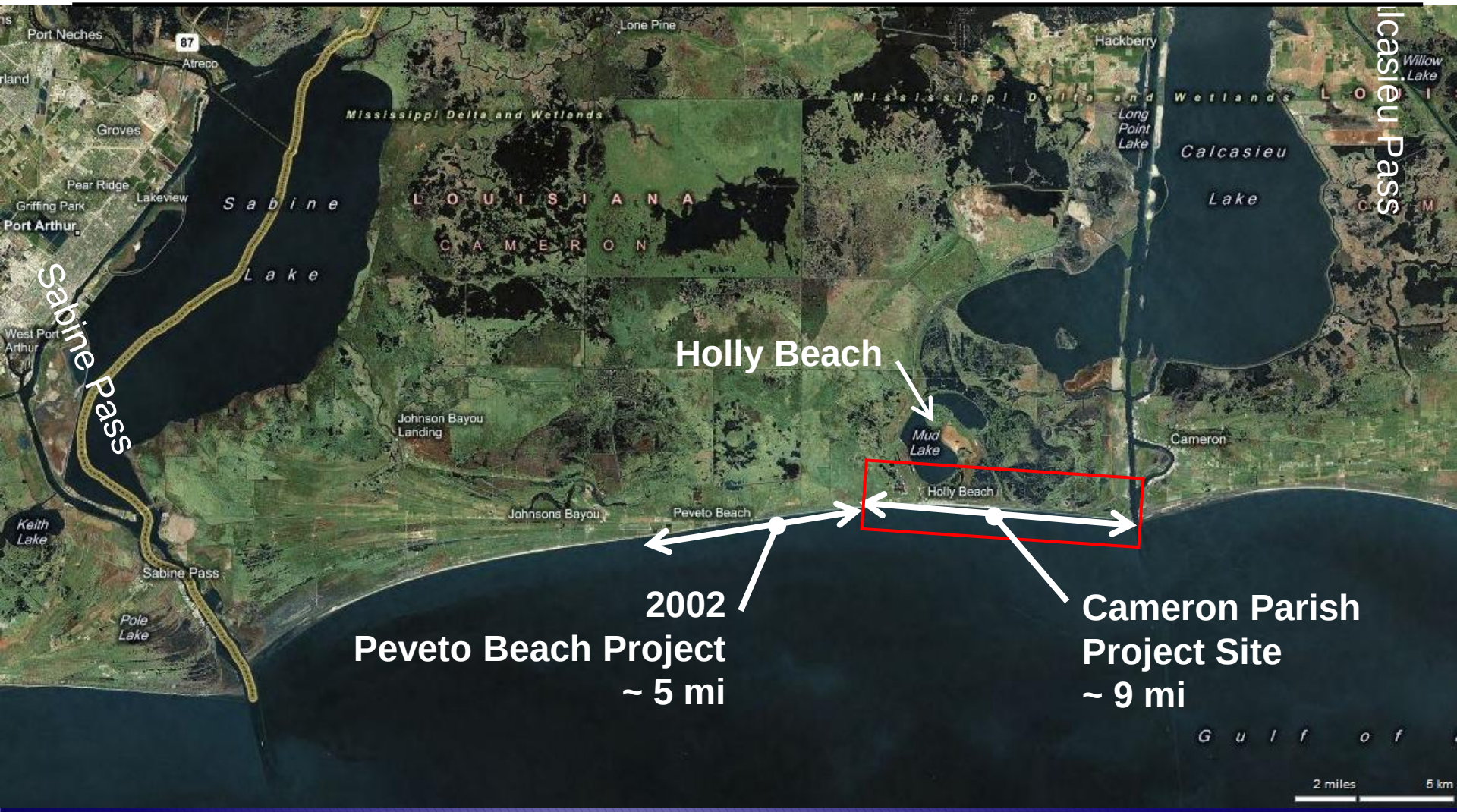
Coastal Protection and Restoration Authority of Louisiana

Southwest Louisiana Projects Update

Patrick J. Landry, P.E.
CPRA Operations Division
January 22, 2013

Cameron Parish Shoreline (CS-33)



CS-33 Project Features

- 8.7 Miles of Beach/Dune Nourishment
  - Beach: Elevation +5.0 ft. NAVD 88
  - Dune: Elevation +8.0 ft. NAVD 88

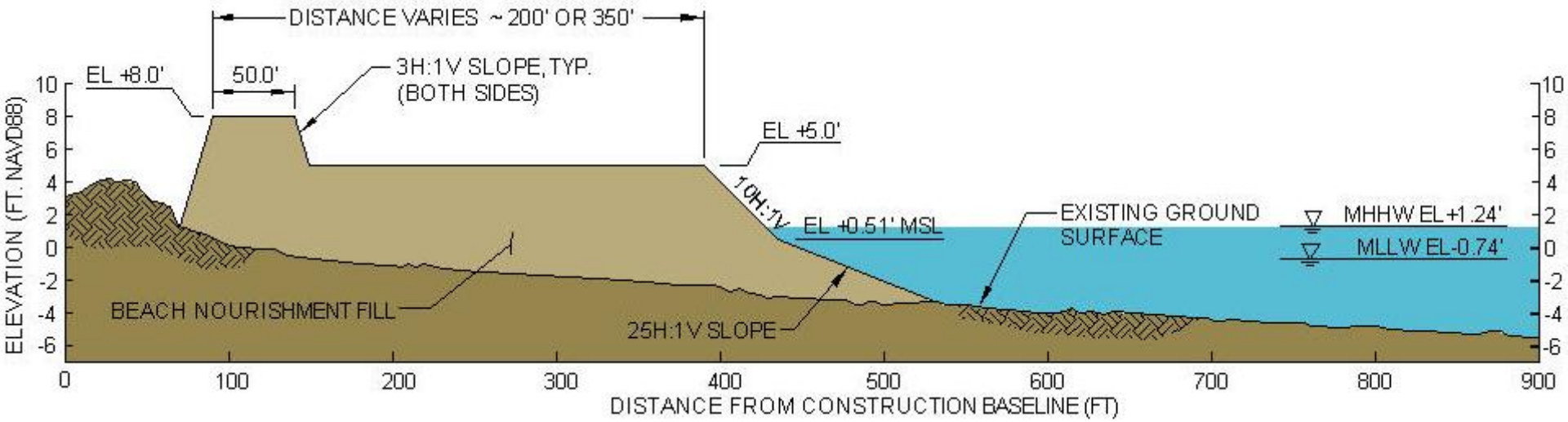
- Budget: $45.8 million, funded 100% with 2007-08 State Surplus funds

- 1.93 million cu. yds. of sand to be delivered from borrow site located 20+ miles offshore into Ship Channel via hopper dredge

