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

Project Status
Approved Date: 2002  
Project Area: 596 acres  
Approved Funds: $40.1 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.

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