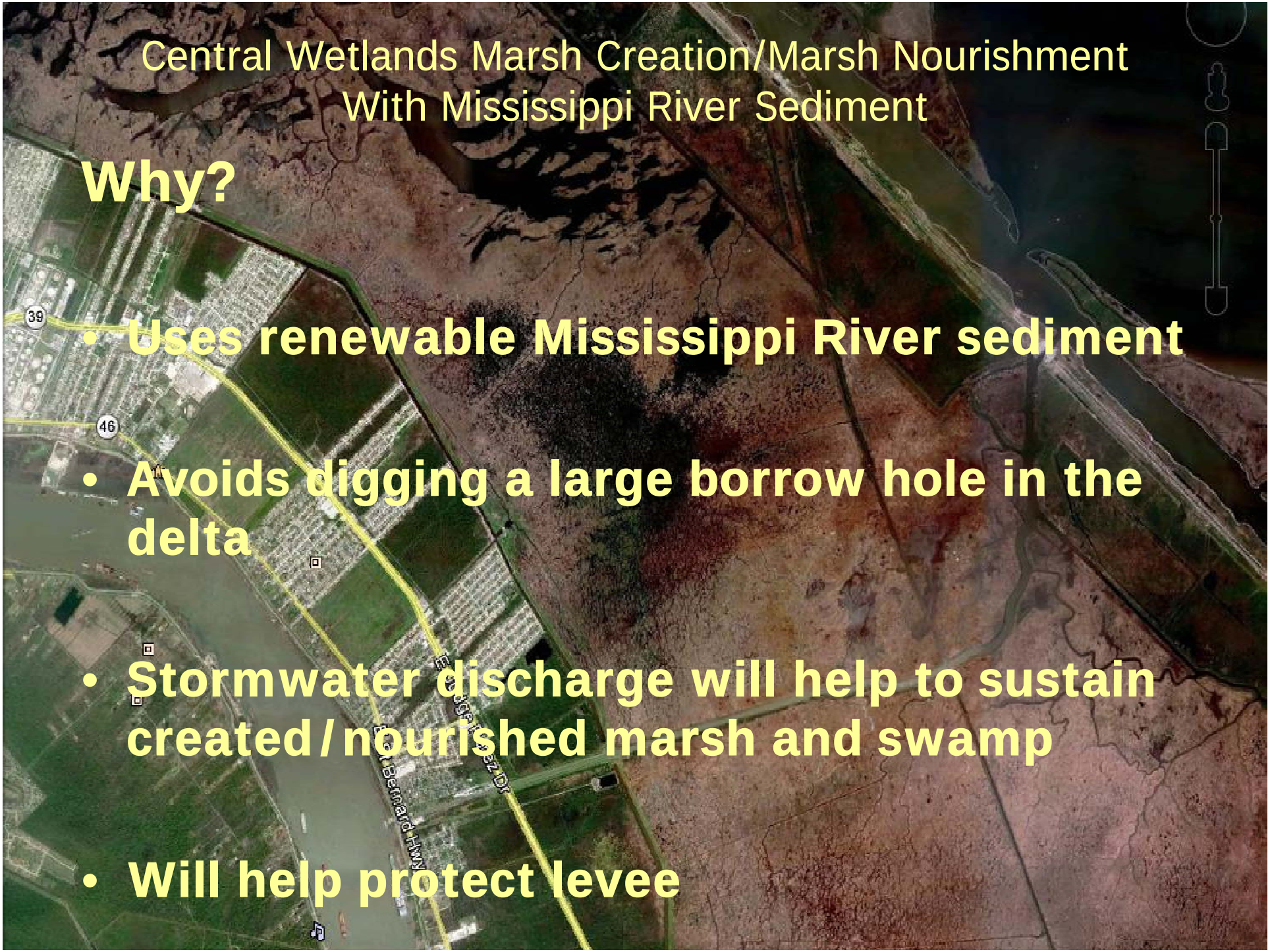
- Create/Nourish ~750 ac intermediate marsh

Preliminary Project Benefits:

- 500 net ac firm marsh created
- Approx. 250 ac floating marsh " marsh pillows"
- Swamp created on higher elevations

Preliminary Construction Costs:

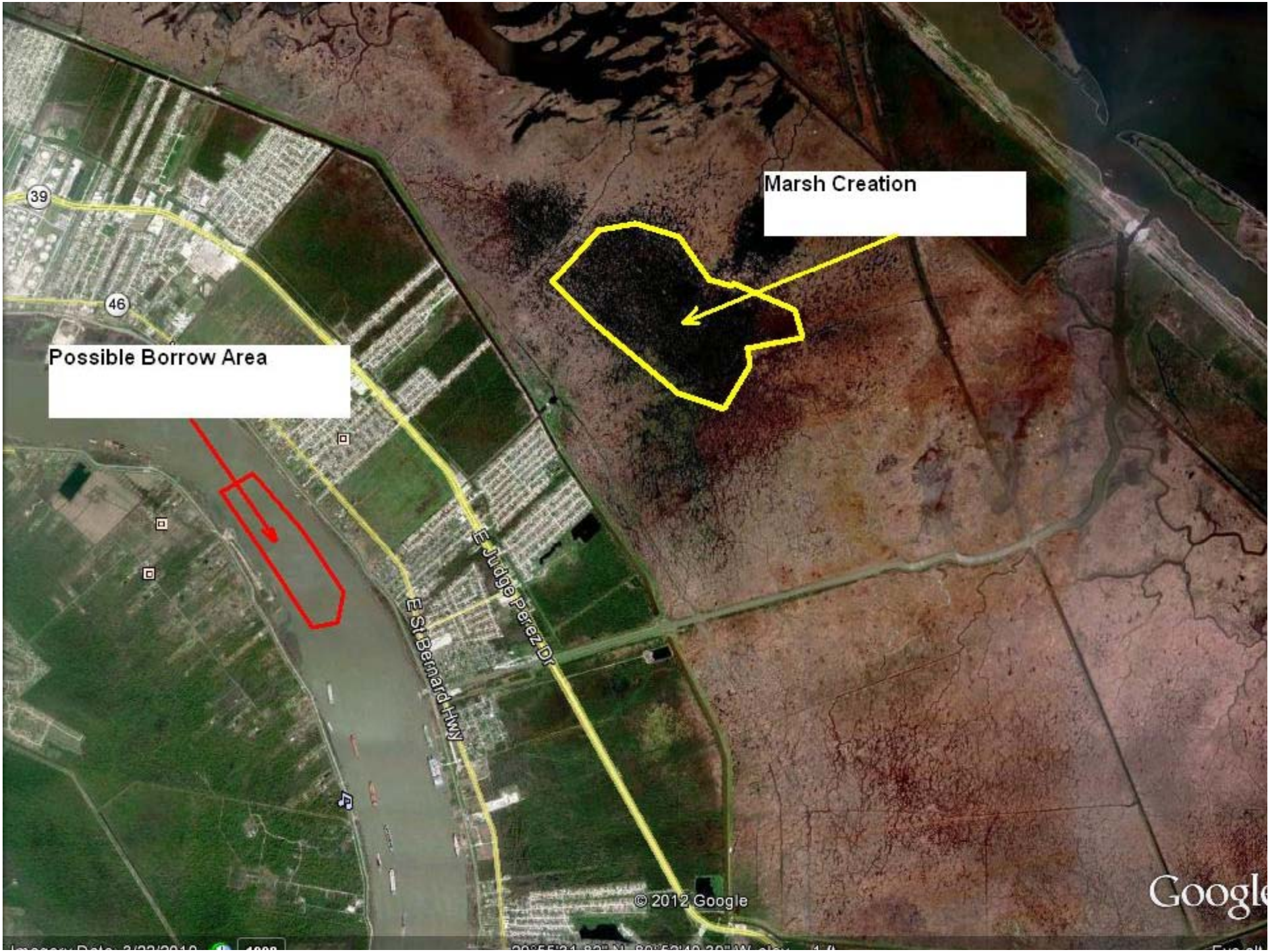
- $24 million



Central Wetlands Marsh Creation/Marsh Nourishment With Mississippi River Sediment

Why?

- **Uses renewable Mississippi River sediment**
- **Avoids digging a large borrow hole in the delta**
- **Stormwater discharge will help to sustain created / nourished marsh and swamp**
- **Will help protect levee**


Marsh Creation
Possible Borrow Area
39
46
E Judge Perez Dr
E St Bernard Hwy
© 2012 Google
Google


Existing Canal from Miss Levee
To 40 Arpent Canal
(1.3 miles)
There are
Culverts Under LA
Highways 39 and 46
2306 ft


Central Wetlands Marsh Creation/Marsh Nourishment
With Mississippi River Sediment
Questions?
Ken Teague - EPA Region 6
(214)665-6687
Teague.kenneth@epa.gov
Ricky Melerine - SBPG
(504) 909-3803
tmelerine@sbpg.net
Sarah Mack -Tierra Resources
(504) 339-4547
sarahmack@tierraresourcesllc.com
39
46
E St Bernard Hwy
E Judge Perez Dr
ST. BERNARD PARISH GOVERNMENT
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

R1-PO-02

Guste Island Marsh Creation

R1-PO-02

PPL-22 GUSTE ISLAND MARSH CREATION PROJECT

Coast 2050 Strategy: Coastwide Common Strategies: Dedicated Dredging for Wetlands Creation, Vegetative Planting, and Maintain or Restore Ridge Functions; Region 1 regional ecosystem strategies: Dedicated delivery of sediment for marsh creation; Region 1 mapping unit strategies: Dedicated Dredging

Project Location: Region 1, Pontchartrain Basin, St. Tammany Parish, WSW of Madisonville, LA. Along the rim of Lake Pontchartrain 3 miles east of the mouth of the Tchefuncte River.

Problem: Lake Pontchartrain lake rim has breached into a failed agricultural area. What's left of the lake rim will continue to degrade and Lake Pontchartrain will expand into this area by an additional 1,000 acres.

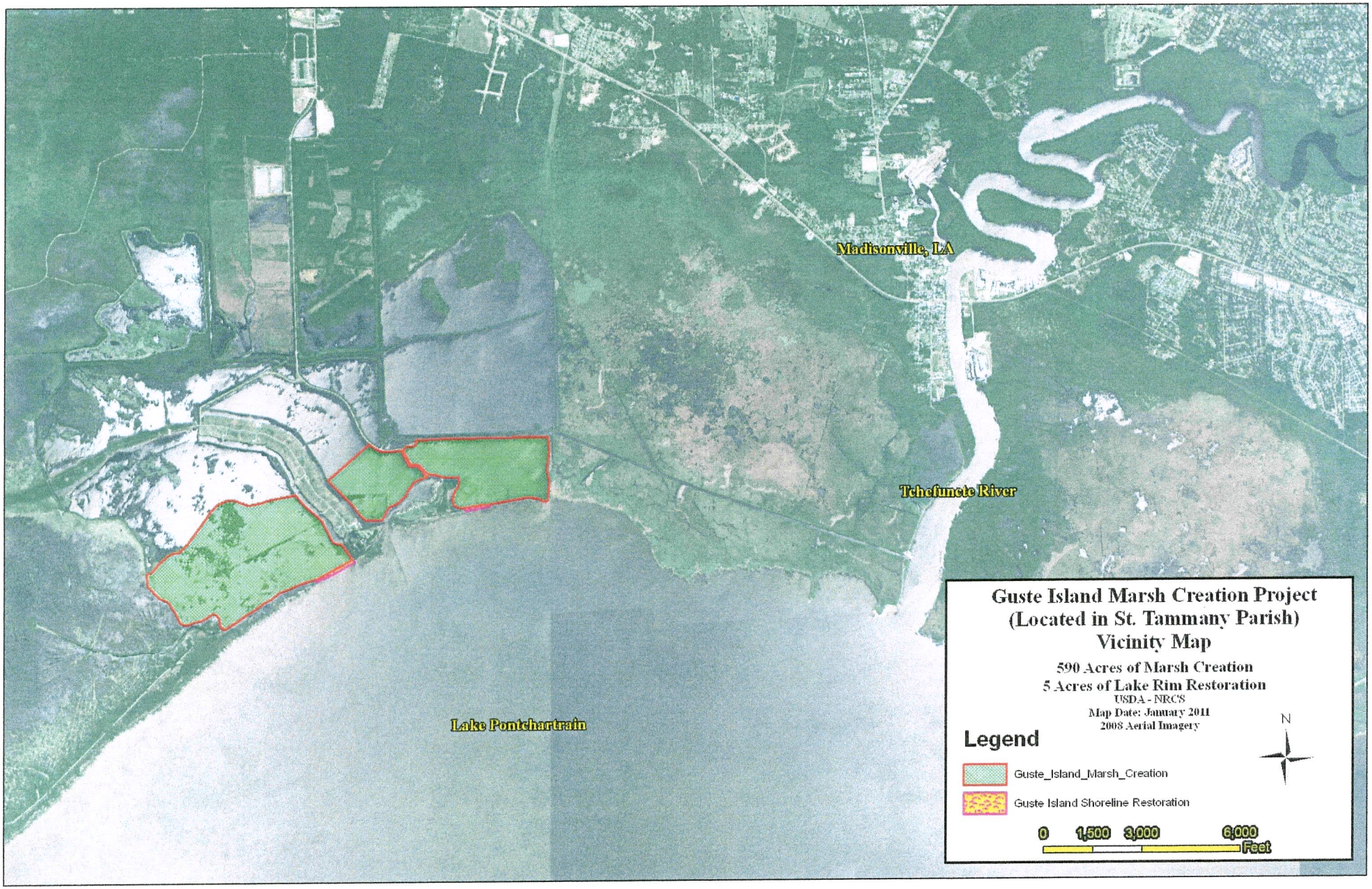
Goals: Primary goal is to build marsh in an area that converted to shallow open water and to restore the lake rim in the areas where breaching has occurred. Project implementation would result in an increase of fisheries and wildlife habitat, acreage, and diversity along with improving water quality. The proposed project would provide a protective wetland buffer along the rim of Lake Pontchartrain.

Proposed Solution: Proposed solution consists of the creation of ± 590 acres of emergent wetlands using dedicated dredging from Lake Pontchartrain. In addition, 2,000 linear feet (approximately 5 acres) of lake rim would be restored. The marsh creation area would have a target elevation the same as average healthy marsh. It is proposed to place the dredge material in the target area with the use of retention dikes along the edge of the project area. Hydrologic connectivity will be maintained as a component of creating this functional wetland. Vegetative plantings would be utilized in the areas designated to be emergent marsh and on the restored lake rim. Engineering monitoring surveys of the marsh creation area and borrow area are planned as well.

Project Benefits: This project would benefit 590 acres of fresh marsh and open water, with an additional 5 acres of restored lake rim.

Project Cost: The estimated construction cost plus 25% contingency for this project is approximately $26,000,000.