Beach Fill Cross Section Assumptions

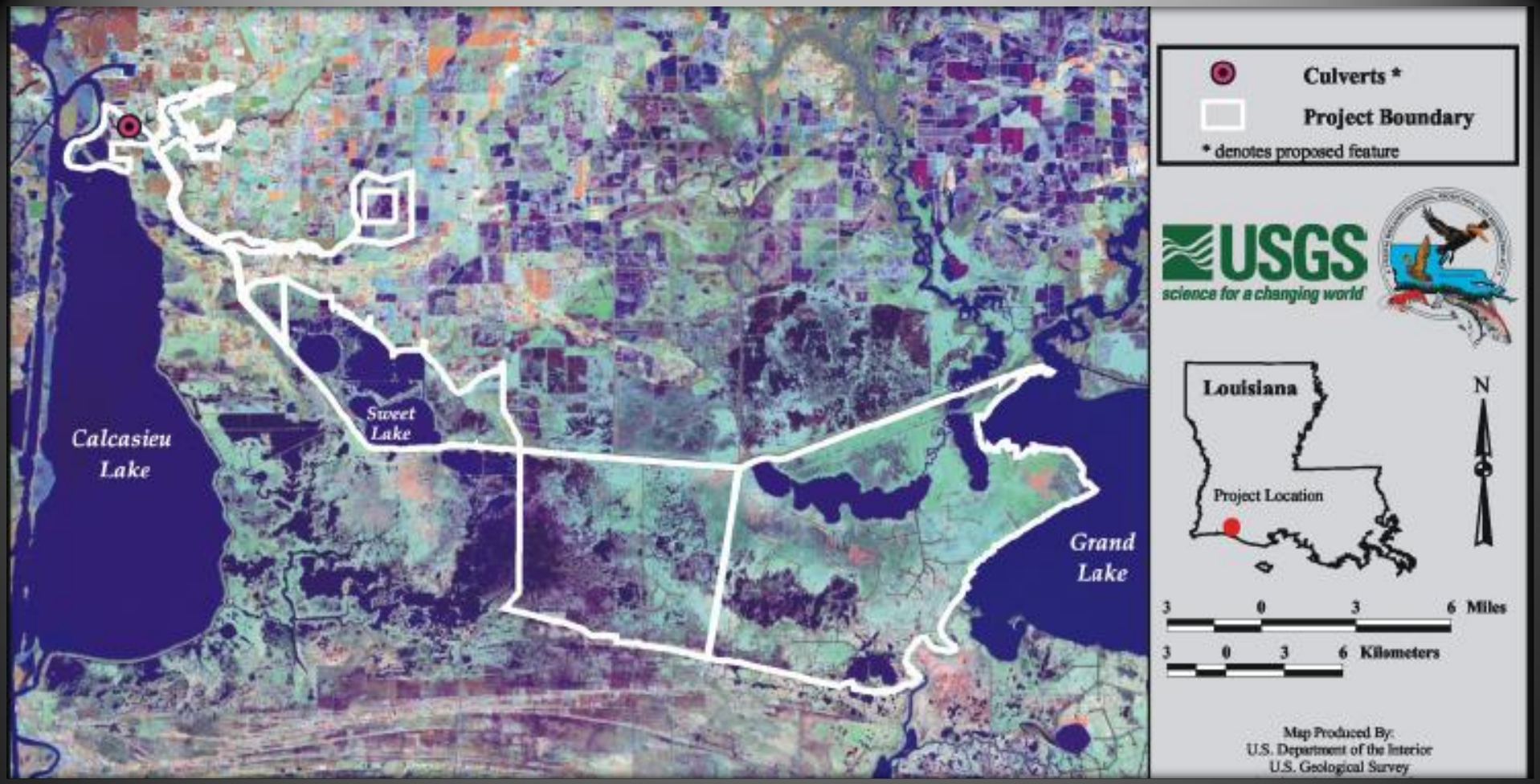
- Beach fill volume is almost 2 million cubic yards
- Beach elevation is typical to natural conditions and equal +5.0 ft MLLW
- Dune elevation is ~ +8.0 ft and width equal ~ 50 ft
- Fill area near Ship Channel and Holly Beach – 230 ft. wide while area closest to Hwy 82 will be 380 ft wide.

Typical Cross-section of Nourishment Alternatives.



CS-33 SCHEDULE:

- Bid Opening – October 2012
- Low bidder – Weeks Marine - $40.4 million
- Pre-Construction Mtg. – February 5, 2013
- Notice to Proceed – February 15, 2013
- Construction time: 365 calendar days



Black Bayou Culverts (CS-29)

Project Goals:

1. Prevent saltwater intrusion from Calcasieu Lake
2. Remove excess water levels in Mermentau Basin that kills vegetation and contributes to shoreline erosion.

Black Bayou Culverts (CS-29)

- Construction consisted a concrete box culvert with 10 – 10’ X 10’ bays with flap gates in Black Bayou along Hwy 384.

Black Bayou Culverts (CS-29)

- Status:
- Construction completed: January, 2010
- Construction cost: $ 5 million
- Water seepage detected in April, 2010
- Earthen cofferdams constructed – Summer 2011
- NRCS Engineering Report received - January 2012
- E & D funding approved by Task Force – Fall 2012
- NTP issued to Lonnie Harper & Assoc. – Jan. 8, 2013
- Final plans due – mid December 2013
- Will request construction funds at TC – Dec. 12, 2013

