Status of SW La. Coastal Restoration Projects

Patrick J. Landry
CPRA Project Management Division
September 21, 2011
I. Recently Constructed Projects
II. Projects in Construction
III. Projects in Design/Planning
Recently Constructed Projects

1. Cameron Creole Maintenance Levee
2. East Marsh Island Marsh Creation
3. Beneficial Use of Marsh Creation
4. Rockefeller Refuge Shoreline Protection
5. Grand Lake Shoreline Protection
6. South White Lake Shoreline Protection
Cameron Creole Maintenance Levee
Facts & Figures

- Reconstruction of 14.2 miles of levee on eastern rim of Calcasieu Lake
- Levee constructed to an elevation of 7.5 NAVD 88 w/ 5’ top width and 3:1 side slopes
- 804,000 cubic yards of select fill hauled in
- Work commenced on June 25, 2010
- Final inspection completed on Sept. 8, 2011
- Total construction cost $15.3 million
- Funded with state surplus funds
- Anticipate full FEMA reimbursement
Cameron Creole levee construction
Cameron Creole levee construction
Cameron Creole levee construction
Cameron Creole vegetated levee
East Marsh Island Marsh Creation (TV-21)

- **Total Project Budget**: $22.3 million
- **Acres Benefited**: 1159
- **Construction Completion Date**: November 2010
- **Funding Program**: CWPPRA
East Marsh Island before construction
East Marsh Island after construction
East Marsh Island Marsh Creation Borrow Area
Approximately $5 million in unobligated project funds were used to create and nourish over 800 acres of additional marsh than originally planned.
**Marsh Creation Via Beneficial Use - Marcantel**

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Project Budget</td>
<td>$19.7 million</td>
</tr>
<tr>
<td></td>
<td>($1.3M Calcasieu)</td>
</tr>
<tr>
<td>Acres Benefited</td>
<td>330</td>
</tr>
<tr>
<td>Construction Completion Date</td>
<td>November 2010</td>
</tr>
<tr>
<td>Funding Program</td>
<td>CIAP($3.7M), Surplus($14.1M)</td>
</tr>
</tbody>
</table>
Rockefeller Refuge Shoreline Protection Demonstration

Total Project Budget (CIAP) $6.0 million
Linear Feet 1,700
Construction Completion Date January 2010
Funding Program CIAP
One of the most rapidly eroding portions of the Louisiana Gulf shoreline is at Rockefeller Refuge. Estimates of long-term shoreline retreat range from 30 to 40 feet/year.
<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Project Budget (CIAP)</td>
<td>$10.6 million</td>
</tr>
<tr>
<td>Linear Feet</td>
<td>37,800</td>
</tr>
<tr>
<td>Construction Completion Date</td>
<td>February 2010</td>
</tr>
<tr>
<td>Funding Program</td>
<td>CIAP</td>
</tr>
</tbody>
</table>
South White Lake Shoreline Protection
Total Construction Cost: $9.66 million
Completed: August 2006
Total length of rock dike: 11.9 miles
Projects in Construction
Bio-Engineered Oyster Reef Demo (LA-08)

Contract awarded in August, 2011. Contractor fabricating concrete oyster rings (6’ diameter). Delivery to project site in October. Estimated Completion Date – April, 2012 for $1.4 million. Project length: approx. 1000’; Location: Rockefeller Refuge, west of Joseph Harbor
Cote Blanche Hydrologic Restoration (TV-04)

- **Project Location:** West Cote Blanche Bay in St. Mary Parish
- **Description:** Maintenance Project to recap recap School Bus Bayou rock dike
- **Length:** 3,300 ln. ft. of 250 lb class rock
- **Start date:** September 9, 2011
- **Anticipated end date:** November 9, 2011
- **Total Construction Cost:** $718,600
- **Funding:** CWPPRA O&M funds
Sand Fencing west of Holly Beach

Construction began September 9th to replace 46,000 linear feet of sand fencing destroyed during Hurricane Ike. Project will be complete in November, 2011 for a total cost of $293,000. Planting of vegetation (28,000 plants) along the fence, included in project.
Projects in Design/Planning
Cameron Parish Shoreline (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 solely by State

• Minimum of 3 million cu. ft. of beach quality sand to be delivered from borrow site located 20+ miles offshore
PROJECT OBJECTIVE

Figure 3. Reach 2 shoreline along Highway 82 to the east of Holly Beach, looking westward.