Preparer of Fact Sheet: Jason Kroll, NRCS, 225-389-0347, Jason.Kroll@la.usda.gov


Madisonville, LA
Tchefuncte River
Lake Pontchartrain
Guste Island Marsh Creation Project
(Located in St. Tammany Parish)
Vicinity Map
590 Acres of Marsh Creation
5 Acres of Lake Rim Restoration
USDA - NRCS
Map Date: January 2011
2008 Aerial Imagery
Legend
Guste_Island_Marsh_Creation
Guste Island Shoreline Restoration
N
0
1,500
3,000
6,000
Feet


Lake Rim Restoration
Lake Rim Restoration
Lake Pontchartrain
Guste Island Marsh Creation Project
(Located in St. Tammany Parish)
590 Acres of Marsh Creation
5 Acres of Lake Rim Restoration
USDA - NRCS
Map Date: January 2011
2008 Aerial Imagery
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Guste_Island_Marsh_Creation
Guste Island Shoreline Restoration
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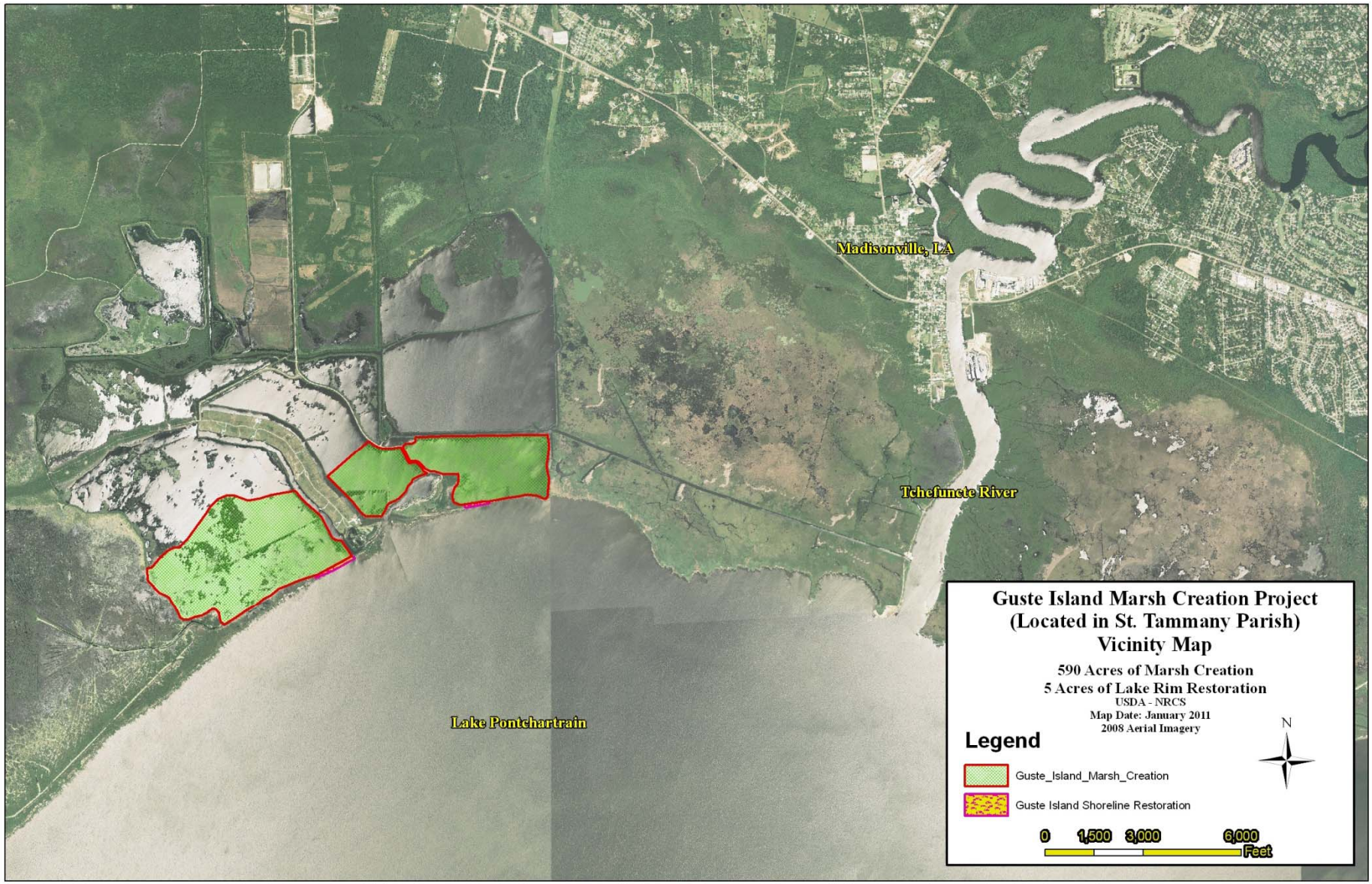
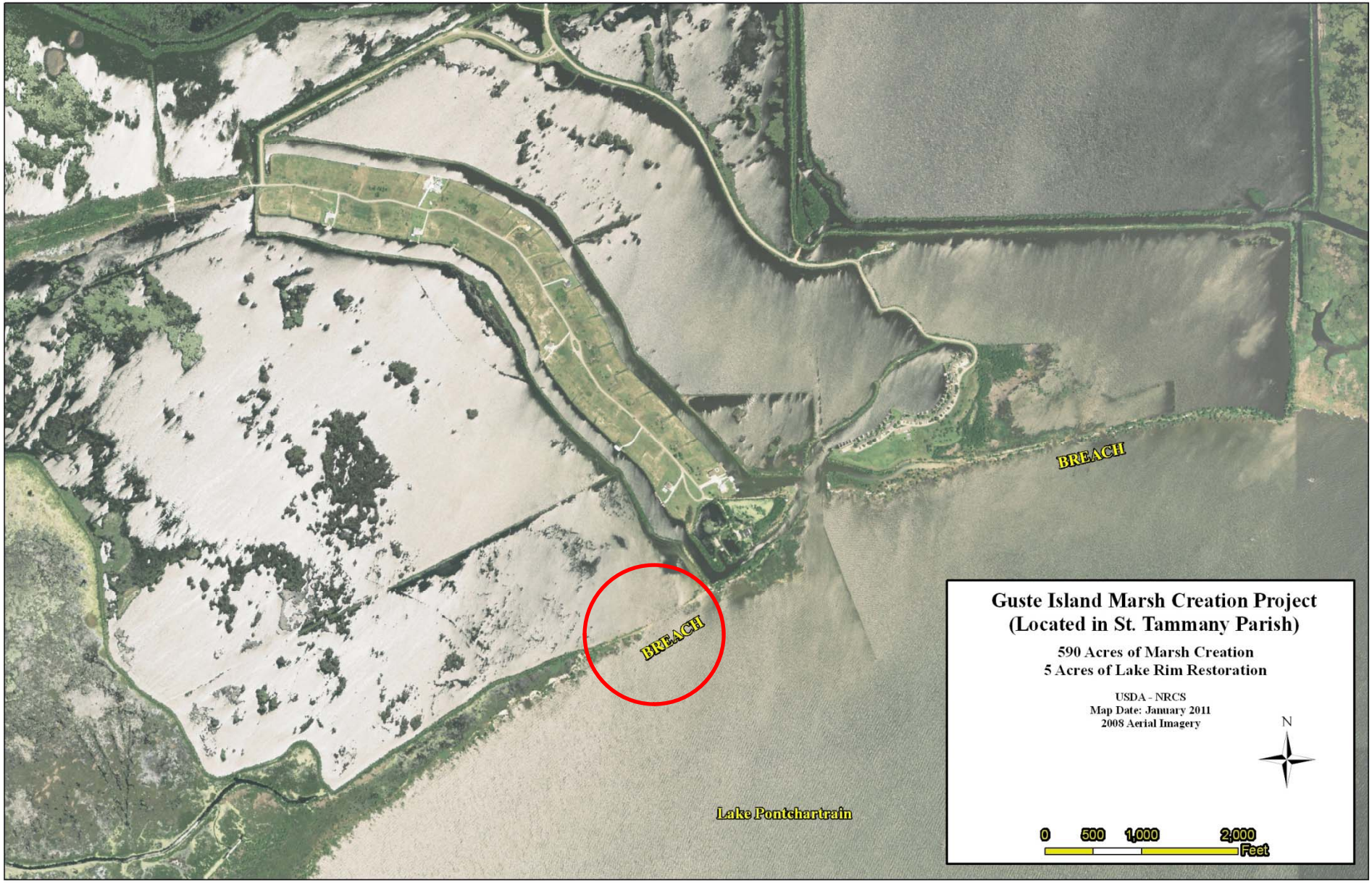
Feet

GUSTE ISLAND MARSH CREATION



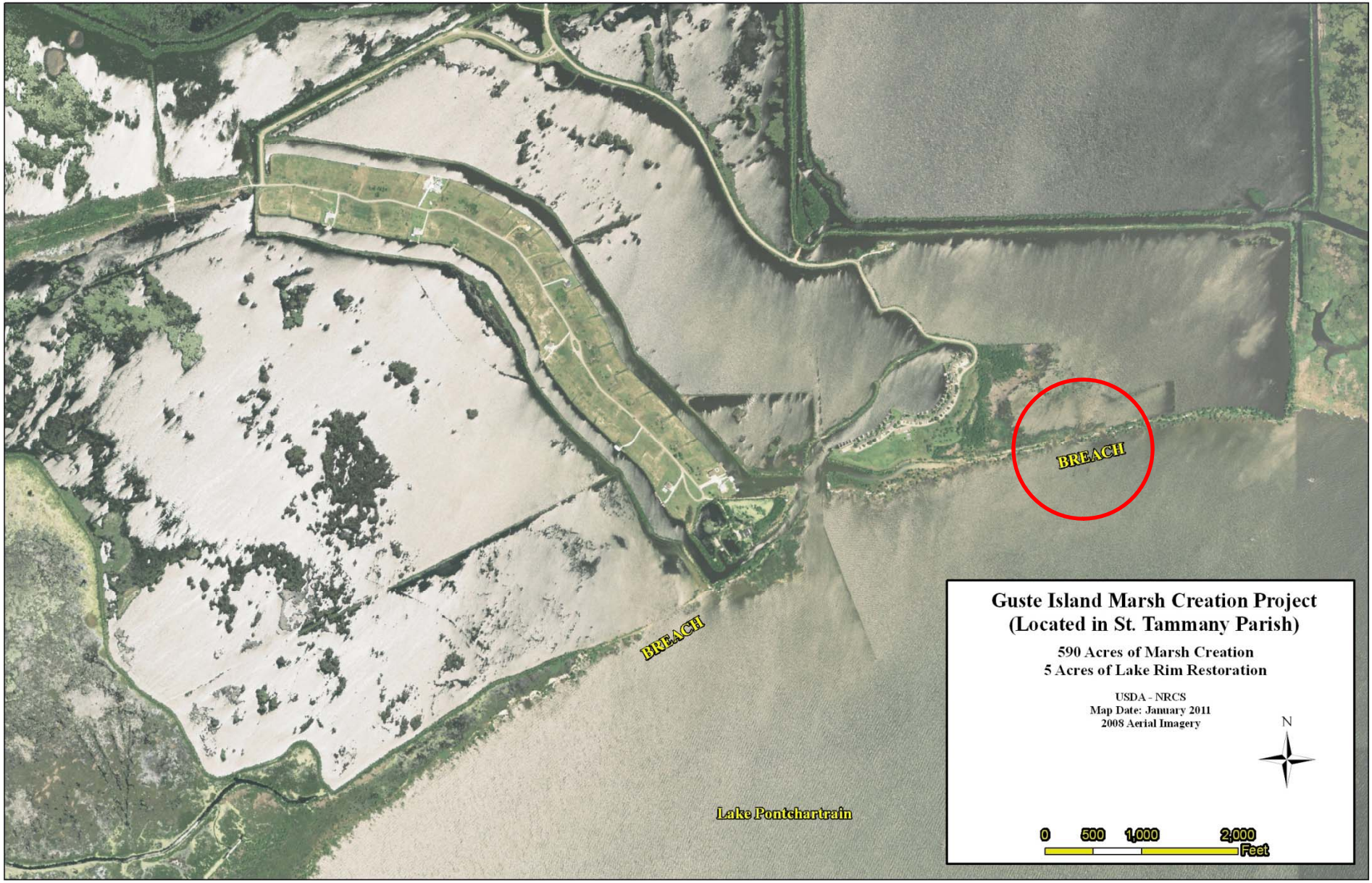
Current Condition



Current Condition – West Breach

Current Condition – West Breach

Current Condition



Current Condition – East Breach

Current Condition – East Breach

Proposed Solution – 590 acres Marsh Creation & 5 Acres Lake Rim Restoration

R1-PO-03

North Goose Point Marsh Restoration

BA-PO-03

PPL22 PROJECT NOMINEE FACTSHEET

Project Name: North Goose Point Marsh Restoration Project

Coast 2050 Strategy, Region 1

- Coastwide – Dedicated Dredging to Create, Restore, or Protect Wetlands; Maintenance of Gulf, Bay and Lake Shoreline.
- Regional – Dedicated Delivery of Sediment for Marsh Building; (#10) Maintain Shoreline Integrity of Lake Pontchartrain to Protect Regional Ecosystem Values.
- Mapping Unit – Maintain Shoreline Integrity.

Project Location

Region 1, St. Tammany Parish, Lake Pontchartrain Basin, along the north shore of Lake Pontchartrain, within Big Branch Marsh National Wildlife Refuge and Fountainebleau State Park.

Problem

Interior ponding and, to a lesser extent shoreline erosion, are the major causes of wetland loss in the project area. From 1974 to 1990 marsh loss rates averaged approximately 35 acres/year. Those high loss rates are associated with hydrologic alterations which allowed saltwater to penetrate the fresher marshes. In addition, the passage of Hurricane Katrina also contributed to the loss of as much as 3.6 square miles of wetlands within the project area. During the transition to a more brackish plant community coupled with the storm events of 2005, large ponds have formed. A narrow strip of land separates those ponds from Lake Pontchartrain. Although the shoreline erosion rates are relatively low, the shoreline is already breached in several areas, and marsh loss in the interior ponds is expected to increase as the shoreline is breached.

Proposed Project Features

Sediment would be hydraulically dredged from Lake Pontchartrain and placed in designated areas within the ponds to create approximately 466 acres of emergent marsh and nourish approximately 220 acres of marsh. Sediment would be pumped within open water areas and controlled to allow over flow existing marsh. Containment dikes would be constructed to ensure marsh elevations are achieved. Initial elevations would depend on conditions of the dredged material, but would be pumped to approximately 2.5 ft above marsh level to achieve final target elevation of +0.5 ft above marsh elevation.

Goals

The primary goal is to re-create marsh habitat in the open water areas immediately behind the shoreline within Big Branch Marsh NWR. This will maintain the lake-rim function along this section of the north shore of Lake Pontchartrain and help to sustain the health of the Lake.

Identification of Potential Issues

The borrow areas in Lake Pontchartrain are located within Gulf sturgeon critical habitat.

Preliminary Construction Costs

Based on the PPL21 cost estimator, preliminary construction costs are estimated at $25-$30M.

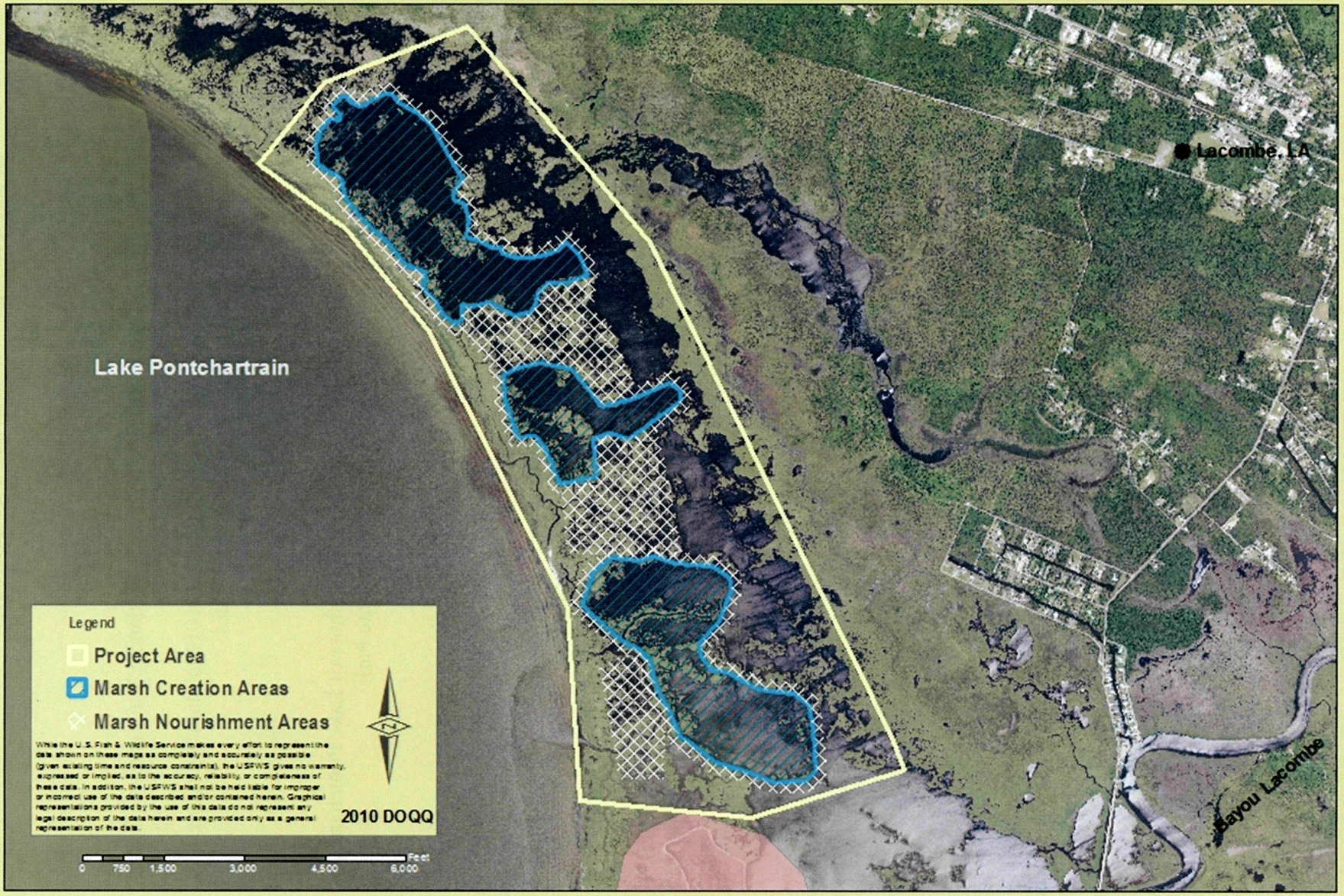
Preparer of Fact Sheet

Angela Trahan, USFWS, (337) 291-3137, Angela_Trahan@fws.gov

U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

North Goose Point Marsh Restoration Project (PPL 22)