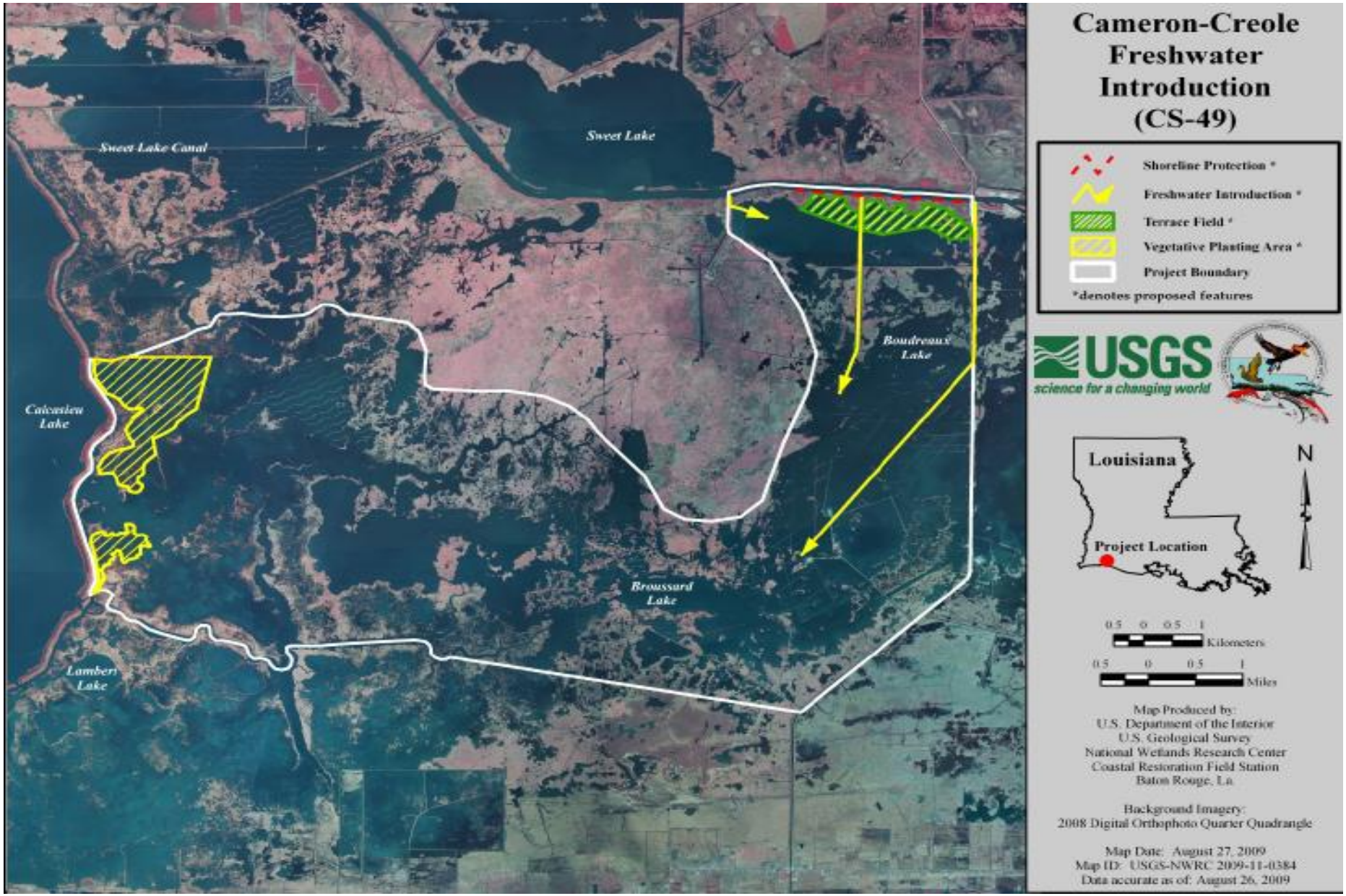
Black Bayou Culverts (CS-29)

Upstream of the box culvert after de-watering

Black Bayou Culverts (CS-29)

Downstream of the box culvert after de-watering the site

CS-49 Cameron Creole FW Introduction



CS-49 Cameron Creole FW Introduction

- Engineering design funds approved ($2.5m)
- Project Goal: Introduce freshwater from the GIWW to restore 22,247 acres of marsh
- Total Est. Const. Cost: $12.7 m (not funded)
- Project Features: Placement of water control structure (400 cfs capacity); 8,000 ft. of GIWW rock shoreline protection; Vegetative plantings near Calcasieu Lake (completed); 65,000 ln. ft. of terracing
- Project Status: Geotech and surveys completed and project in design. Modeling efforts are being integrated with SW Study efforts. Anticipate 30% design review – May 2013.

CS-53 Kelso Bayou Marsh Creation

Kelso Bayou Marsh Creation (CS-53)

- **Project Facts:**
- Costs: E&D-$2.3m (funded); Total $16.6m(not funded)
- Project Goal: Restore/protect 319 acres
- Project Features: Marsh Creation (6 cells) & 3,200 ln. ft. of rock shoreline protection along the Calcasieu Ship Channel
- Project Status: Surveys completed. Potential partnership w/ COE's navigation dredging program of Ship Channel. 30% completion – June 2014. Will request construction funding – December 2014.

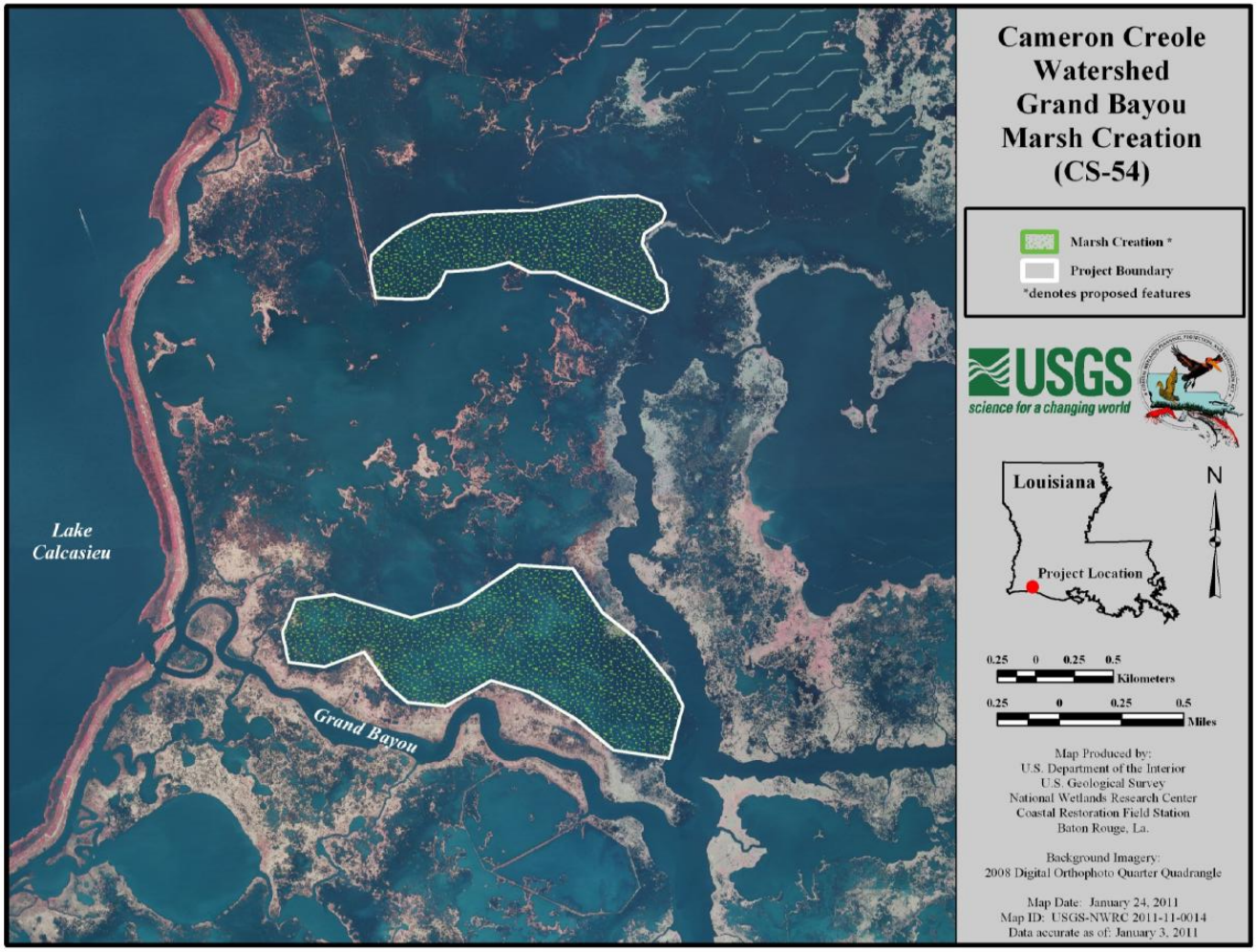
CS-54 Grand Bayou Marsh Creation Project Features