Figure 4. Reach 2 shoreline, east of Holly Beach looking eastward.
Existing Cameron Beach in project area
TYPICAL BEACH/DUNE SECTION
OFFSHORE SAND SOURCES
ENGINEERING AND DESIGN SCHEDULE

• 70% Design: August 2011

• 95% Design: November 2011

• Permits: January 2012

• 100% Design: January 2012

• Bid/Construction: Pending Landrights Completion
SEDIMENT DELIVERY METHODS

Calcasieu Pass Pumpout method

Calcasieu Pass Rehandling Method
FRESHWATER BAYOU
BANK STABILIZATION/MARSH CREATION

95% Design Review: January 2011

Funding Approval: January 2011

Permits Received: July 2011

Bid Package Ready: December 2011
Marsh Creation Area

MARSH CREATION AREA
(ADDITIVE ALTERNATE NO. 3 - 46 ACRES)
SW REACH DIKE

MARSH CREATION CONTAINMENT DIKE

ADDITIONAL PERMITTED MARSH CREATION AREA AND CONTAINMENT DIKE

MARSH CREATION AREA
(BASE BID - 50 ACRES)

SPOIL AND MARSH CREATION FILL

MARSH CREATION BORROW AREA

LEGEND
SOIL BORING
AVERAGE MARSH ELEVATION SURVEY SURVEY TRAJECT
ROCK DIKE
MARSH CREATION CONTAINMENT DIKE
BASELINE
FRESHWATER BAYOU
BANK STABILIZATION/MARSH CREATION
TYPICAL SECTIONS

FWB BORROW TYPICAL SECTION

MARSH CREATION CONTAINMENT DIKE & BORROW TYPICAL SECTION

4/15/2013
Marsh Creation
• Dredge Volume: 562,000 CY (923,000 CY)
• Max Slurry Elevation: +4.0 ft. NAVD 88
• Min Slurry Elevation: +3.5 ft. NAVD 88

Freshwater Bayou Borrow Area
• Capacity: 1.1 MCY (based on 2008 surveys)
• Excavation Limit: -23.0 ft. NAVD 88
• Maximum Pump Distance: ~ 2 miles

Bank Stabilization
• Fill Quantity: 174,000 TONS (278,000 TONS)
• Maximum Elevation: +4.0 ft. NAVD 88
• Minimum Elevation: +3.0 ft. NAVD 88

• Available Construction Funds: $ 12.8 million (rock) (CIAP & Parish CSA)
  $  3.6 million (marsh creation) (Surplus)
Flood Control Structure at Boston Canal

- **Purpose:** To reduce flooding in lower Vermilion Parish, including the Henry Hub, from tidal surges in Vermilion Bay
- **Project Description:** Construct double sheet pile wall across the Boston Canal. The central 100’ will have a swing barge structure that will remain open for flow and vessel traffic but can be closed during impending flooding.
- **Proposed Cost:** $5.8 million (CDBG Funding)
- **Status:** State initializing modeling effort to finalize location. Awaiting contract approval.
Front Ridge Chenier Terracing Project (TV–60)

- **Project Cost:** $2 million dollars
- **Proposed Construction:** 85,000 ft of terraces
- **Funding Source:** CDBG funds
- **Location:** SE of Pecan Island near Front Ridge
- **Project Status:** CPRA Engineering staff are working on the geotech and survey scope and starting design this week.
Front Ridge Chenier Terracing Project (TV-60)
FW Bayou Marsh Creation (ME–31)

- **Description:** Marsh creation west of FW Bayou & north of Humble Canal. Will create 400 acres of marsh.
- **Approved funds:** $2.4 m; **Total cost:** $25.5 m
- **Status:** Waiting on drawings from NRCS design staff to finalize Scope of Services for surveying (dredge corridor & borrow areas)
- **Interior surveys by NRCS are 80% complete**
- **Meetings with landowners will begin in Oct.**
- **Cultural resource consultations have started. No impacts are expected.**
**SW La Gulf Shoreline Nourishment and Protection (ME-24)**

- **Description:** 5 million yds of sediment deposited along 9 miles of shoreline between Dewitt Canal and Constance Lake in Cameron and Vermilion Parishes
- **Total estimated cost:** $36.9 million
- **Status:** Project is on hold until the CPRA and the COE develop a Cost Share Agreement. COE is currently reviewing latest CSA draft.
St. Mary Levee (Franklin Canal) (TV–52)

- **Purpose:** To provide flood protection to large residential area north of Hwy 90 bridge
- **Project Features:** 800’ of earthen levee to be placed along Yokley Bayou with a steel swing barge flood gate to be placed in Franklin Canal
- **Status:** CUP and USACE Permits received and engineering plans are 100% complete
- **Estimated Cost:** $5 million (CDBG Funding)
Bayou Sale Shoreline Protection (TV-20)

- **Project Location:** Eastern shoreline of East Cote Blanche Bay in St. Mary Parish

- **Original design concept:** Construction of 6.8 miles of foreshore rock dike.

- **Status:** Due to extensive pipelines in the area, NRCS is investigating using Wave Attenuating Devices (WAD’s), and other conventional and unconventional techniques. NRCS will present preliminary findings to CPRA by December.
South Grand Chenier HR Project (ME–20)

- **Status:** Plans are 100 % complete.
  - Working thru landrights agreements with landowners.

- **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.
Weeks Bay Marsh Creation & Shoreline Protection (TV-19)

The Weeks Bay Alternative Analysis Report findings were presented at the CWPPRA Technical Committee Report Meeting Tuesday, September 20th in Baton Rouge along with recommendations.
Questions?

- Contact Information:
  - Pat Landry
    - CPRA Regional Program Manager for SW La
    - (337) 482–0680  patrick.landry@la.gov
  - Darrell Pontiff
    - CPRA Lafayette Field Office Engr. Supervisor
    - (337) 482–0683  darrell.pontiff@la.gov