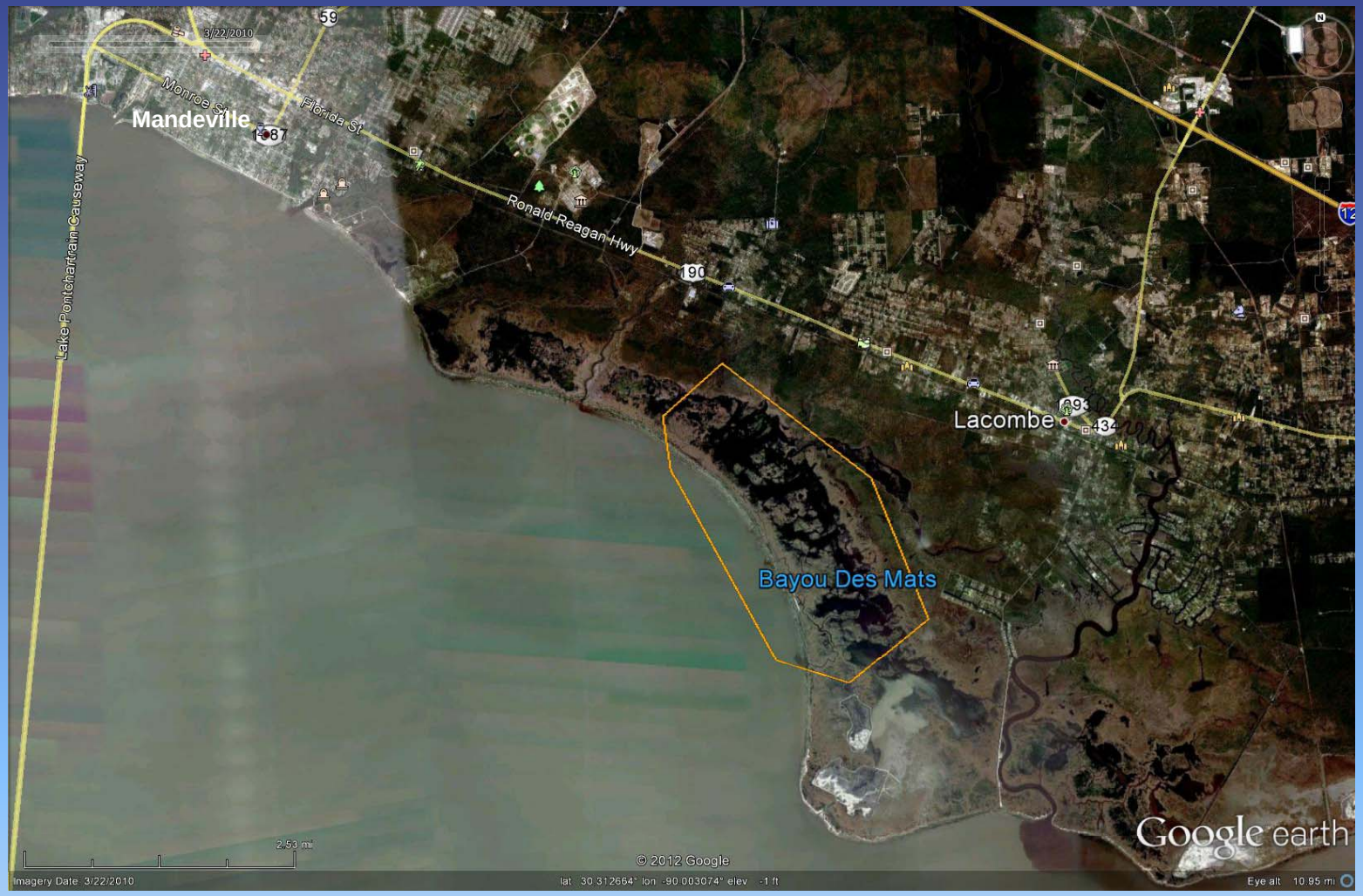


North Goose Point Marsh Restoration

PPL 22

Region 1, Lake Pontchartrain Basin

North Goose Point Marsh Restoration



U.S. Fish & Wildlife Service

Louisiana Ecological Services Field Office

North Goose Point Marsh Restoration Project (PPL 22)

R1-PO-04

New Orleans Landbridge Shoreline Stabilization & Marsh Creation

R1-PO-04

PPL 22 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name:
New Orleans Landbridge Shoreline Stabilization & Marsh Creation Project (Hospital Wall Area)

Coast 2050 Strategies:
Basin Strategies:
10. *Maintain shoreline integrity of Lake Pontchartrain to protect regional ecosystem values.*
15. Maintain Eastern Orleans Land Bridge by marsh creation and shoreline protection.

Project Location:
The project is located in Region 1, in the Pontchartrain Basin. The project site is located along the east portion of Lake Pontchartrain west of HWY 90 between Hospital Road and Greens Ditch in Orleans Parish, Louisiana.

Problem:
Since 1956, the project area has lost more than 110 acres of wetlands along the east shore of Lake Pontchartrain between Hospital Road and the Greens Ditch area. The shoreline in the Hospital Wall Area has retreated approximately 450 feet since 1956. Wetland losses were accelerated by winds and storm surge caused by Hurricanes Katrina and Rita. Within the project area, these storms alone converted approximately 50 acres of interior marsh to open water ponds. Flooding of nearby communities during strong northwest winds 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 8 ft year. Some areas have a shoreline retreat as great as 15 ft year and have broken into the interior marsh. The continued loss of wetlands in the area has the potential to breach this land bridge into Lake St. Catherine if no action is taken to stabilize this shoreline.

Proposed Project Features:
1. Install approximately 7,183 linear feet of rock along the northwestern shoreline of the New Orleans Landbridge.
2. Dredging- fill placement to create/restore/nourish wetlands

Goals:
1. Stop shoreline erosion.
2. Create/restore/nourish/protect ~ 63 acres of wetlands.
3. Protect the New Orleans Landbridge

Preliminary Project Benefits:
The following questions should be addressed:
1) What is the total acreage benefitted both directly and indirectly?
Directly benefitted: Approximately 26 acres of marsh will be protected via the shoreline protection feature (7,183 ft x 8 ft x 20 yrs/43,560 = 26 ac.) Approximately 46 acres of marsh will be restored via the marsh creation/nourishment feature.
Indirectly: Approximately 200 acres in the project area would be protected from the shoreline protection. Additionally, Hwy 90 would be protected from encroachment from Lake Pontchartrain.

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

At the end of 20 years, approximately 26 acres of marsh should remain due to the shoreline protection feature. The marsh creation/nourishment feature would result in an estimated 37 net acres at end of 20 years. The net acres benefited would be 63 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 benefits over the project life would be 100% for the shoreline protection and 50% for marsh creation/nourishment. Most of the interior land loss has been due to areas where the shoreline has broken into the interior 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?

The project maintains a portion of the rims of Lake Pontchartrain, which are structural components of the coastal ecosystem. The project also protects the New Orleans Land-bridge.

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

One key feature of this project is the protection of Hwy 90 which is used by the local communities as a hurricane evacuation route. The project site is also located in a critical area that provides one of the last lines of defense against storm surge coming into the Lake Pontchartrain system.

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

The project continues to protect the Lake Pontchartrain Rim which serves as the remaining critical reach that protects the west side of the New Orleans Landbridge.

Identification of Potential Issues:

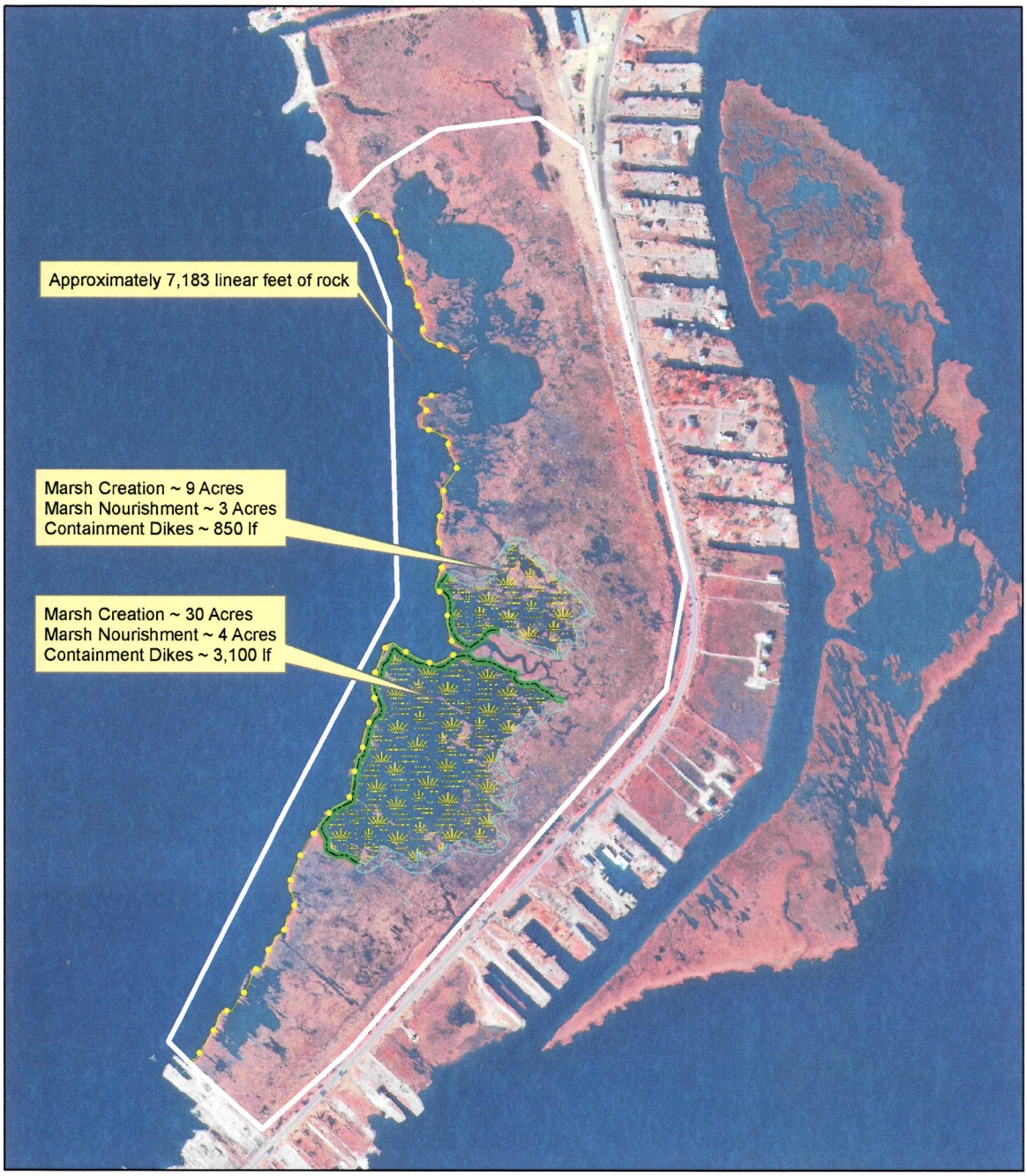
Rock shoreline protection projects historically require O&M. Consideration of possible impacts to gulf sturgeon at certain times of the year would be required.

Preliminary Construction Costs:

The construction cost including 25% contingency is approximately $6,976,072. The fully-funded cost range is $10M - 15 M.

Preparers of Fact Sheet:

Susan M. Hennington, USACE, 504-862-2504, Susan.M. Hennington@usace.army.mil
Travis Creel, USACE, 504-862-1071, Travis.J.Creel@usace.army.mil
Suzanne R. Hawes, USACE, 504-862-2518, Suzanne.R.Hawes@usace.army.mil
Scott F. Wandell, USACE, 504-862-1878, Scott.F.Wandell@usace.army.mil



Legend

- Shoreline Protection_PPL 20
- Marsh Nurish_PPL 20
- Marsh Creation Dikes_PPL 20
- Marsh Creation_PPL 20
- Project Area

N

New Orleans Landbridge
Hospital Wall Area

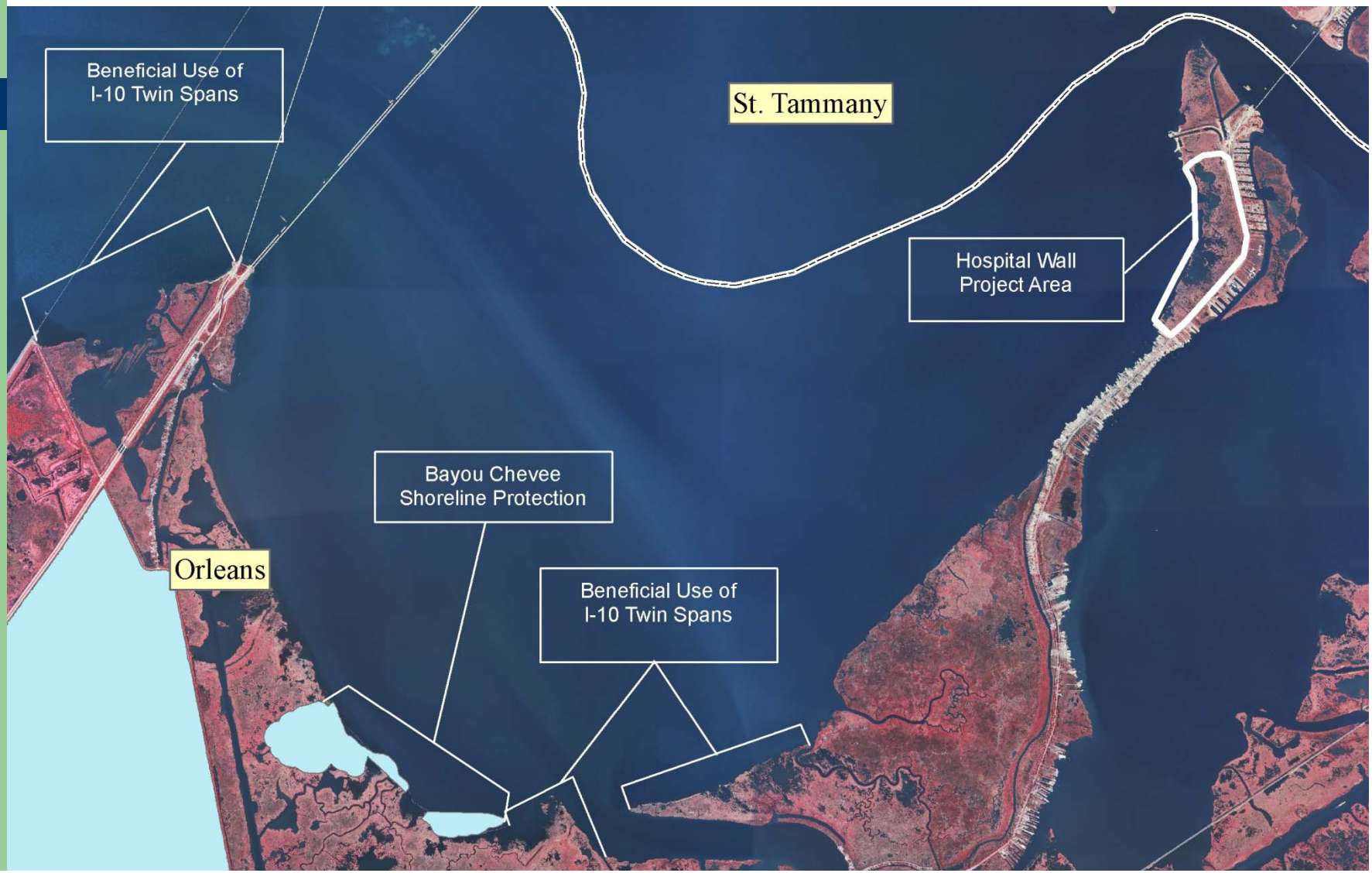
1,100 550 0 1,100 Feet

Background Map: 2005 DOQQ

New Orleans Landbridge Shoreline Stabilization & Marsh Creation Project (Hospital Wall Area)

PPL 22
Region 1
Pontchartrain Basin

Project Area:



Problem:

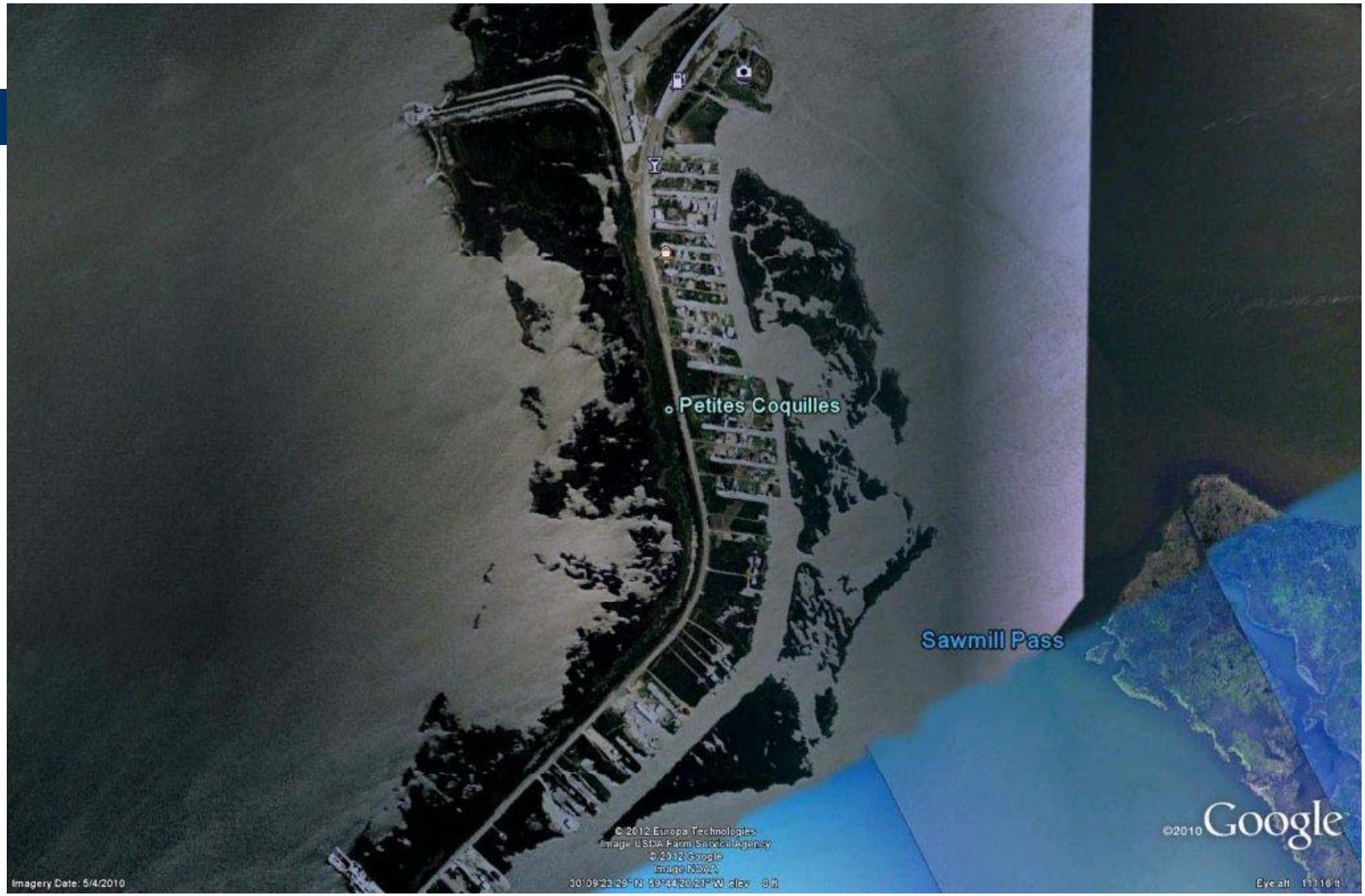
- Since 1956, area has lost more than 110 acres of wetlands near the Hospital Road area.
- The east shore of Lake Pontchartrain has retreated ~ 450 feet since 1956, toward Hwy 90, a major hurricane evacuation route.
- Hurricanes Katrina alone converted approximately 50 acres of interior marsh to open water ponds.
- Flooding of nearby communities during strong northwest winds 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.
- Average shoreline retreat approximately 7’ per yr, with some areas as >15’ per yr

Pre-Katrina (2004 DOQQ):

Post-Katrina(2005 DOQQ):

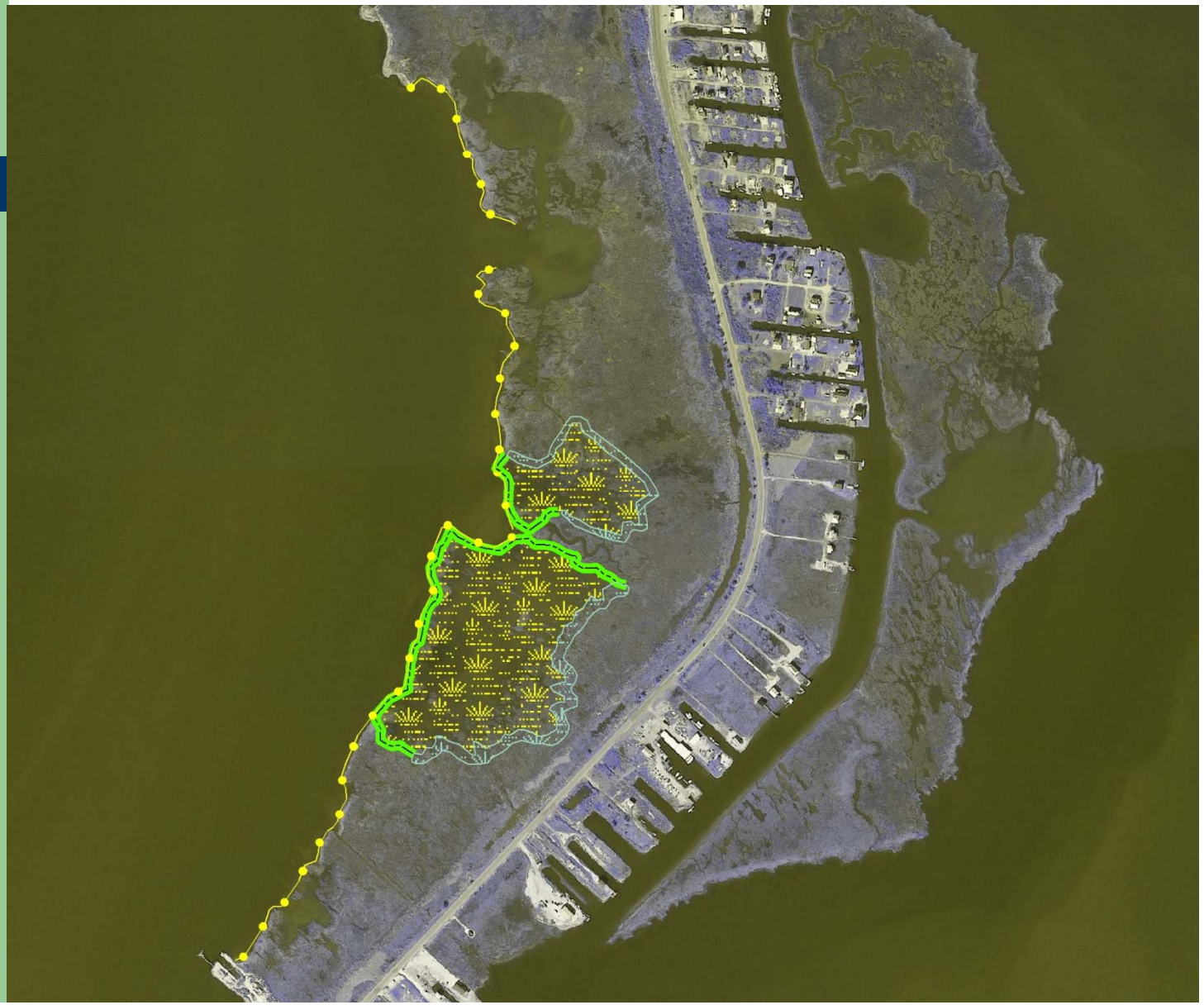
2008 conditions (2008 DOQQ):

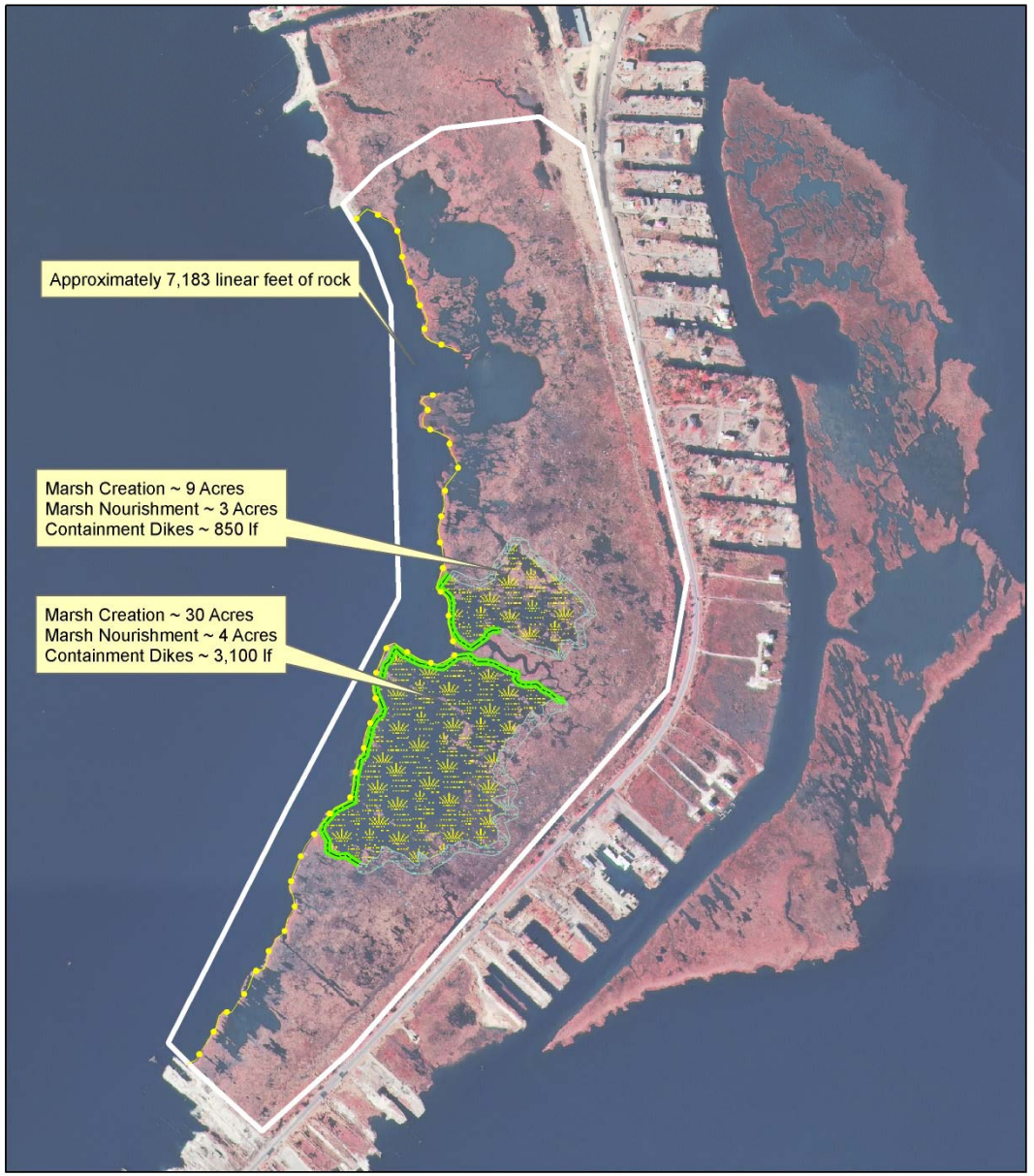
2010 conditions (May 4, 2010 Google Earth image):



Shoreline Protection (~7,200 lf):

Marsh Creation and Nourishment:




Approximately 7,183 linear feet of rock
Marsh Creation ~ 9 Acres
Marsh Nourishment ~ 3 Acres
Containment Dikes ~ 850 lf
Marsh Creation ~ 30 Acres
Marsh Nourishment ~ 4 Acres
Containment Dikes ~ 3,100 lf
Legend
Shoreline Protection_PPL 20
Marsh Nurish_PPL 20
Marsh Creation Dikes_PPL 20
Marsh Creation_PPL 20
Project Area
N
New Orleans Landbridge
Hospital Wall Area
1,100 550 0 1,100 Feet
Background Map: 2005 DOQQ

Proposed Project Features:

- Install ~ 7,200 linear feet of rock protection along the northwestern shoreline of the New Orleans Landbridge.
- Dredging- fill placement to create/restore/nourish wetlands ~ 63 acres of wetlands.

Preliminary Project Benefits:

- Stop shoreline erosion.
- Create/restore/nourish/protect ~ 63 acres of wetlands.
- Protect the New Orleans Landbridge.
- Protect the Hwy 90 Evacuation Route.

R1-PO-05

Small Mississippi River Reintroduction into LaBranche Wetlands

R1-PO-05

PPL22 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name
Small Mississippi River Reintroduction into La Branche Wetlands

Coast 2050 Strategy
Coastwide Strategy: Coastwide Common Strategy- Diversions and Riverine Discharge; Management of Diversion Outfall for Wetland Benefits; Region1 Regional Ecosystem Strategy- Small Diversion of Mississippi River into La Branche wetlands.

Project Location
Region 1, Lake Pontchartrain Basin, St. Charles Parish

Problem
As with many other locations in the Mississippi River Deltaic Plain, the La Branche Wetlands' primary problem is that it has been cut off from the Mississippi River for nearly 100 years. Without the nourishing sediment, nutrients, fresh water, and flow from the river, the La Branche Wetlands have not been able to maintain their elevation relative to water levels, causing the vegetation to drown. Early wetland losses here were caused by even higher rates of subsidence than that due to the accretion deficit, due to soil oxidation, in turn due to agricultural drainage. Construction of the MRGO increased salinities in Lake Pontchartrain and the La Branche Wetlands dramatically, causing stress and death to swamp vegetation further south, and to low salinity marsh vegetation closer to Lake Pontchartrain. Access canals dredged in the 1960s for construction of Interstate 10 caused some direct marsh loss, but perhaps more importantly, facilitated saltwater intrusion from Lake Pontchartrain and the MRGO. In addition, the La Branche Wetlands are impounded by the railroad crossing and various water control structures, which probably also contributes to wetland loss here. Finally, the Bayou Trepagnier area in the southwestern corner of the LaBranche Wetlands, were contaminated by industrial discharges. Subsequently, the requirement that those discharges cease compounded the problems of the lack of Mississippi River water and the resulting increased salinity, by eliminating the primary remaining freshwater sources- the contaminated industrial discharge.

Proposed Project Features
Project features will include some type of diversion structure, likely a siphon, a conveyance channel system, and outfall management features. We propose reintroducing Mississippi River water into the LaBranche Wetlands via one of several alternative locations. Several options include diverting water from the Bonnet Carre Spillway, while others involve diverting water directly from the Mississippi River.

One of the former options includes parts of the small Bayou Trepagnier Watershed, parts of which were historically contaminated by discharges from the refinery at Norco. Planning for remediation of the site began in the 1990s, and work continued until recently, including plans for creation of a "Clean Corridor" to facilitate reintroduction of Mississippi River water for ecological restoration of the western side of the La Branche Wetlands. The Bayou Trepagnier Working Group formed by LDEQ in 2000 developed a plan to address the area of contamination in the upper reach of the bayou referred to as Operating Unit 1. A decision document underwent public review and was approved. It required the responsible party to address contamination in operating Unit 1, including creation of an 800 foot wide clean corridor. The purpose of the clean corridor was to create an uncontaminated area that would allow for construction of a conveyance canal for diverting water eastward from the Bonnet Carré spillway into the LaBranche wetlands without risk of remobilizing contaminants. The site was declared "Ready for Re-Use" by LDEQ and EPA in December, 2011.

