Understanding Land Loss and Restoration in Coastal Louisiana

Increasing the barrier shoreline width with dredged sediment.

CWPPRA Project BA-35

CWPPRA Project BA-41
Natural Causes of Wetland Loss

- Hurricanes
- Subsidence
- Wave erosion
- Sea level rise
Process Alterations Made by Humans

- River levees
- Large water control structures
- Construction of Gulf Intracoastal Waterway
- Ship canal construction
- Access canal construction
Levees

Old River Control Structure

Construction of manmade waterways – Gulf Intercoastal Waterway (GIWW)
HISTORICAL SHORELINE CHANGES
ISLES DERNIERES, LOUISIANA

1853

GULF OF MEXICO

1988

GULF OF MEXICO
Coastal Restoration Activities

Current Funding Streams for Coastal Restoration. Louisiana is working to protect its coastline.
CWPPRA

Coastal Wetland Planning, Protection and Restoration Act

- Also know as CWPPRA (*pronounced quip-ruh*) or Breaux Act
- Federal Legislation Public Law 101-646 Title III CWPPRA
- Between $30M and $79M per year
- Has been funding projects for 23 years
- Since 1990, it has authorized 151 projects benefiting over 112,000 acres of wetland habitat.
- www.LACoast.gov
Coastal Wetlands Planning, Protection and Restoration Act

U.S. Department of Interior - U.S. Fish and Wildlife Service

U.S. Department of Agriculture - Natural Resources Conservation Service

U.S. Department of Commerce – NOAA, National Marine Fisheries Service

U.S. Department of the Army - U.S. Army Corps of Engineers

U.S. Environmental Protection Agency

Louisiana Governor’s Office
Louisiana Coastal Restoration Projects
CWPPRA Projects
Using a Variety of Techniques for Coastal Restoration
Bayou LaBranche Wetlands – One of the First CWPPRA Projects
1-10 Near New Orleans

LaBranche Marsh Creation – Pre Construction

Open water

Created Marsh

LaBranche Marsh Creation – Post Construction
Pass Chaland to Grand Bayou Pass Barrier Shoreline Restoration

Increasing the barrier shoreline width with dredged sediment.
Mississippi River Sediment Delivery System-Bayou Dupont

Before

After

BA-39
Mississippi River Sediment Delivery System-Bayou Dupont

Cutterhead dredge

BA-39
Pipe jack and bored under the road and railroad to deliver sediment to a marsh receiving area in Plaquemines Parish near the ConocoPhillips plant.
Barataria Barrier Island Complex Project: Pelican Island to Pass La Mer to Chaland Pass Restoration

BA -38
About 2.5 million cubic yards of sand and silt were mined from an offshore borrow area in the Gulf of Mexico to construct the dune and marsh features.
Barataria Barrier Island Complex Project: Pelican Island to Pass La Mer to Chaland Pass Restoration

BA-35
Installation of sand fencing was concurrent with dune construction.
Whiskey Island Back Barrier Marsh Creation

Approximately 316 acres of back barrier intertidal marsh habitat, 5,800 linear feet of tidal creeks, three 1-acre tidal ponds, and 13,000 linear feet of protective sand dune were created by semi-confined disposal and placement of dredged material.
Whiskey Island Back Barrier Marsh Creation

The sediment was dredged from a source in the Gulf of Mexico near the island.
Pecan Island Terracing (ME-14)
Little Vermilion Bay Sediment Trapping (TV-12)
East Timbalier Island Sediment Restoration (TE-25)

- Almost three million cubic yards of sediment were utilized to establish a 200-foot wide dune and a 600-foot wide marsh along the length of the island.
- This created 170 acres of intertidal marsh and is helping to protect thousands of acres of existing fringing marsh to the north.
- To further stabilize the dredged sediments, 13,000 feet of sand fences and approximately 20,000 plugs of marsh grasses were added.
Big Island Mining (AT-03)

West of Atchafalaya River in St. Mary Parish
Big Island Mining (AT-03)

• Approximately 39,000 linear feet, or over 3 million cubic yards, of dredged material were utilized to create five delta lobes totaling 916 acres of marshlands.
• An additional 1200 acres are expected to accrete over the 20 year monitoring life of this project.
Coastwide Nutria Control Program

(LA-03b)
West Belle Pass Barrier Headland Restoration – 100th CWPPRA Project!

This project reestablished the West Belle headland by rebuilding a large portion of the beach, dune, and back barrier marsh that once existed.

Approximately 9,300 feet of beach and dune was rebuilt using nearly 2 million cubic yards of dredged sand, and 150 acres of marsh habitat will be rebuilt.
Various Types of Projects...

