rev. September 2015
Cost figures as of: February 2023

Pass Chaland to Grand Bayou Pass Barrier Shoreline Restoration (BA-35)

Project Status

Approved Date: 2002 **Project Area:** 596 acres
Approved Funds: $40.2 M **Total Est. Cost:** $40.7 M
Net Benefit After 20 Years: 263 acres
Status: Completed
Project Type: Barrier Island Restoration
PPL #: 11

Location

The project is located in the Barataria Basin, between Pass Chaland and Grand Bayou Pass in Plaquemines Parish, Louisiana.

Problems

Prior to construction, wetlands, dune, and swale habitats within the project area had undergone substantial loss due to subsidence, absolute sea-level rise, and marine- and wind-induced shoreline erosion. In addition, oil and gas activities, such as pipeline construction, also contributed to the loss. Marine processes acting on the abandoned deltaic headlands rework and redistribute previously deposited sediment. Fragmentary islands develop due to breaches in the barrier headland. Subsequently, increased tidal prism storage (the total volume of salt water that moves in and out of a bay with the tide) and storm-related impacts have led to inlet and pass formation across the newly formed islands. The Bay Joe Wise beach rim was receded and decreased to a critical width that was susceptible to breaching.

Land area in the project area had decreased from 1932 to 2000. Storms occur approximately every 8.3 years along the Barataria shoreline. Because approximately 100 feet of shoreline is eroded with each storm, shorelines of 100 feet or less are considered in imminent danger of breaching.

Progress to Date

This project was selected for Phase I (engineering and design) funding at the January 2002 Louisiana Coastal Wetlands Conservation and Restoration Task Force meeting and was selected for Phase II (construction) funding at the February 2006 Task Force meeting. Construction was completed in 2009.

This project is listed on Priority Project List 11.

This photo shows the island after construction but before establishment of native beach, dune, and marsh vegetation.

Restoration Strategy

The project's objectives were: 1) preventing the breaching of the Bay Joe Wise shoreline by increasing barrier shoreline width; 2) increasing back-barrier, emergent marsh area by some 226 acres to maintain the barrier shoreline; and 3) creating emergent marsh suitable for tidal aquatic habitats.

The Project features included a constructed beach and dune platform along approximately 2.7 miles of the gulf shoreline. Constructed landward of the beach and dune was a marsh platform with an average width of 860 feet spanning the entire project length. A water exchange channel was incorporated on the western end of the Project to facilitate flushing of Bay Joe Wise through Pass Chaland. The Project created over 420 acres requiring 2.95 million cubic yards of fill dredged from ebb shoal borrow areas. Other project features included installation of sand fencing concurrent with dune construction, dune and marsh vegetative plantings, and post-construction gapping of retention dikes.

For more information, please contact:

Federal Sponsor:
National Marine Fisheries Service
Baton Rouge, LA
(225) 778-7380

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736

Pass Chaland to Grand Bayou Pass Barrier Shoreline Restoration (BA-35)

- Dune
- Beach
- Marsh Creation
- Project Boundary

USGS
science for a changing world

N

0.25 0 0.25 0.5 Kilometers

0.25 0 0.25 0.5 Miles

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

Background Imagery:
2012 Digital Orthophoto Quarter Quadrangle

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