Goals
- Reduce wetland loss rates in the La Branche Wetlands
- Improve swamp habitat quality
- Increase flow through the La Branche Wetlands
- Increase accretion and sediment and nutrient loading to the La Branche Wetlands
- Decrease salinities in the La Branche Wetlands
- Increase SAV production

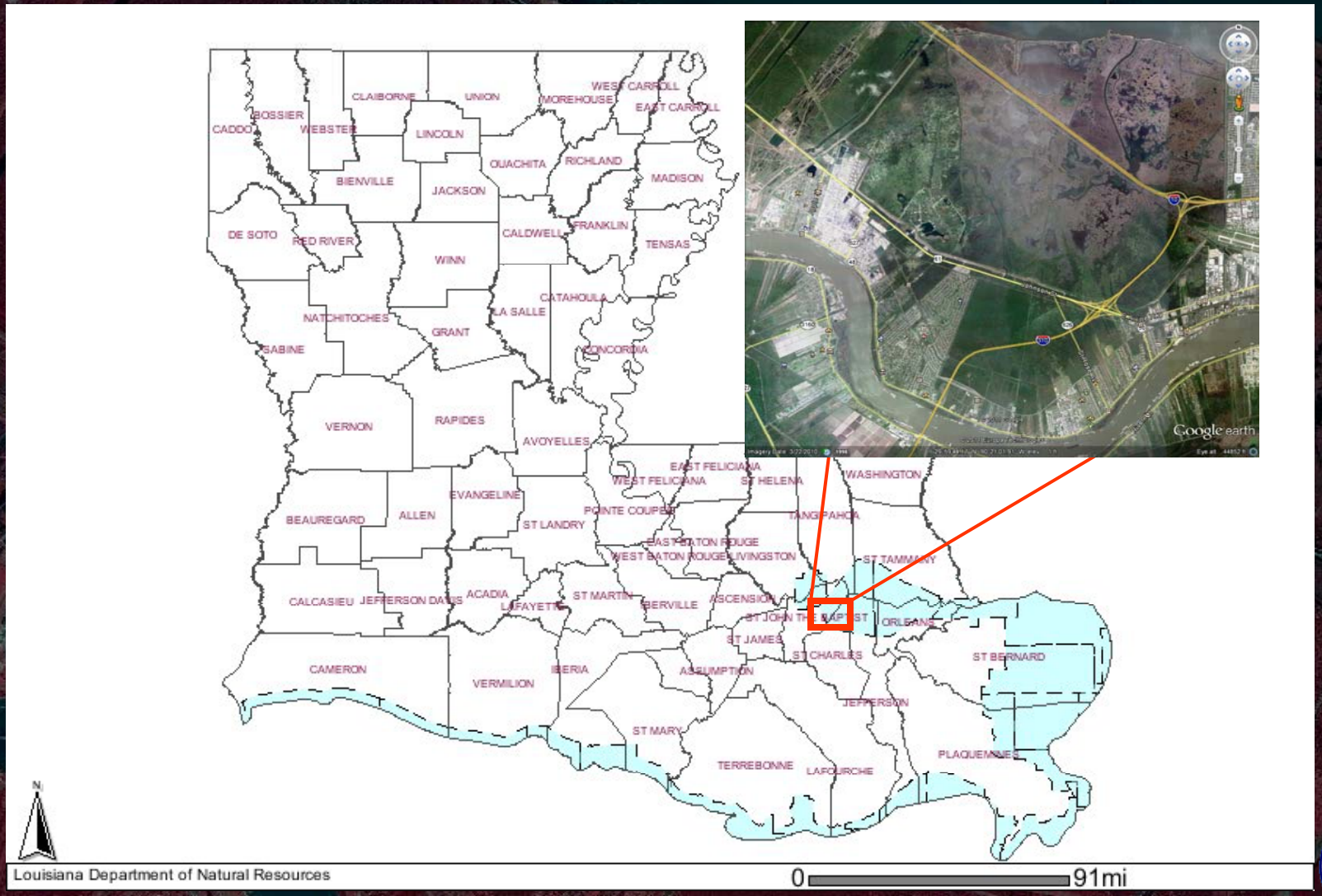
Preliminary Project Benefits
- Preliminary benefits=goals (see above)

Preliminary Construction Costs plus 25%
- $25 million

Preparer of Fact Sheet
Kenneth Teague, EPA, (214) 665-6687, Teague.Kenneth@epa.gov

Map of the La Branche Wetlands, showing several possible alternative locations for reintroducing Mississippi River water.

Small Mississippi River Reintroduction into La Branche Wetlands



Possible Diversion Locations

Small Mississippi River Reintroduction into La Branche Wetlands

Key Points:

- La Branche Wetlands are well-known and valued
- La Branche Wetlands are degraded and in need of restoration
- Reconnecting the La Branche Wetlands with the Mississippi River is one of the most important potential restoration techniques for these wetlands
- Proximity to the Mississippi River is a plus
- There is a lot of interest and a stakeholder group forming

Small Mississippi River Reintroduction into La Branche Wetlands

Goals:

- Reduce wetland loss rates in the La Branche Wetlands
- Improve swamp habitat quality
- Increase flow
- Increase accretion and sediment and nutrient loading
- Decrease salinities
- Increase SAV production

Preliminary Construction Costs + 25% ~ $25M

Small Mississippi River Reintroduction into La Branche Wetlands

Questions?

Kenneth Teague
EPA Region 6
(214)665-6687
Teague.kenneth@epa.gov

R1-PO-06

Golden Triangle Marsh Creation

R1-PO-06

PPL22 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name
Golden Triangle Marsh Creation

Coast 2050 Strategy
Coastwide: Dedicated dredging to create, restore, or protect wetlands
Regional: Restore and Sustain Marshes

Project Location
Region 1, Lake Pontchartrain Basin, St. Bernard and Orleans Parishes

Problem
Based on the USGS 1985 to 2009 loss rate, the wetlands in the South Lake Borgne subunit in which the Golden Triangle is located are being lost at -0.49%/year. Evaluation of 1998 to 2008 photography indicates interior breakup and coalescence of newly formed open water with historic ponds as well as increased connection with Bayou Bienvenue and the Gulf Intracoastal Waterway.

Proposed Solution
The proposed project technique is marsh creation via dedicated dredging from Lake Borgne. The primary target fill area are those identified in red (204 acres) that are very shallow as result of two disposal events by the Corps of Engineers for the construction of the surge barrier component of the Hurricane Surge Damage Risk Reduction System. Additional areas would be selected and filled to create marsh for a total of approximately 400 acres of marsh creation. Additional sites may include some, but are not limited to, sites identified in yellow. There is the potential for credit from marsh nourishment either by directly or indirectly targeting thin layer disposal on existing marsh inside or adjacent to the depicted polygons; however, those refinements would be made at the candidate stage and those potential benefits are not included below. The borrow site in Lake Borgne would be located far enough away from the existing marsh shoreline to prevent slope failure and inducing wave refraction/diffraction erosion and avoid sandy substrate preferred by the threatened Gulf sturgeon. Furthermore, the borrow site would not be dredged deeper than 15 feet below Mean Water Level to minimize potential impacts on dissolved oxygen and would be monitored to verify the rate of infilling and for water quality.

The conceptual project has been coordinated with staff of the Corps' Hurricane Protection Office. At the suggestion of their environmental staff, some acreage (e.g., 18 acres) would be excluded from P2 immediately adjacent to the GIWW, thus allowing for potential future disposal of material dredged to conduct maintenance on the surge barrier and avoidance of remaining deep water in that disposal area.

Goals
The project goal is to create approximately 400 ac of brackish marsh using sediment dredging from Lake Borgne in a manner to compliment and not conflict with the Corps' surge barrier.

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

This total project area is 400 ac.

2) *How many acres of wetlands will be protected/created over the project life?*
Approximately 354 ac of brackish marsh will be protected/created over the project life.

3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<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?*
No. However, the project will help maintain the continuity of the southwestern shoreline of Bayou Bienvenue.

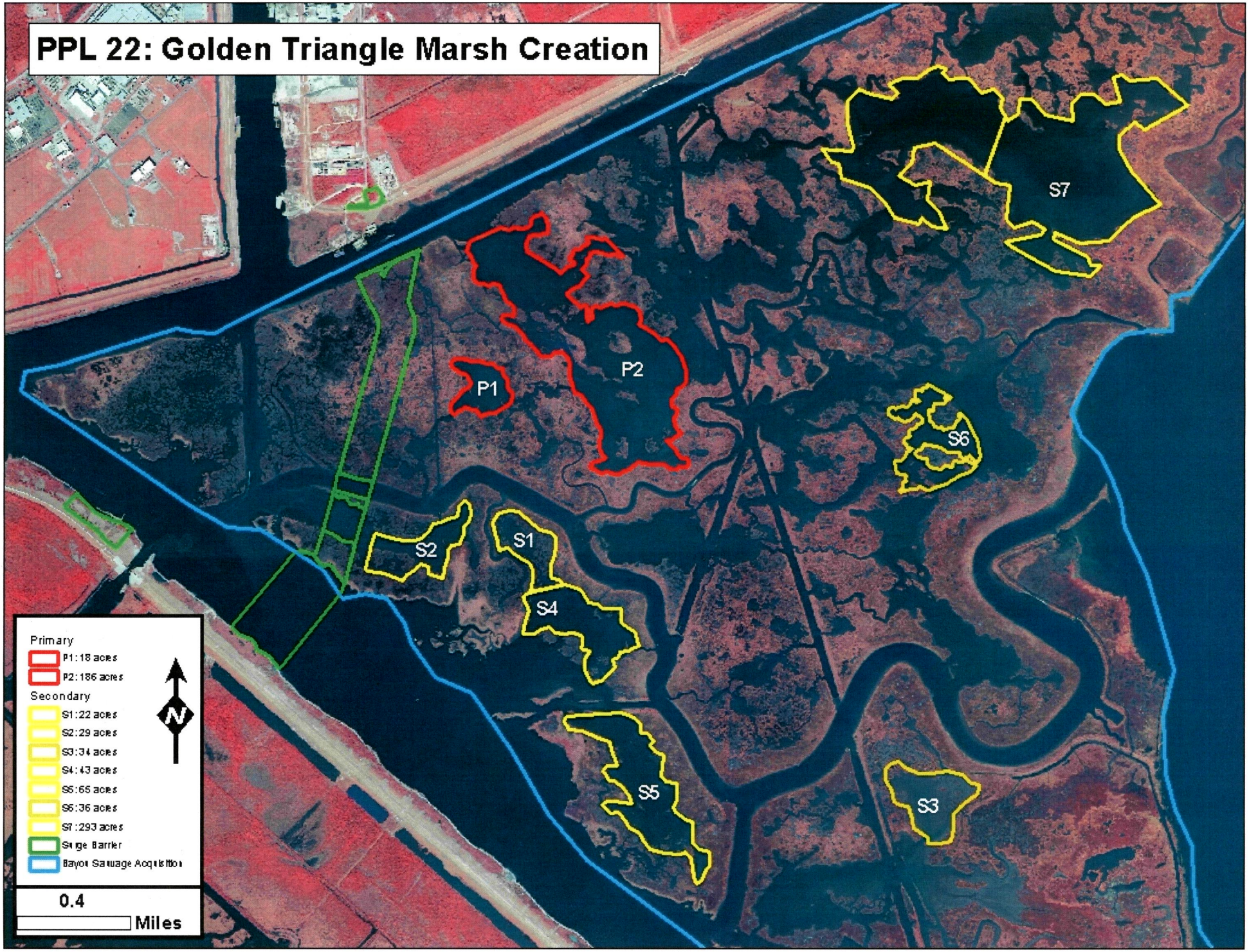
5) *What is the net impact of the project on critical and non-critical infrastructure?*
Although the marsh creation is located to maximize the synergy with the surge barrier, low elevations of marsh have been demonstrated to have a relative small positive effect on storm surge. Therefore, the project will have a minor net positive effect on a component of a critical flood protection system.

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 tentatively selected plan of the Mississippi River Gulf Outlet Ecosystem Restoration Study if funded for construction.

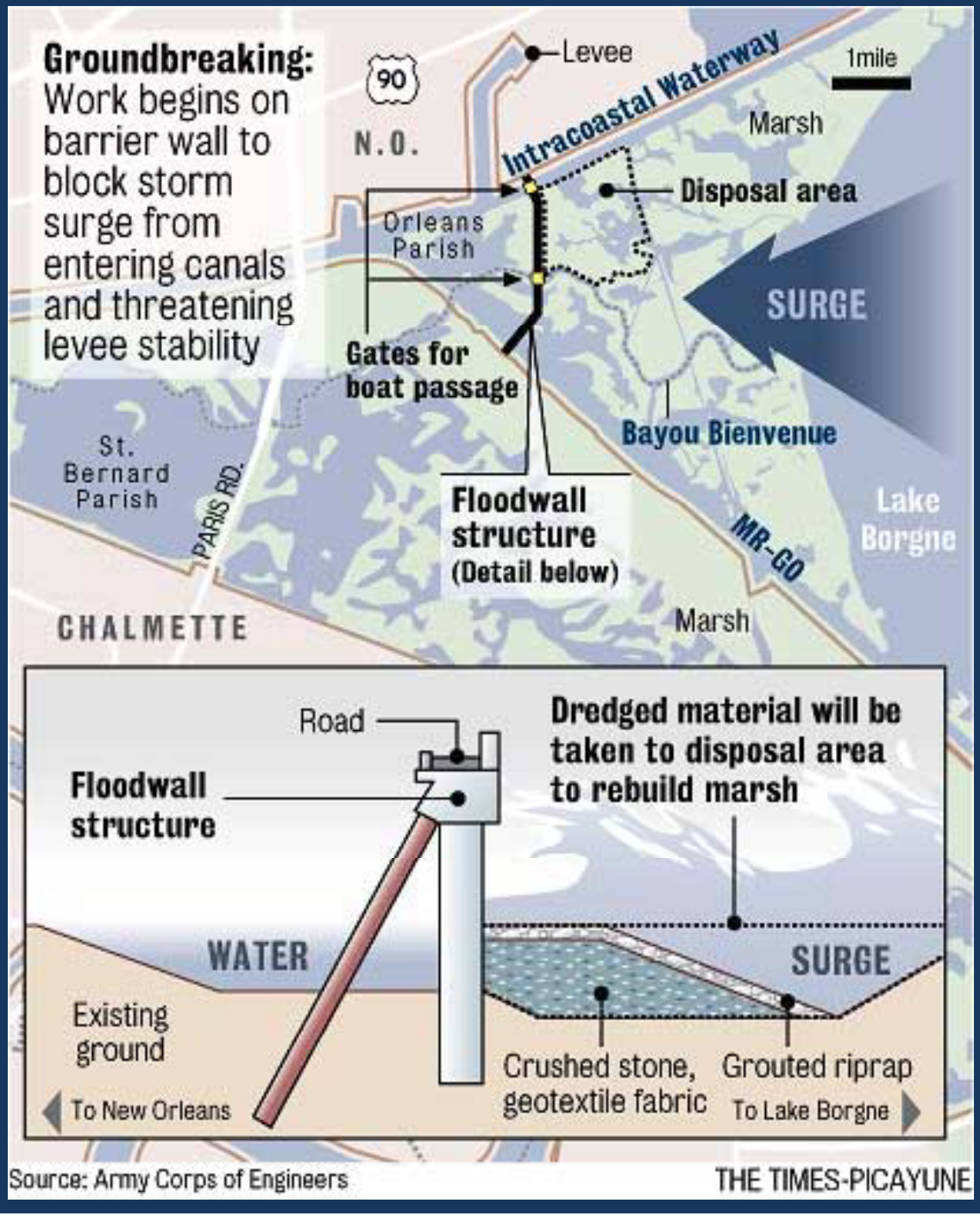
Identification of Potential Issues
The proposed project may have potential land rights issues yet to be determined.

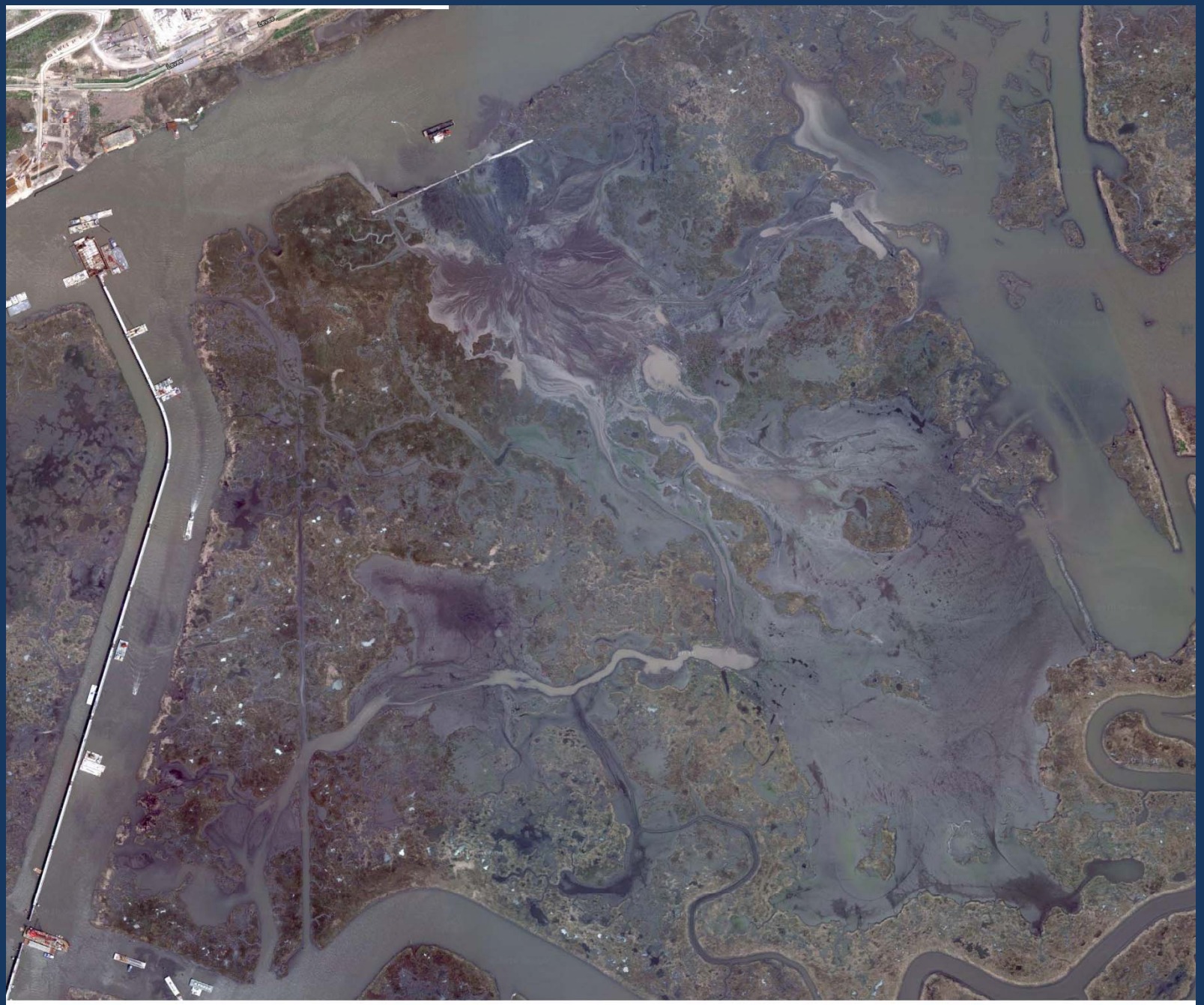
Preliminary Construction Costs
The estimated construction cost including 25% contingency is estimated to be $20,935,211 with a fully funded cost in the range of $20-$25 million.