- Two marsh creation areas north of Grand Bayou

❖ Total: 609 acres created, approximately 7 acres nourished

❖213 acres on Miami Corp property

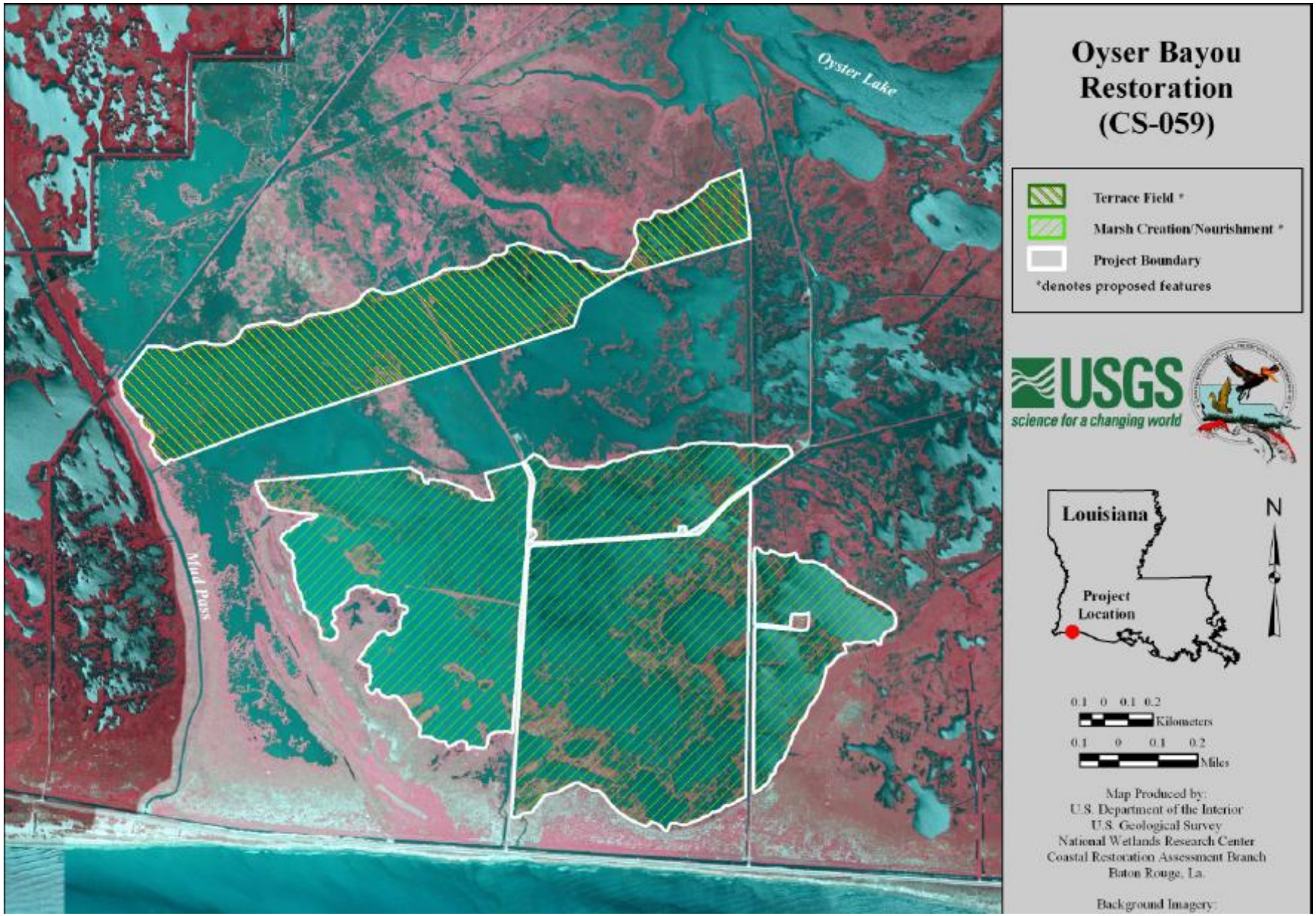
❖396 acres on Cameron Prairie NWR



CS-54 Project Status

- Survey field work, Oyster Survey, Geotech Report & Wave Modeling Analysis Report completed in 2012
- 30% Design Meeting – March 2013
- 95% Design Meeting – October 2013
- Will seek construction funds – December 2013
- Borrow site – Calcasieu Lake, approx. 4000 ft west of Grand Bayou water control structure
- Approx. 3 million cu. yds. dredged from borrow area
- Note: Borrow area selected to avoid and minimize impacts to oysters and other aquatic habitat

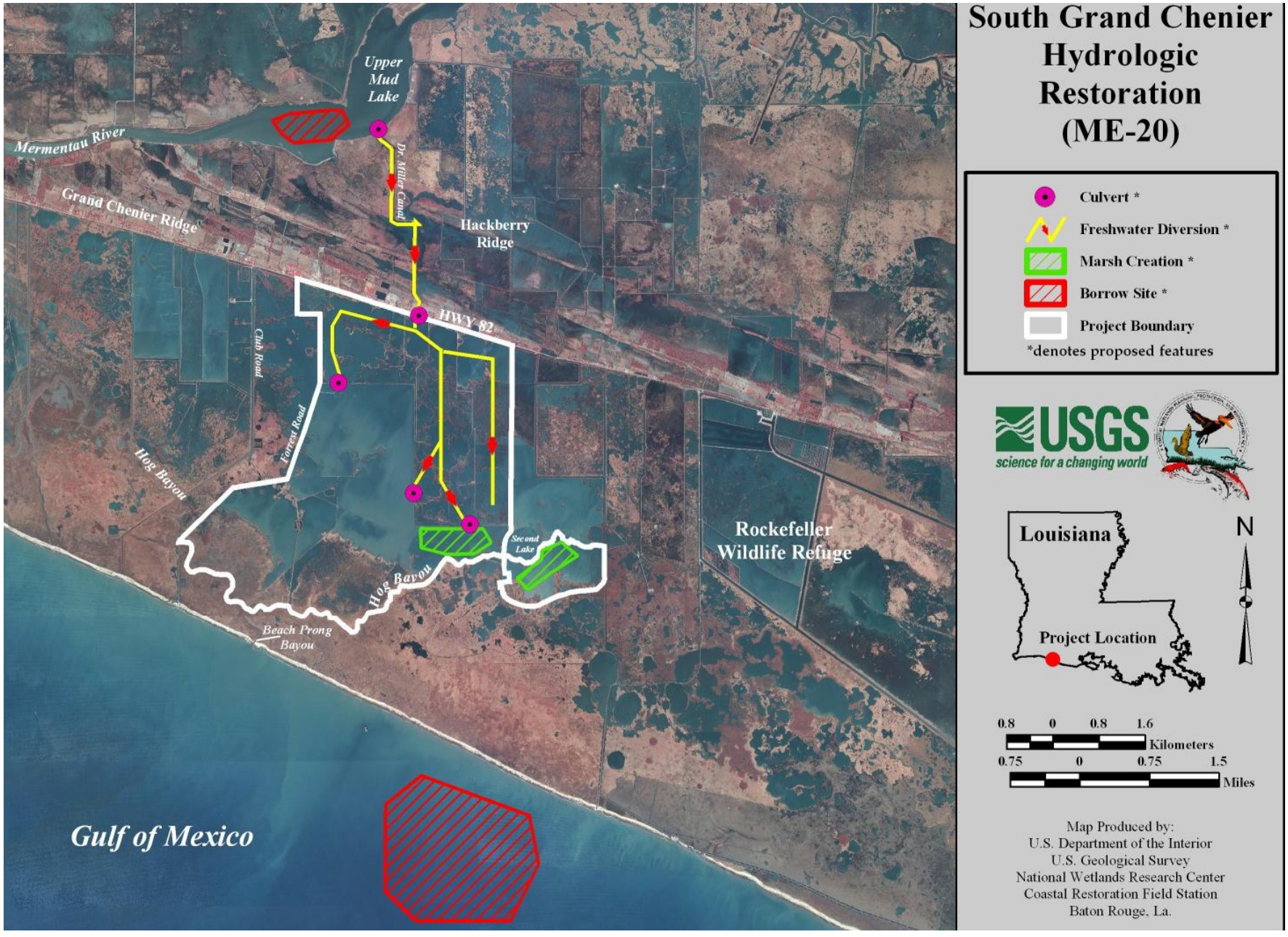
Oyster Bayou Marsh Creation (CS-59)



