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
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)
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.
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 Hydrologic Restoration (ME-20)

- Culvert *
- Freshwater Diversion *
- Marsh Creation *
- Borrow Site *
- Project Boundary
* denotes proposed features

Map Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La.
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 Refuge Marsh Creation, Cycles 4 & 5 (CS-28-4&5)

- Cycle 2 - Dredge Pipeline
- Project Boundary
- Completed Cycle
- Proposed Cycle

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

Background Imagery:
2008 Digital Orthophoto Quarter Quadrangle

Map Date: November 30, 2010
Map ID: USGS-NWRC 2011-11-0005
Data accurate as of November 18, 2010
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

Cycle 2
May 2011
CS-28  1 Year Post Marsh Creation

Cycle 2 – Jun 2012
CS-28 Sabine Marsh Creation (Cycle 1)

Cycle 1 – Marsh Creation Site after Hurricane Ike (Nov 2008)
6 years after project completion
CS-28 Sabine Marsh Creation (Cycle 1)
June 2012
Rockefeller Refuge Shoreline Stabilization
ME-18 Test Sections
LA-08 Bioengineered Oyster Reef Demo
**Rockefeller Refuge Gulf Shoreline Stabilization**

### All Rock Breakwater

<table>
<thead>
<tr>
<th></th>
<th>ft, NAVD88</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crest Elevation</td>
<td></td>
</tr>
<tr>
<td>Constructed</td>
<td>1.5</td>
</tr>
<tr>
<td>Post Construction (1.5 y)</td>
<td>0.75</td>
</tr>
</tbody>
</table>

### Light Weight Aggregate Core Breakwater

<table>
<thead>
<tr>
<th></th>
<th>ft, NAVD88</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crest Elevation</td>
<td></td>
</tr>
<tr>
<td>Constructed</td>
<td>6</td>
</tr>
<tr>
<td>Post Construction (1.5 y)</td>
<td>3.5</td>
</tr>
</tbody>
</table>
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
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?

Contact Information:

Patrick J. Landry, P.E.
CPRA Regional Operations Manager for SW La.
Operations Division
(337) 482-0680
patrick.landry@la.gov