- Freshwater / sediment diversion
- Barrier island restoration / shoreline protection
- Vegetative planting
- Hydrologic restoration
- Beneficial use of dredging material
- Sediment Trapping
2014 Recently Completed Wetland Restoration Construction
Completed Construction

**Project Name:** TE-43 GIWW Bank Restoration of Critical Areas
- 10,584 lf of bankline protection

**Location:** Terrebonne Parish

**Date Completed:** March 24, 2014

**Final Construction Cost:** $7.1 Million
## Project Name: LA-39 Coastwide Vegetative Plantings

<table>
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<tr>
<th>Program Year</th>
<th>Site Name</th>
<th>Parish</th>
<th>Status</th>
<th>Planting Date</th>
<th>Smooth cordgrass</th>
<th>California bulrush</th>
<th>Other</th>
<th>Total</th>
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<td>3</td>
<td>The Jaws</td>
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</table>
Completed Construction

Project Name: Coastwide Vegetative Plantings (LA-39) The Prairie

525 Spartina alterniflora ‘Vermilion’ – trade gallons
13,040 Schoenoplectus californicus – trade gallons
Currently Under Construction

Project Name: Coastwide Vegetative Plantings (LA-39)
West Little Lake

900 Spartina alterniflora ‘Vermilion’ – trade gallons
9,670 Schoenoplectus californicus – trade gallons
Currently Under Construction

Project Name: Coastwide Vegetative Plantings (LA-39)
The Jaws

10,650 *Schoenoplectus californicus* – trade gallons
Currently Under Construction

**Project Name:** Coastwide Vegetative Plantings (LA-39)

Little Vermilion Bay

2,500 *Schoenoplectus californicus* – trade gallons
Currently Under Construction

**Project Name:** Coastwide Vegetative Plantings (LA-39)

Little Vermilion Bay

23,400 *Schoenoplectus californicus* – trade gallons
896 acres of marsh creation (includes NRDA project)
6,300 feet of shoreline restoration
Mississippi River borrow site

**Project:** Lake Hermitage Marsh Creation  
**Location:** Plaquemines Parish, West Pointe a la Hache  
**Status:** Construction Start: February 2012
Dredging approximately 70% complete (5-5-2014)
Construction End: September 2014
**Expected CWPPRA Construction Cost:** $23M
Fill Area A – complete
367 acres

Lake Hermitage Marsh Creation BA 42
Fill Area B – 283 acres
(NRDA – 104 acres)
95% complete
1) Terrace field – now 104-acre NRDA Early Restoration marsh creation site
2) Change Order #3 – 246 acres of marsh creation – Fill Areas 7, 8, and 9
Currently Under Construction

**Project Name:** Bayou Dupont Marsh and Ridge Creation (BA-48)

**Status:** In construction (with LDST)
- Mississippi River dredging anticipated to begin in October
- Construction completion projected for Fall 2015

**Expected Construction Cost:** $35M
Currently Under Construction

**Project Name:** Delta-Wide Crevasses Project (MR-09)

**Location:** Plaquemines Parish, Mississippi River Delta

**Status:** Third and final construction event underway of 7 crevasse locations. Start: 3/05/14, Expected Completion: 6/25/14

**Expected Construction Cost:** This event: $795,680
Prior 2 events: $1,413,364
Currently Under Construction

**Project Name:** Delta-Wide Crevasses Project (MR-09)

**Location:** Plaquemines Parish, Mississippi River Delta

**Status:** Aerial and elevation surveys show the Project has created 499 acres of land for fresh marsh, as intended from the previously constructed components.

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<tr>
<th>Crevasse</th>
<th>2001</th>
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<td>116</td>
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</table>

**Totals:** 840 970 1339 499 594% 71.3

**Average:** 38 46 61 23 594% 3.2
Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) Project Priority Lists 1 - 19 Projects in Barataria, Breton Sound, Mississippi River Delta, Pontchartrain, and Terrebonne Basins
Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) Project Priority Lists 1 - 19 Projects in Atchafalaya, Calcasieu-Sabine, Mermentau, and Teche-Vermilion Basins
Coastal Impact Assistance Program

- Also know as CIAP (pronounced sea-app)
- Louisiana Coastal Impact Assistance Program (CIAP) plan proposed projects within the 19 coastal parishes.
- The CIAP Plan was approved by the U.S. Mineral Management Service (MMS) before Louisiana received any funding.
- CIAP was authorized by the US Congress in Section 384 of the Energy Policy Act of 2005, providing an estimated, $510 million in federal monies to Louisiana and its coastal parishes.
- The state’s funding portion is 65 percent while the parishes will be allotted 35 percent.
- It is administered by the State of Louisiana under the Coastal Protection and Restoration Authority (CPRA)
US Army Corp of Engineers

- Davis Pond Freshwater Diversion Project
- Louisiana Coastal Area Ecosystem Restoration Study was started 1999.
- Caernarvon Freshwater Diversion Project
- LaCPR
If nothing is done...

- Predicted coastal wetland loss in 50 years with no action is

430,000 acres
Map of Projected Loss
How can you help spread the word?
For more information...

www.LaCoast.gov