CS-59 Project Facts

- Engineering design funds approved ($3.1m)
- Project Goals: Create 510 acres of marsh & reduce wave/wake erosion
- Total estimated const. cost: $22.7m (not funded)
- Project Features: Create marsh using sediment from Gulf of Mexico & create 14,000 ln. ft. of terraces.
- **Project Status:** In-shore surveying complete & in-shore geotech work underway. Will issue NTP for off-shore surveying and geotech as soon as funds are available. Will request construction funding in December 2014.

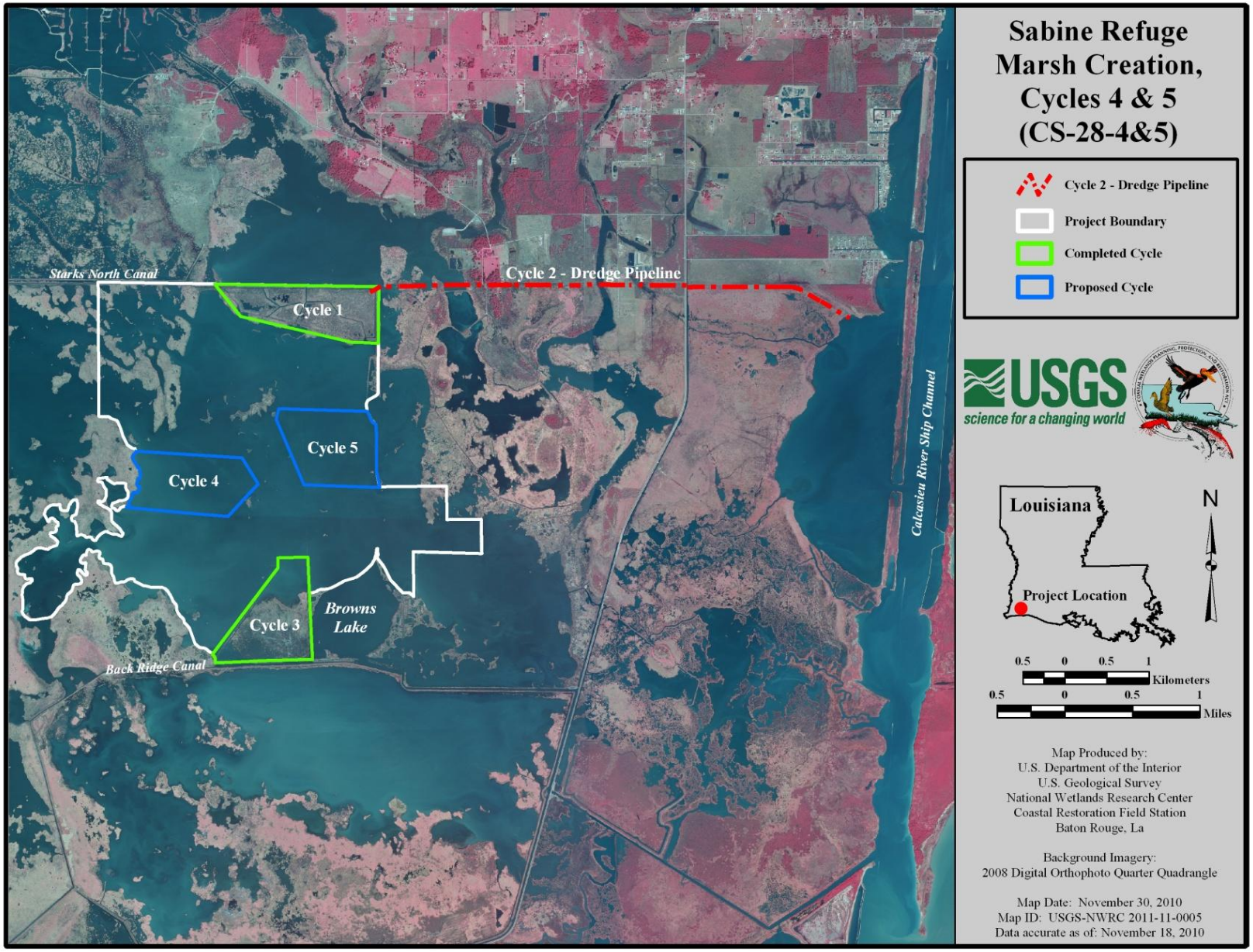
ME-20 South Grand Chenier Hydrologic Restoration



South Grand Chenier HR Project (ME-20)

- Project Location: South of Grand Chenier, between La. Hwy 85 and Hog Bayou
- Project Description: Create 400 acres of emergent marsh in two 200 acre cells with sediment from the Gulf of Mexico. Estimated Cost: $19.5 million
- Project Status: Plans are 100% complete. Competed for construction $ at the December 2012 Tech Committee meeting. Only two projects selected for construction (SGC placed third in voting). Will re-compete for funding at the December 2013 Tech Committee meeting.