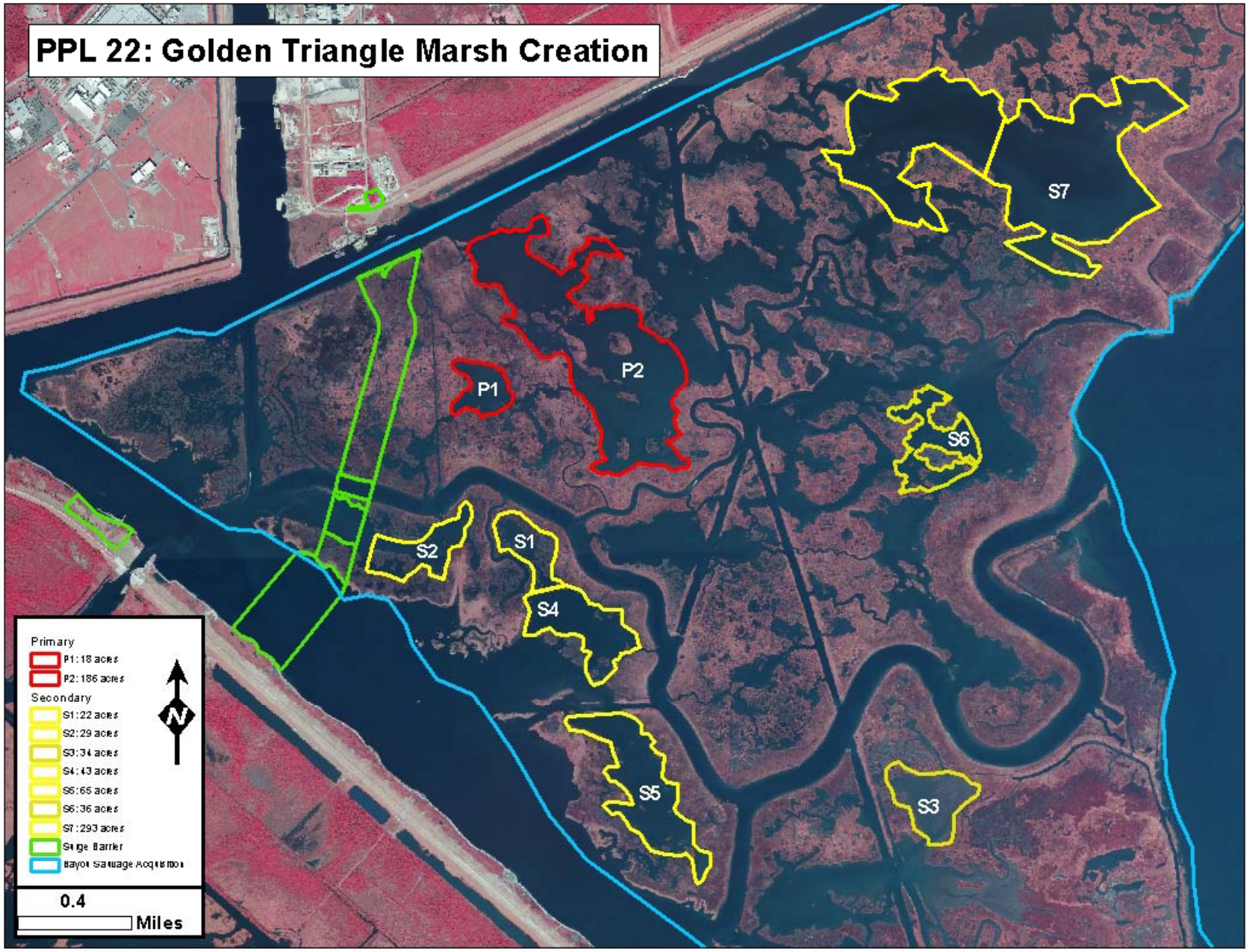
Preparer(s) of Fact Sheet:
Patrick Williams, NOAA's National Marine Fisheries Service, 225-389-0508, ext 208;
patrick.williams@noaa.gov


PPL 22: Golden Triangle Marsh Creation
P1
P2
S1
S2
S3
S4
S5
S6
S7
Primary
P1: 18 acres
P2: 186 acres
Secondary
S1: 22 acres
S2: 29 acres
S3: 34 acres
S4: 43 acres
S5: 65 acres
S6: 36 acres
S7: 293 acres
Surge Barrier
Bayou Sauvage Acquisition
N
0.4
Miles

GOLDEN TRIANGLE MARSH CREATION


Groundbreaking:
Work begins on barrier wall to block storm surge from entering canals and threatening levee stability
90
N.O.
Levee
1mile
Intracoastal Waterway
Marsh
Disposal area
Orleans Parish
SURGE
Gates for boat passage
Bayou Bienvenue
St. Bernard Parish
PARIS RD.
Floodwall structure
(Detail below)
MR-GO
Lake Borgne
CHALMETTE
Marsh
Road
Floodwall structure
Dredged material will be taken to disposal area to rebuild marsh
WATER
SURGE
Existing ground
Crushed stone, geotextile fabric
Grouted riprap
To New Orleans
To Lake Borgne
Source: Army Corps of Engineers
THE TIMES-PICAYUNE

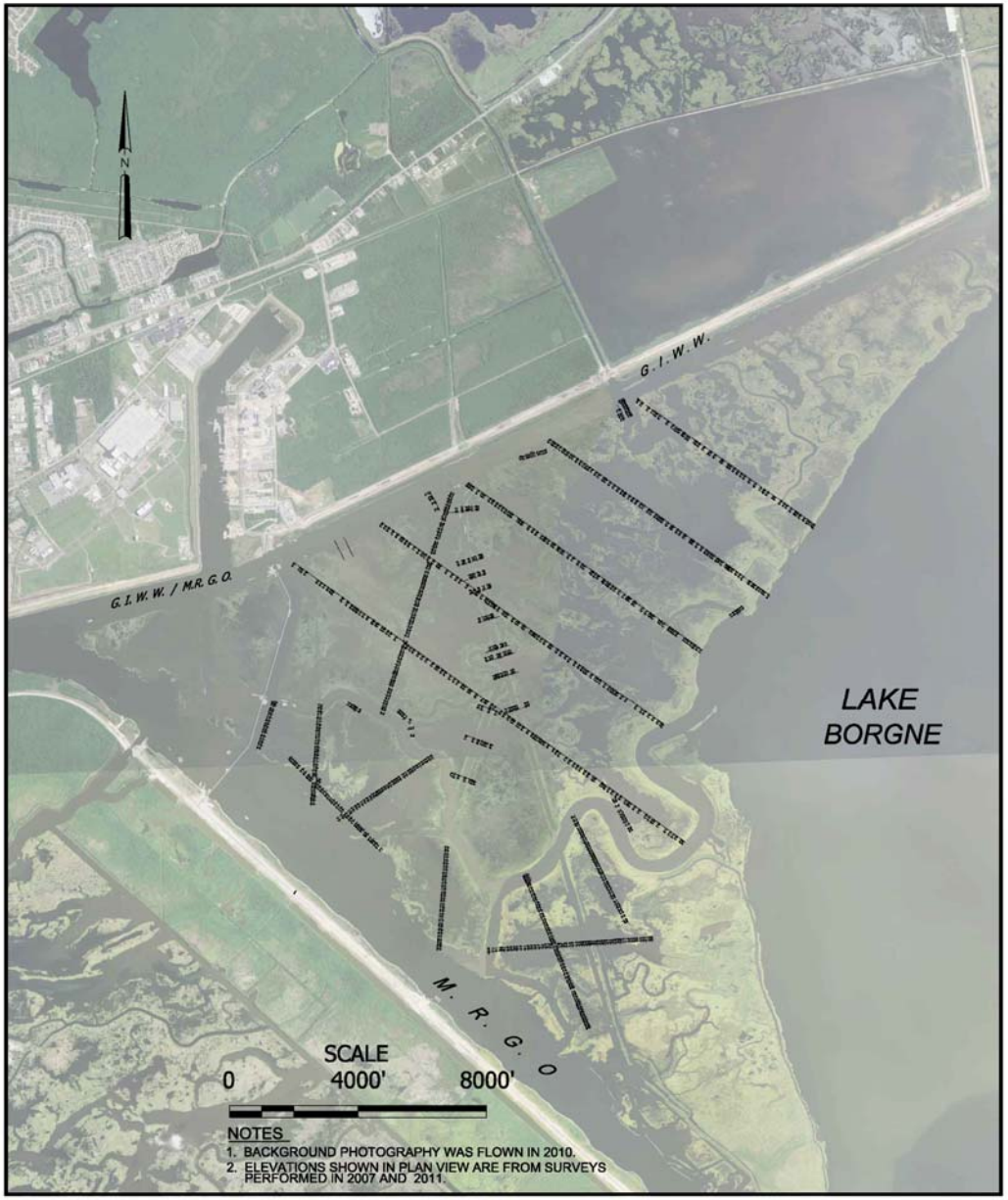



PPL 22: Golden Triangle Marsh Creation
P1
P2
S1
S2
S3
S4
S5
S6
S7
Primary
P1: 18 acres
P2: 186 acres
Secondary
S1: 22 acres
S2: 29 acres
S3: 34 acres
S4: 43 acres
S5: 65 acres
S6: 36 acres
S7: 293 acres
Surge Barrier
Bayou Sauvage Acquisition
N
0.4
Miles

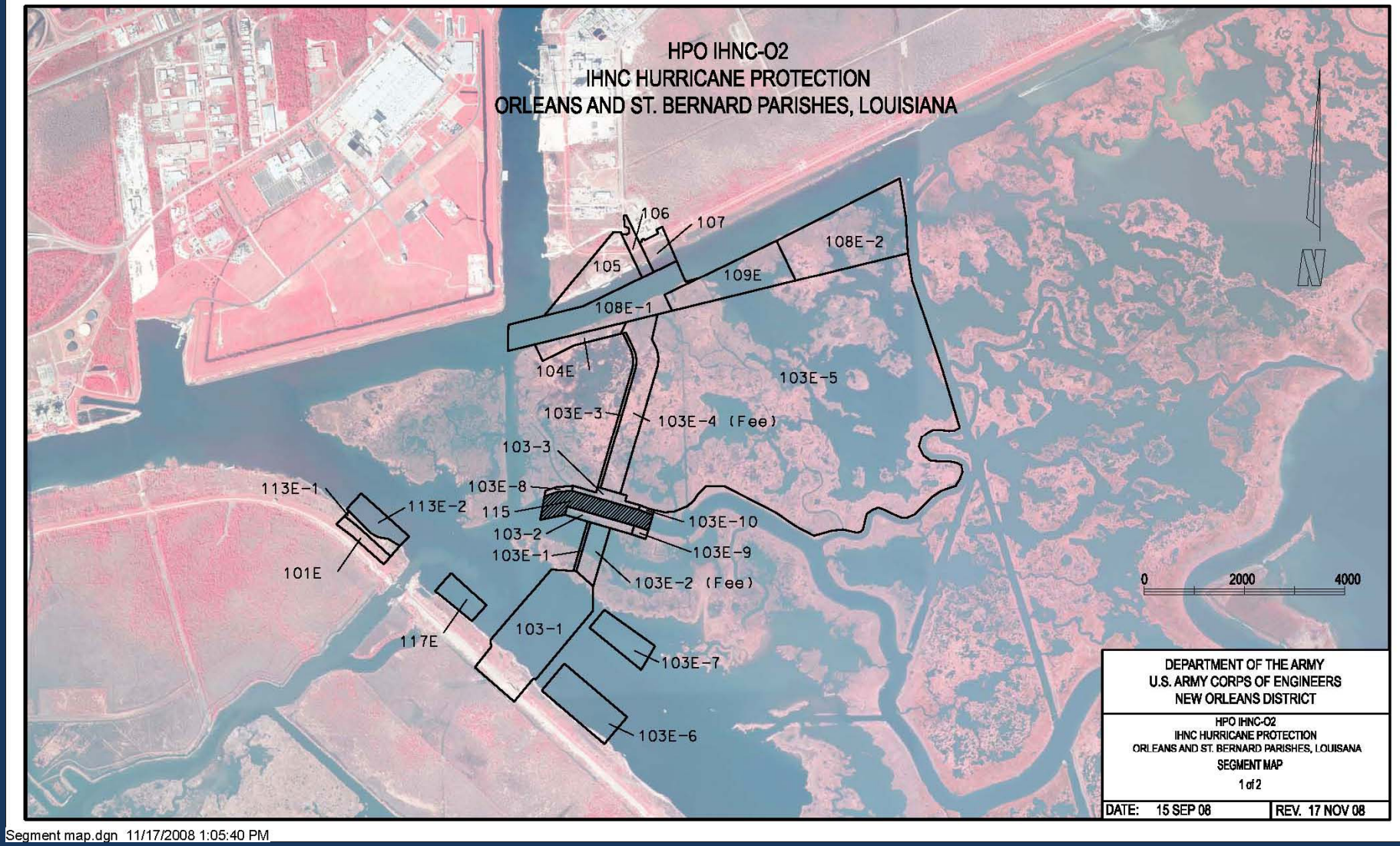
Existing Survey Data:

- Majority from 2007 (for the MRGO 3rd and 4th Supplemental Work

- Remainder from 2010 for MRGO Ecosystem Restoration Study



Landowners Map



Segment map.dgn 11/17/2008 1:05:40 PM

Summary

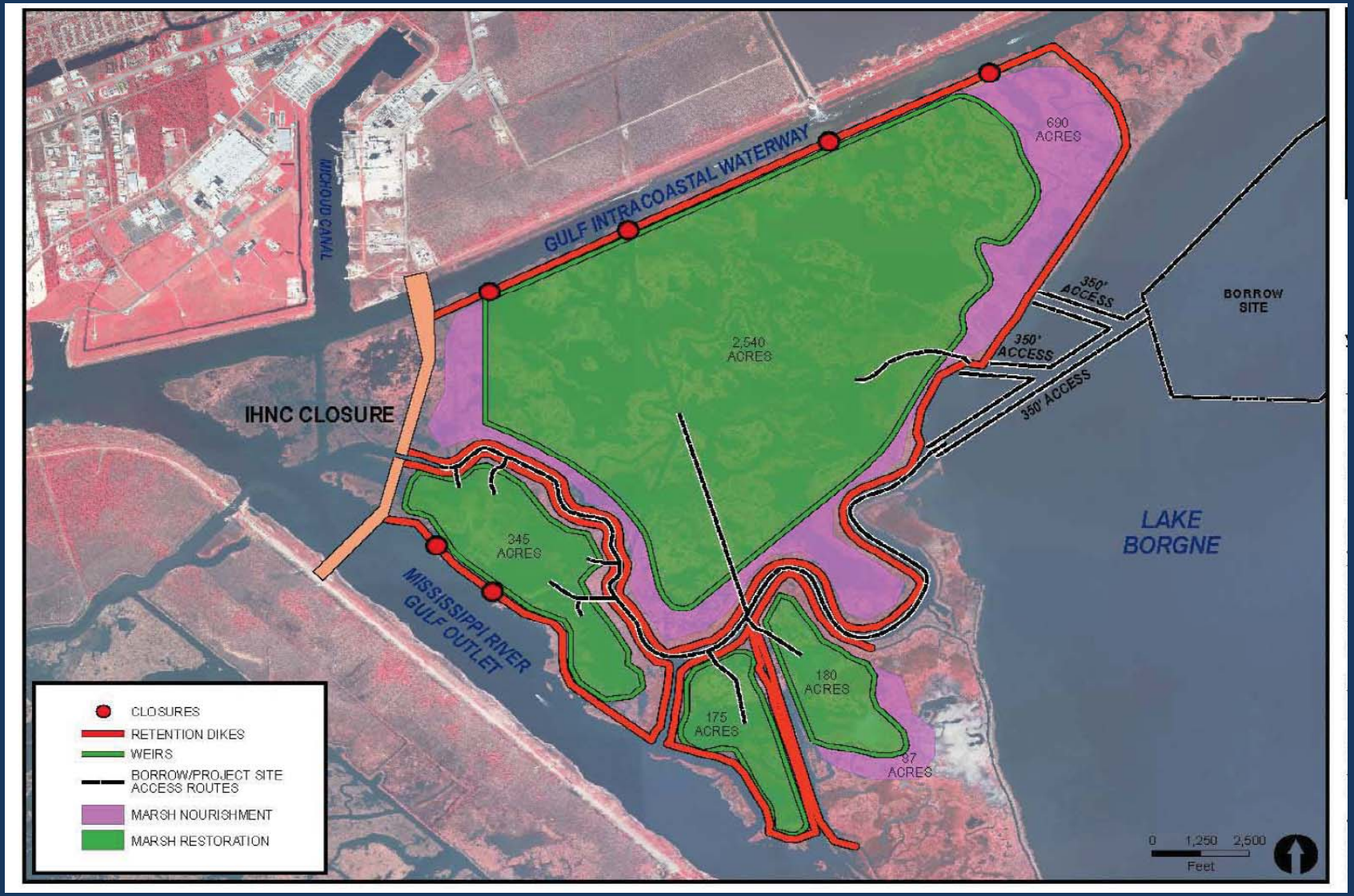
- 400 acres of marsh creation
- 354 net acres after 20 years
- Construction cost + 25% contingency ~$21M
- Fully funded cost range $20 - $25M

Lagniappe

4th Supplemental Appropriations

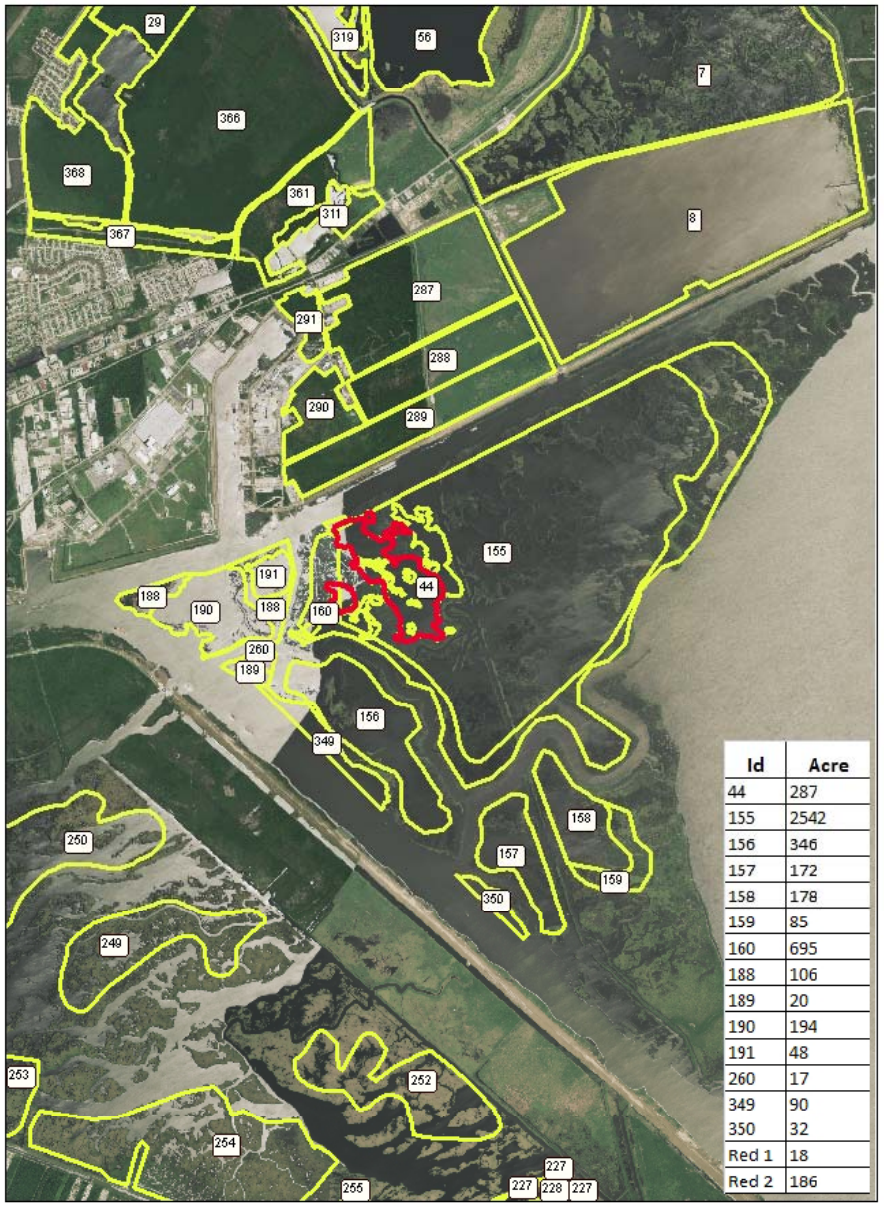
- Full P&S and NEPA Clearance
- BUT, not enough money to construct

MRGO Ecosystem Restoration Study



- **MRGO Ecosystem Restoration**
  - 65% Design, Cost, Environmental benefit/impact including limited borings and surveys
- Oil Spill Recovery

Mitigation Planning for HSDRRS



Id	Acre
44	287
155	2542
156	346
157	172
158	178
159	85
160	695
188	106
189	20
190	194
191	48
260	17
349	90
350	32
Red 1	18
Red 2	186

R1-PO-07

Shell Beach Marsh Creation

R1-PO-07

PPL 22 PROJECT FACT SHEET
January 26, 2012

Project Name:
Shell Beach Marsh Creation Project

Coast 2050 Strategies:
Coastwide: Dedicated dredging to create, restore, or protect wetlands
Regional Strategy: Restore and Sustain Marshes, Constrict breaches between MRGO and Lake Borgne with created marshes

Project Location:
The project is located in Region 1, in the Pontchartrain Basin. The project site is located along the north bank of the MRGO channel in the vicinity of Yscloskey and Fort Beauregard in St. Bernard Parish, Louisiana.

Problem:
Due to subsidence, wind driven wave erosion, and salt water intrusion, the project area consists of approximately 1,270 acres of broken marsh, including approximately 500 acres of shallow open water. Critical breaches in the shoreline wave action from Lake Borgne are impacting interior wetland habitat including shallow water ponds and vegetated marshes and are contributing to the interior marsh loss. Lost marsh areas and subsiding marsh need to be maintained. Stabilizing the landbridge with new emergent marsh would prevent coalescence of Lake Borgne with the Mississippi River Gulf Outlet and protect local communities and infrastructure.

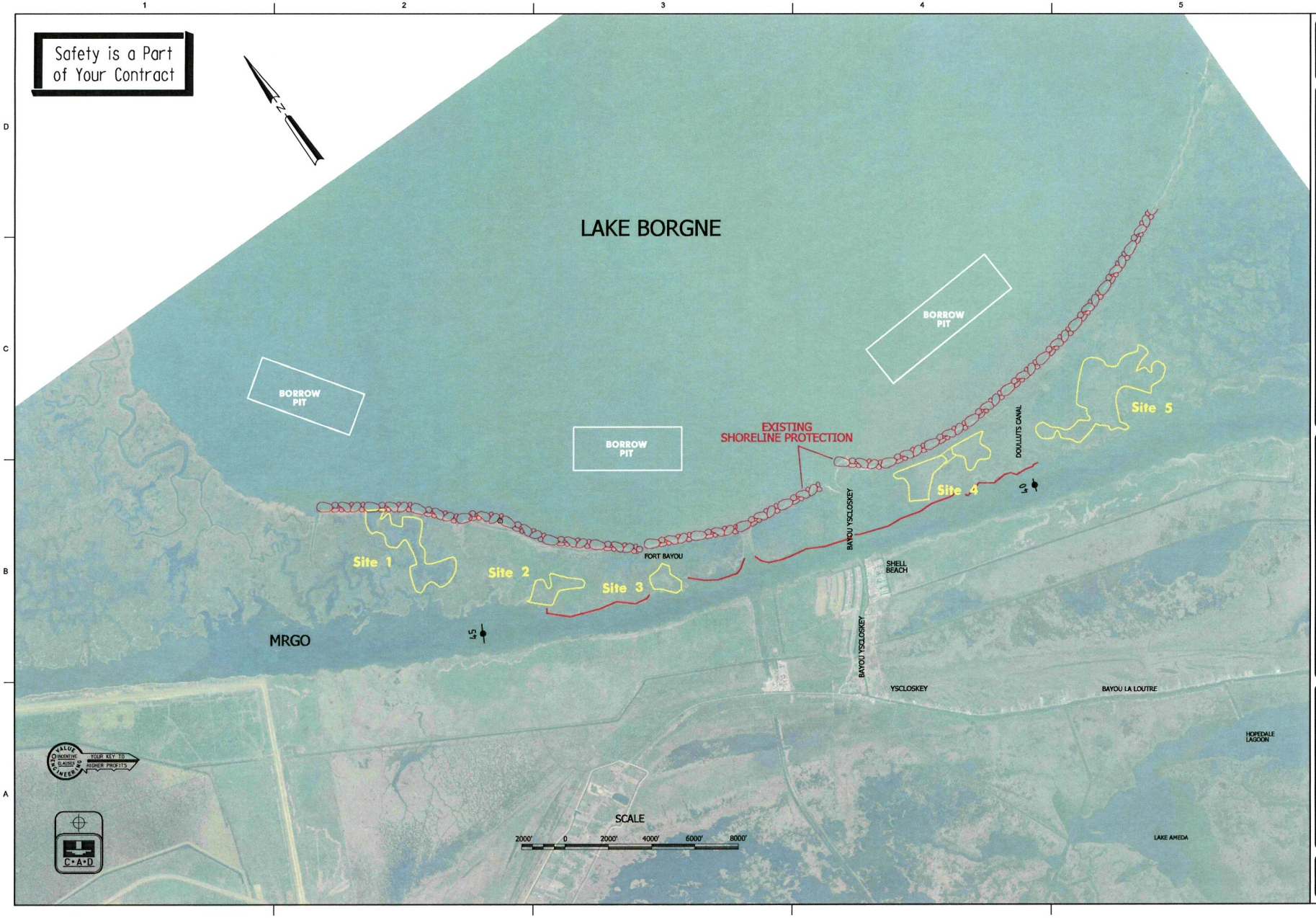
Proposed Project Features:
Marsh creation in five existing open water areas and marsh nourishment in the immediate proximity of the marsh creation sites. Material that is placed over existing marsh will not exceed 1'above the existing marsh elevation. The proposed marsh restoration through dedicated dredging from the southern lobe of Lake Borgne will also require the construction of sacrificial earthen retention dikes. The existing earthen ridge along the south shore of Lake Borgne will be used to the maximum extent possible for dredged material slurry retention. Approximately 2,300,000 cubic yards of borrow would be required to construct the five proposed sites. Borrow material would be obtained from NEPA cleared sites approximately 3500 feet off the Lake Borgne shoreline.

Goals:
The project goal is to restore approximately 562 acres of vegetated wetlands to maintain the landbridge separating Lake Borgne from the MRGO.

Project Benefits:
This project could result in the restoration of approximately 362 acres of shallow open water into newly created marsh, as well as provide nourishment of around 200 acres of adjacent wetlands, within the narrow land bridge in the vicinity of Yscloskey and Fort Beauregard.

Preliminary Construction Costs:
The construction cost including 25% contingency is estimated to be around $19,000,000.

Preparers of Fact Sheet:
Scott Wandell, USACE, 504-862-1878, scott.f.wandell@usace.army.mil

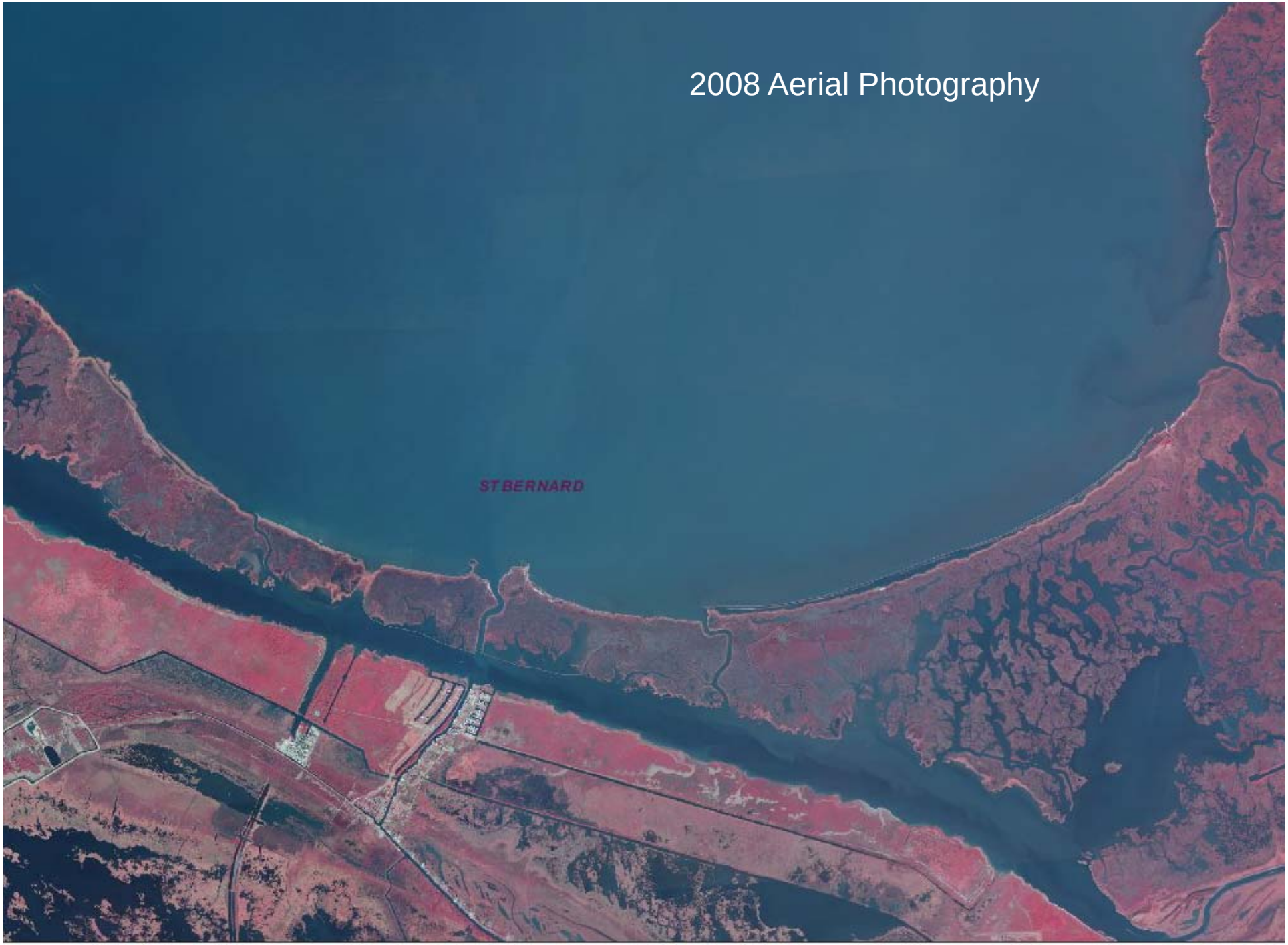

Safety is a Part of Your Contract
N
LAKE BORGNE
BORROW PIT
BORROW PIT
BORROW PIT
EXISTING SHORELINE PROTECTION
Site 1
Site 2
Site 3
Site 4
Site 5
FORT BAYOU
BAYOU YSCLOSKEY
DOULUTS CANAL
SHELL BEACH
MRGO
45
07
YSCLOSKEY
BAYOU LA LOUTRE
HOPEDALE LAGOON
LAKE AMEDA
SCALE
2000' 0 2000' 4000' 6000' 8000'
VALUE ENGINEERING INCENTIVE IS AUDED TO YOUR KEY TO HIGHER PROFITS
C•A•D
US Army Corps of Engineers® NEW ORLEANS DISTRICT
MARK DESCRIPTION DATE APPR'D
MARK DESCRIPTION DATE APPR'D
DESIGNED BY: DATE:
DWN BY: CKD BY: SOLICITATION NO.:
SUBMITTED BY: CONTRACT NO.:
PLOT SCALE: PLOT DATE: FILE NUMBER:
SIZE: FILE NAME:
U.S. ARMY CORPS OF ENGINEERS NEW ORLEANS DISTRICT NEW ORLEANS, LOUISIANA
CWPPRA - PPL 22
SHELL BEACH MARSH CREATION ST. BERNARD PARISH, LA
PLAN VIEW
SHEET IDENTIFICATION C-01