CS-28 Sabine Marsh Creation Cycles



Sabine Marsh Creation (CS-28)

- Location: Sabine National Refuge, west of Hwy 27, SW of Hackberry
- Status:(Cycle 1): Pumped 214 ac. Completed Feb 02
- Status: (Cycle 3): Pumped 232 ac. Completed Mar 07
- Status: (Cycle 2 and Permanent Pipeline): Pumped 227ac (July 2011) and constructed 3.6 miles of permanent pipeline (April 2010).
- Status: (Cycles 4 & 5): CSA executed Dec. 2012 between CPRA and USFWS. COE will design and construct. Dredging in late 2014 and late 2015 subject to available Federal funding.

CS-28 During Dredge Placement

CS-28 1 Year Post Marsh Creation

CS-28 Sabine Marsh Creation (Cycle 1)

CS-28 Sabine Marsh Creation (Cycle 1) June 2012

Rockefeller Refuge Shoreline Stabilization
ME-18 Test Sections
LA-08 Bioengineered Oyster Reef Demo

ME-18 Test Sections – Completed Jan 10
Rockefeller Refuge Gulf Shoreline Stabilization

All Rock Breakwater

Crest Elevation	ft, NAVD88
Constructed	1.5
Post Construction (1.5 y)	0.75

Light Weight Aggregate Core Breakwater

Crest Elevation	ft, NAVD88
Constructed	6
Post Construction (1.5 y)	3.5

LA-08 Bioengineered Oyster Reef Demo

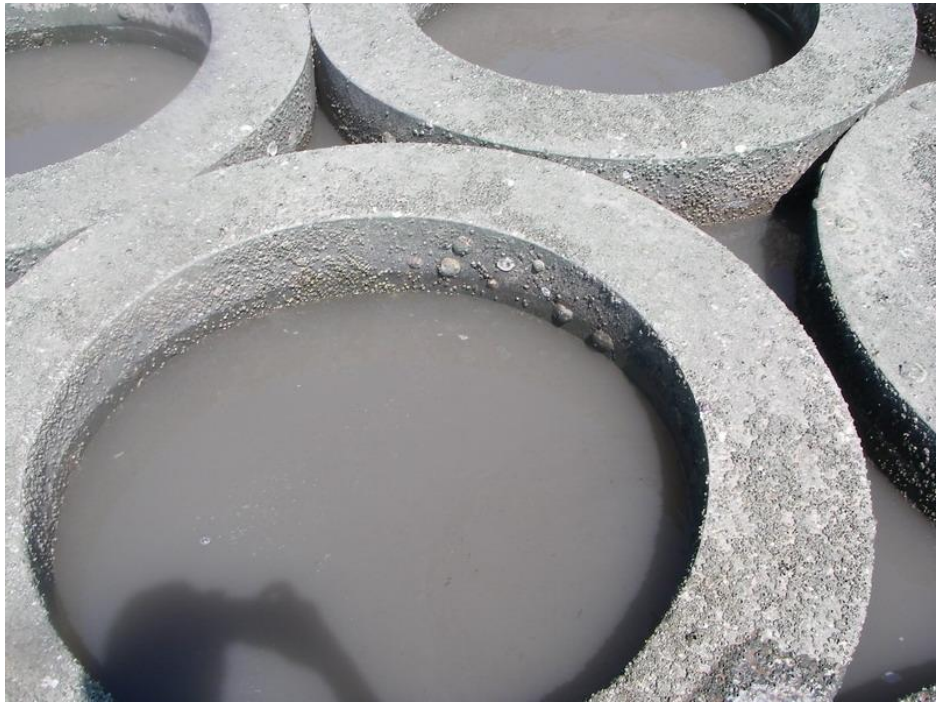
Placement of standard mix concrete rings

LA-08 Bioengineered Oyster Reef Demo

Rings with admixture to enhance oyster growth

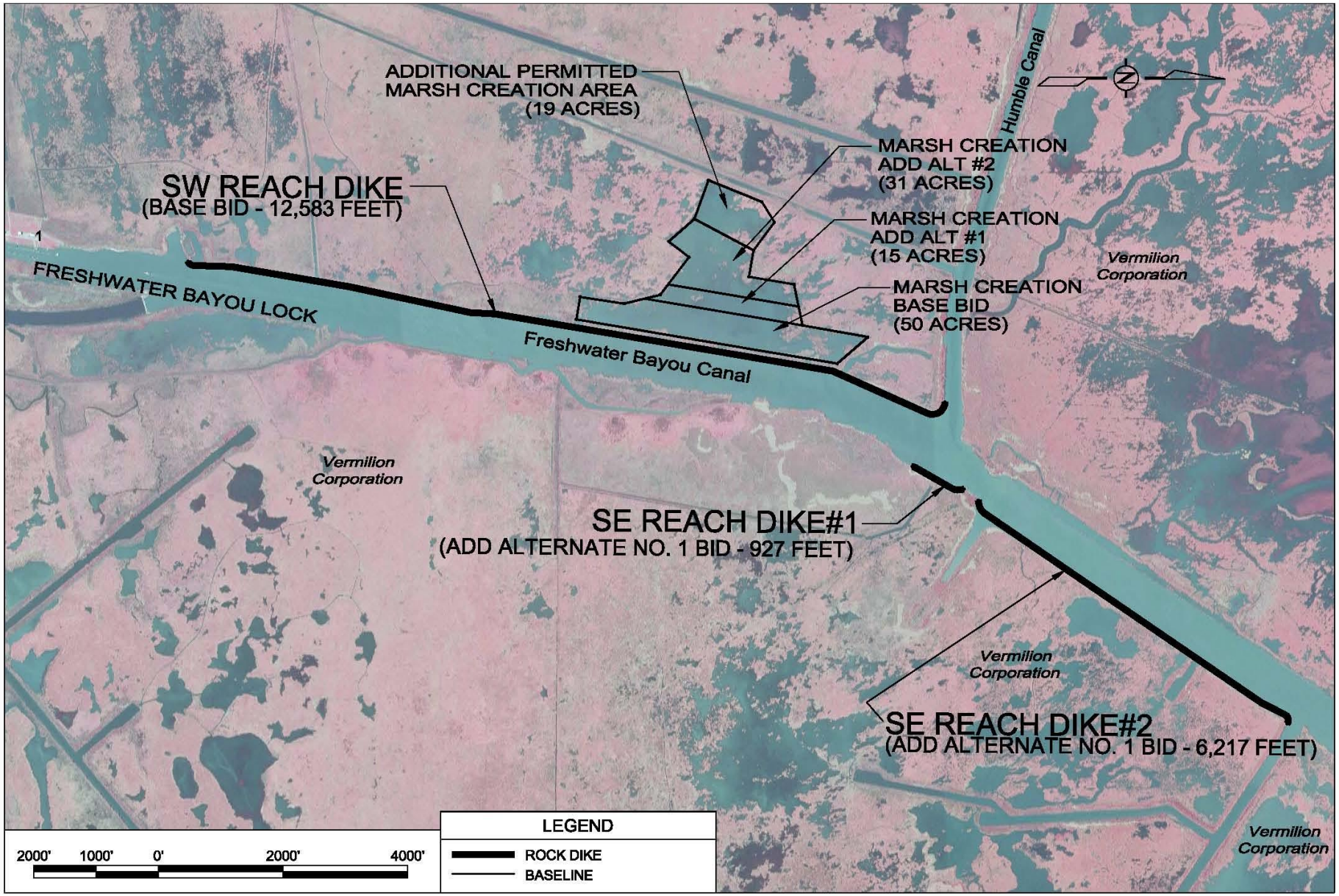
LA-08 Project Status

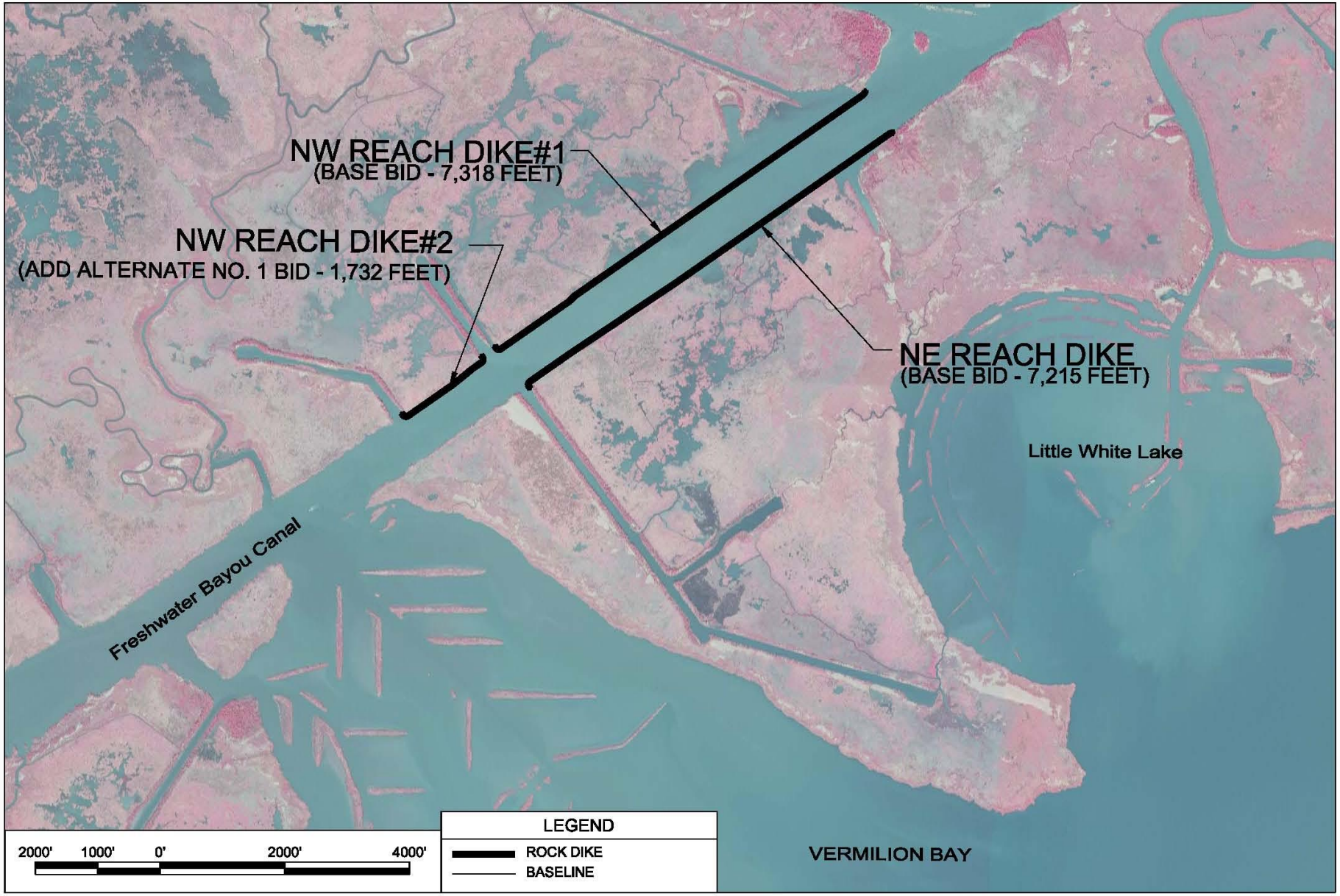
- Project length – Two sections each 215 feet in length
- Construction completed in late February 2012
- Monitoring for 4 years: Elevation surveys, Wave Attenuation, Oyster Spat and Production, and Aerial Photography
- Total Project Cost: $ 2.3 million



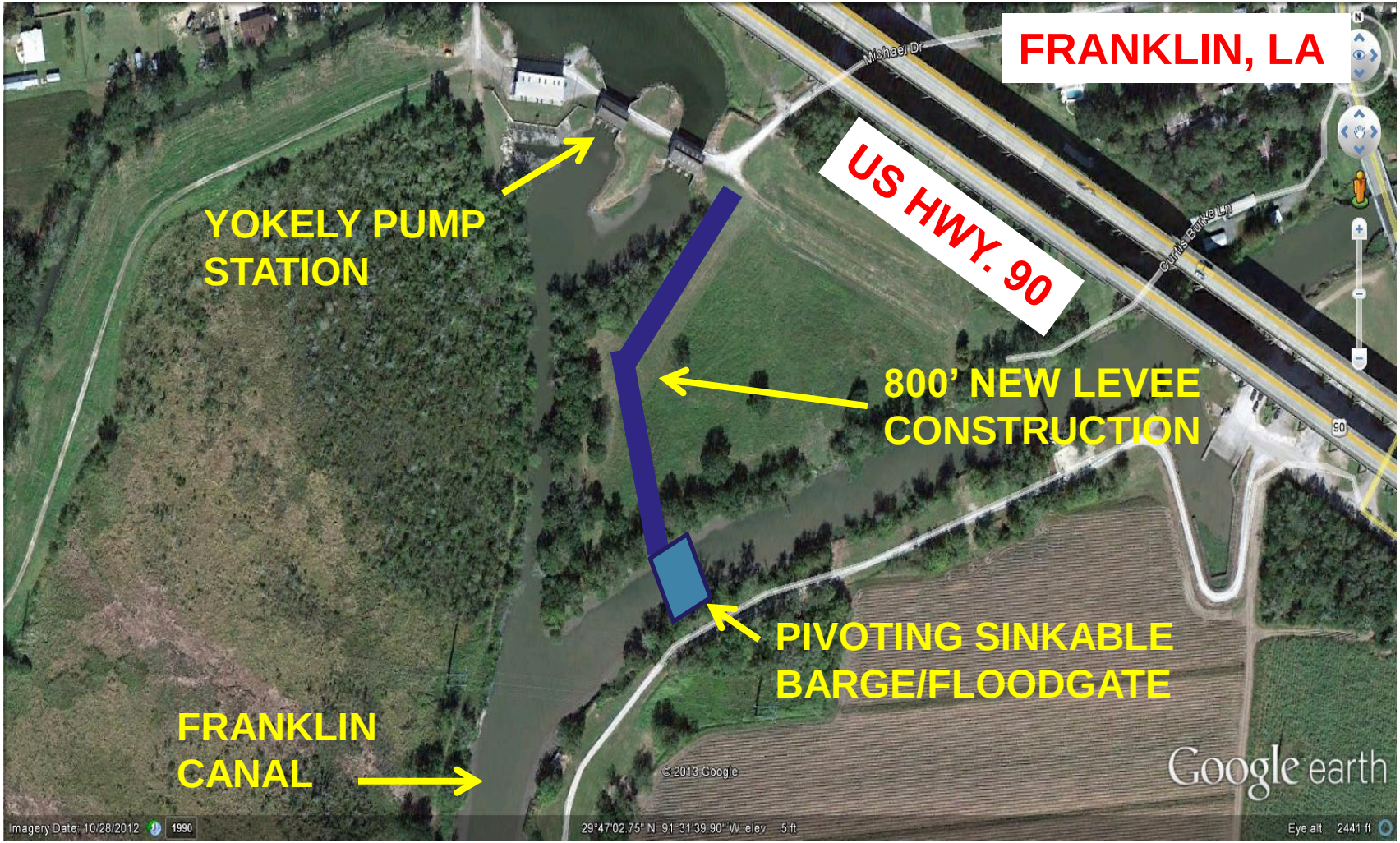
Freshwater Bayou Bank Stabilization
Marsh Creation Near Freshwater Bayou