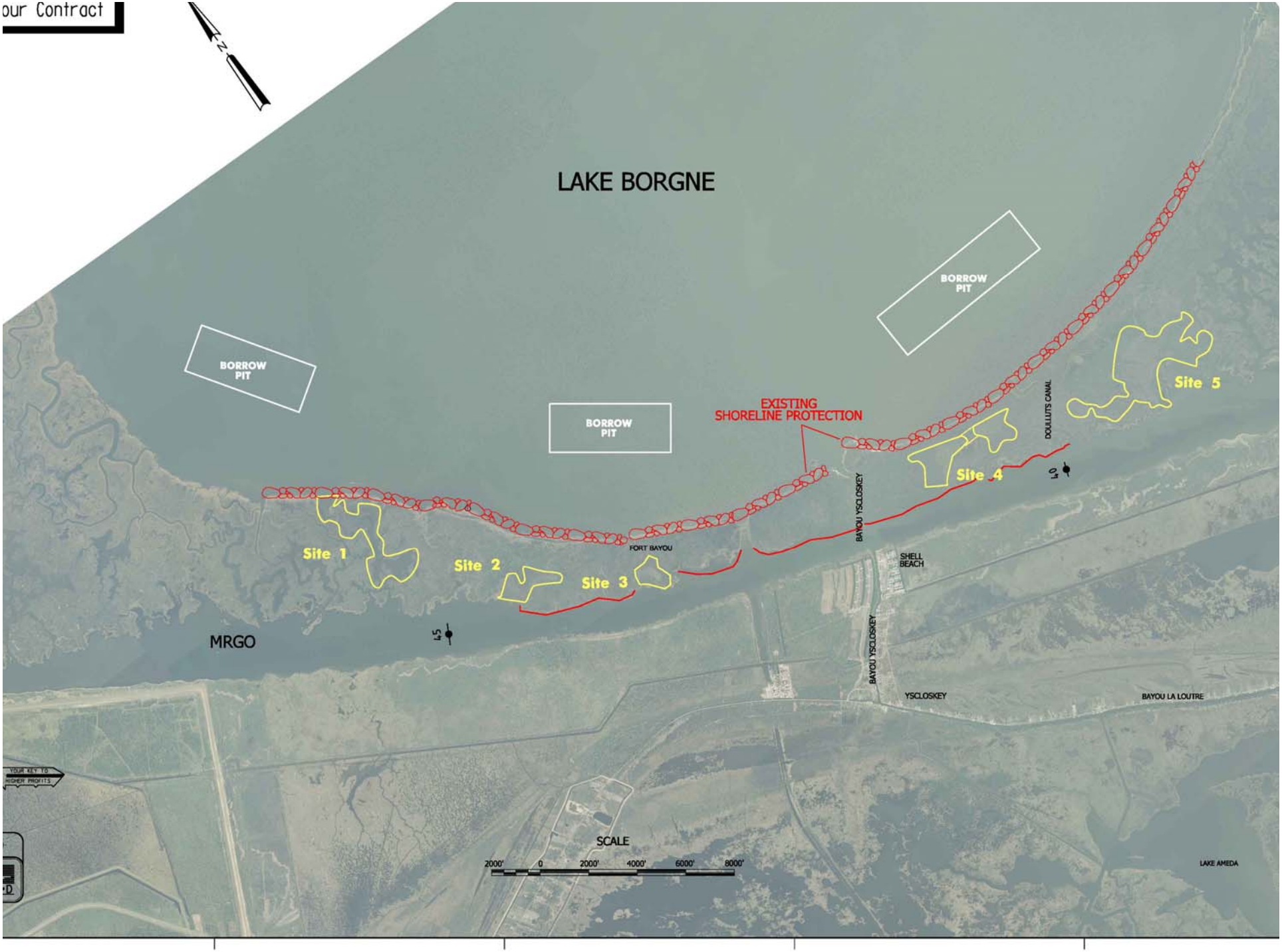
SHELL BEACH MARSH CREATION

PPL 22
Region 1
Pontchartrain Basin


PROJECT AREA
ST BERNARD
Natural Resources
0
2mi


1998 Aerial Photography
ST BERNARD
urces
0
2mi


2008 Aerial Photography
ST BERNARD
0
2mi


LAKE BORGNE
BORROW PIT
BORROW PIT
BORROW PIT
EXISTING SHORELINE PROTECTION
Site 1
Site 2
Site 3
Site 4
Site 5
FORT BAYOU
BAYOU YSCLOSKEY
DOULUTS CANAL
SHELL BEACH
BAYOU YSCLOSKEY
MRGO
YSCLOSKEY
BAYOU LA LOUTRE
LAKE AMEDA
SCALE
2000' 0 2000' 4000' 6000' 8000'

Proposed Project Features:

- Potentially restore 562 acres of marsh (362 created/200 nourished)
- Dredged material would be mined from NEPA cleared borrow sites in Lake Borgne
- Some containment features and possibly earthen overflow weirs built around Marsh Creation sites
- Estimated construction cost + 25% contingency is around $19 M

Preliminary Project Benefits:

- Create 362 acres of new emergent brackish marsh
- Nourish 200 acres of existing degraded marsh
- Help stabilize the Shell Beach landbridge between Lake Borgne and MRGO
- Protect the communities and infrastructure of neighboring Shell Beach and Yscloskey

R1-PO-08

Bonnet Carre Long Distance Sand Transport

R1-PO-08

PPL22 PROJECT NOMINEE FACT SHEET
January 26, 2012

Project Name
Bonnet Carre Long Distance Sand Transport

Coast 2050 Strategy
Coastwide: Diversions and Riverine Discharge
Regional: Maintain Chandeleur Islands, Bonnet Carre Opportunistic Use

Project Location
Region 1, Pontchartrain Basin,

Problem
The Chandeleur Islands are a barrier island chain located in easternmost St. Bernard and Plaquemines Parishes, Louisiana. This area is undergoing shoreline erosion, interior wetland loss, overwash, and breakup. The Barrier island chain is sediment starved due to reduce sediment in the littoral system. The Bonnet Carre spillway has excess sand after recent high water event.

Proposed Solution
The proposed project's primary feature is to transport sand from Bonnet Carre by hopper barge through Lake Ponchartrain to the Chandeleur islands (~ max of 131 miles). The sand will be dumped in the littoral system so that longshore transport can redistribute the material.

Goals
The project goal is to nourish the whole Chandeleur chain.

Preliminary Project Benefits

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

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

3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74%, and >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 will help maintain the Chandeleur barrier island chain.

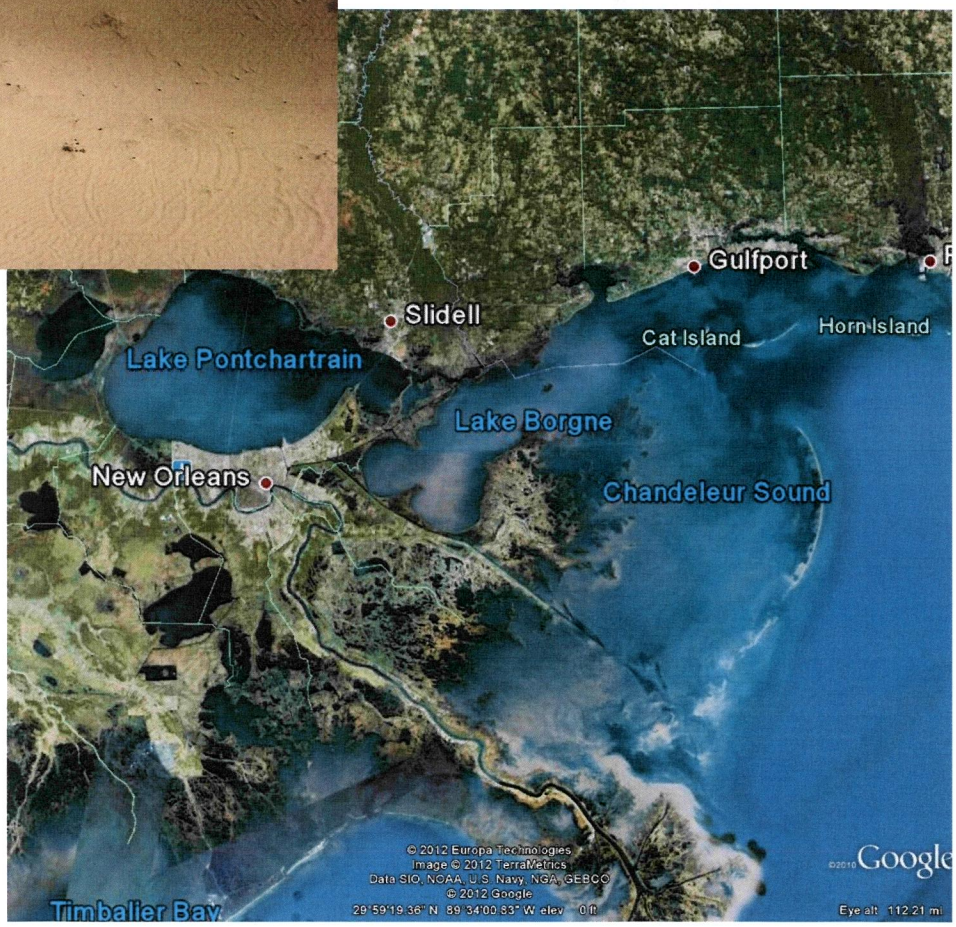
5) *What is the net impact of the project on critical and non-critical infrastructure?*

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

Identification of Potential Issues

Preliminary Construction Costs
The estimated construction cost including 25% contingency is X. The fully funded cost estimate ranges between $X-X M.

Preparer(s) of Fact Sheet:
Nathan Dayan, USACE, 504-862-2530, Nathan.S.Dayan@usace.army.mil



Bonnet Carre Long Distance Sand Transport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Imagery Date: 5/17/2009
30°00'31.95" N 90°26'21.16" W elev 0 ft


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30°01'39.35" N 90°24'48.23" W elev 0 ft
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Data SIO, NOAA, U.S. Navy, NGA, GEBCO
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29°43'54.23" N 88°53'14.46" W elev 0 ft
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Bonnet Carre Long Distance Sand Transport

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Nathan Dayan, USACE, 504-862-2530, Nathan.S.Dayan@usace.army.mil

R1-PO-09

Triangle- Restoring Cypress-Tupelo Swamp and Marsh

Demo-07
R1-PO-09

PPL22 Demonstration of a Novel Collection of Restoration Techniques for Restoring Cypress-Tupelo Swamp and Marsh in Coastal Louisiana

Coast 2050 Strategy:
Coastwide Strategy: Restore/sustain marshes

Potential Demonstration Project Location:
Central Wetlands, Bayou Bienvenue area

Problem:
The Central Wetlands, located just to the east of New Orleans, are representative of many areas in coastal Louisiana where cypress-tupelo swamp has been killed by saltwater intrusion and the marsh that replaced it was subsequently lost due to several cumulative environmental stressors, including lack of connectivity with the Mississippi River (or another sediment source), saltwater intrusion, reduced vegetative productivity, altered hydrology, impoundment, etc. The best solution in many cases is to restore the hydrology, especially where connectivity with the Mississippi River has been lost. An important key is to restore accretion so the wetland can keep pace with relative sea level rise, while another is to restore an appropriate salinity regime. At this time, such approaches seem unlikely to be supported for the Central Wetlands, for a number of reasons. However, salinities have apparently been restored in the triangular wetland/water area known as "Bayou Bienvenue", largely due to the recent closure of the Mississippi River Gulf Outlet, but also due to discharge of treated municipal wastewater, to those (salinities) that are conducive to cypress survival and growth. So salinity in this area may not be an obstacle to restoration of cypress forest here. And while restoration of connectivity of the area with the Mississippi River and restoration of significant accretion seem unlikely to be achieved in this area anytime soon, there is the potential to integrate multiple approaches to achieve some synergy in the combination, resulting in significant ecological restoration of the Bayou Bienvenue area, and a new approach to coastal restoration that can be exported to other areas.

Goals:
- Demonstrate the application of a unique suite of restoration approaches in a former coastal cypress-tupelo swamp near the Mississippi River in the Mississippi River Deltaic Plain
- Demonstrate and monitor the environmental benefits of this unique suite of restoration approaches
- Demonstrate the costs and engineering and construction techniques necessary to implement this unique suite of restoration approaches

Proposed Solution:
We will create several small "islands" with *in-situ* sediment (will strictly use clean sediment from nearby sources; absolutely no biosolids/sewage sludge will be used) and plant them with cypress. Then floating marsh will be established around the islands. Bullwhip will be interspersed within this. Cypress seedlings for planting will be grown in an on-site nursery.

Baldcypress – Water Tupelo Nursery. We propose to set up an on-site nursery capable of producing thousands of baldcypress (*Taxodium distichum*) and water tupelo (*Nyssa aquatica*) seedlings that are pre-adapted to nutrients from treated effluent and to the anaerobic conditions typical of wetlands. The seedlings are grown in simple racks constructed of pvc piping and treated lumber and the racks are located within catwalk bays surrounded by vinyl-coated fencing to protect them from nutria herbivory. The racks are modular so that hundreds to thousands of seedlings can be grown simultaneously. Pots with the seedlings are set in the rack and grown to the desired height. This can range from 2 feet to over 8 feet. Growing the seedlings in the rack solves a number of problems. The seedlings are pre-adapted to conditions at the site and roots do not become established in the soil so removal is simple. When the seedlings are ready to plant they can be removed and planted immediately at the site. This approach is readily adaptable to volunteers under appropriate supervision and the plantings can occur year round, unlike bare root plantings which must be done when the seedlings are in winter dormancy. Of course, all seedlings will be outfitted with nutria exclusion devices to ensure high surviroship. Using this approach, we anticipate planting tens to hundreds of acres within a few years.

Floating marsh. We propose to establish floating marsh using simple "marsh pillows" made of vinyl-coated wire surrounding floating pvc frames. A 2' x 2' pillow can be made for about a dollar. The pillows have foam floats and are seeded with cuttings of marsh grass. Growth is rapid and the wire mesh protects the roots of the plants from nutria. These marsh pillows have been successfully used in a number of locations in coastal Louisiana. Marsh can be created for hundreds of dollars per acre.

Marsh plantings in deep water. Some marsh plants grow in relatively deep water. One such plant is the giant bullwhip, *Schoenoplectus californicus*. This plant can grow in nearly 3 feet of water and is generally unaffected by nutria. We have planted these in simple, economic enclosures and they have spread rapidly.

Project Benefits:

- Increased cypress-tupelo swamp habitat
- Increased fresh marsh habitat
- Increased shallow water habitat

Project Costs:
The preliminary cost estimate (without contingency) is $1,074,260.

Preparer of Fact Sheet
Kenneth Teague, EPA, (214) 665-6687; Teague.Kenneth@epa.gov
John Ettinger, EPA, (504) 862-1119; ettinger.john@epa.gov


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N Claiborne Ave
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Demonstration of a Novel Collection of Restoration Techniques for Restoring Cypress-Tupelo Swamp and Marsh in Coastal Louisiana

Orleans Parish

CWPPRA Project Nominating Meeting

January 26, 2012

Objective

- To Use a Novel Suite of Restoration Approaches to Restore Bayou Bienvenue Triangle
- Create Islands with Dredge Spoil
- Grow Cypress and Tupelo Seedlings in an On-Site Nursery and Plant Islands
- Use Floating Marsh Pillows to Create Marsh Around Islands
- Integrate into an Overall Restoration Plan that Includes Swamp, Marsh, and Waterways
- Work with Community, Local Government, Scientists, NGOs, and other volunteers

Location map upper part of “Central Wetlands Unit”

Central Wetlands Unit Layout

Area proposed for demo project (photo from 2009)

Marsh Pillows
Initial Placement


Cypress Nursery
Marsh Pillows After
One Growing Season


Marsh Pillow
Root Mat

Lower 9th Ward community vision