- **Plans are 98% complete**
- **Land rights agreements signed**
- **Bid letting for Bank Stabilization in March or April 2013**
- **Bid Letting for Marsh Creation in May or June 2013**
- **Contract Time: Bank Stab. – 320 days**
- **Marsh Creat. –180 days**
- **Const. Cost: Bank Stab.-$13.6M (Base)**
- **$21.4M (Total)**
- **Funding Source: CIAP**
- **Const. Cost: MC- $3.5M (Base Bid)**
- **$5.5M (Total)**
- **Funding Source: Surplus & Hazard Mitigation Funds**


ADDITIONAL PERMITTED
MARSH CREATION AREA
(19 ACRES)
Humble Canal
MARSH CREATION
ADD ALT #2
(31 ACRES)
SW REACH DIKE
(BASE BID - 12,583 FEET)
MARSH CREATION
ADD ALT #1
(15 ACRES)
Vermilion
Corporation
FRESHWATER BAYOU LOCK
MARSH CREATION
BASE BID
(50 ACRES)
Freshwater Bayou Canal
Vermilion
Corporation
SE REACH DIKE#1
(ADD ALTERNATE NO. 1 BID - 927 FEET)
Vermilion
Corporation
SE REACH DIKE#2
(ADD ALTERNATE NO. 1 BID - 6,217 FEET)
Vermilion
Corporation
LEGEND
ROCK DIKE
BASELINE
2000' 1000' 0' 2000' 4000'

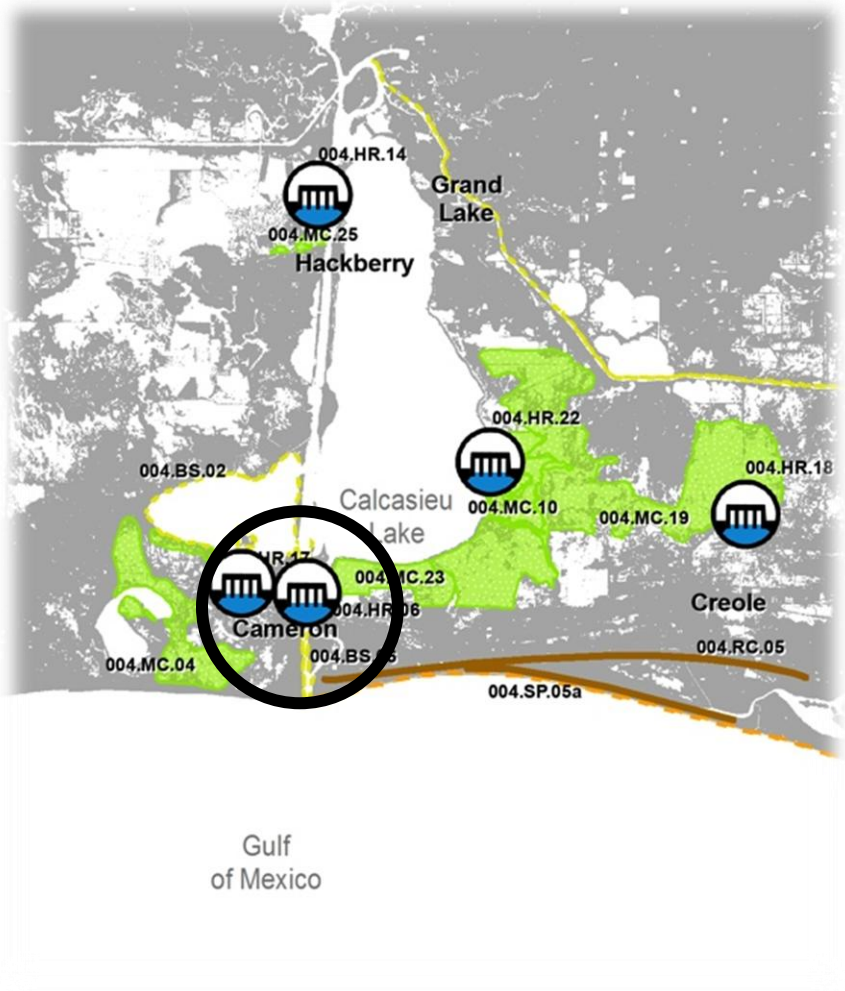

NW REACH DIKE#1
(BASE BID - 7,318 FEET)
NW REACH DIKE#2
(ADD ALTERNATE NO. 1 BID - 1,732 FEET)
NE REACH DIKE
(BASE BID - 7,215 FEET)
Little White Lake
Freshwater Bayou Canal
VERMILION BAY
LEGEND
ROCK DIKE
BASELINE
2000' 1000' 0' 2000' 4000'

TV-52 Franklin Floodgate Barge



NTP ISSUED TO CIRCLE, LLC. ON OCT. 22, 2012
CONSTRUCTION TIME—240 CALENDAR DAYS
CONTRACT AMOUNT--$3,179,443.00

Initiation of Study: CALCASIEU SHIP CHANNEL Salinity Control Measures



- Planning level effort is being initiated by CPRA to help in the development of design concepts and alternates.
- Construction of measures designed to prevent saltwater from entering Calcasieu Lake through the Calcasieu Ship Channel
- Measures would control salinity spikes and tidal fluctuations, provide storm surge benefits, and be constructed in a manner that would allow for the continued functioning, and ideally improvement and increased viability, of the Calcasieu Ship Channel and the Port of Lake Charles
- The project's features would be designed in close coordination with key stakeholder groups in order to meet its various objectives

Questions?

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