January 2002

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

Project Status

Approved Date: 2002
Cost: $19 million
Project Area: 359 acres
Status: Engineering and Design
Net Benefit After 20 Years: 161 acres
Project Type: Barrier Island Restoration

Location

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

Problems

Wetlands, dune, and swale habitats within the project area have undergone substantial loss due to subsidence, sea-level rise, and marine and wind induced shoreline erosion. In addition, oil and gas activities, such as pipeline construction, have also contributed to the loss. Marine processes acting on the abandoned deltaic headlands rework and redistribute previously deposited sediment. Fragmentary islands have developed due to the 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 has receded and decreased to a critical width that is susceptible to breaching.

Land area and loss rates show that land in the project area has decreased from 1932 to 2000. In addition, storm return frequency is approximately 8.3 years for the Barataria shoreline, and because approximately 100 feet of shoreline is eroded with each storm, shorelines of 100 feet or less are considered in eminent danger of breaching.

Restoration Strategy

The project's objectives are: 1) preventing the breaching of the Bay Joe Wise shoreline by increasing barrier shoreline width; 2) increasing back-barrier, emergent marsh area by some 220 acres to maintain the barrier shoreline; and 3) creating emergent marsh suitable for tidal aquatic habitats.

A marsh platform approximately 1,000 feet wide will be created contiguous with the northern side of the gulf shoreline of Bay Joe Wise. Approximately three million cubic yards of sediment would be dredged from the Pas la Mer Ebb-Tide Delta, Pass Chaland Ebb-Tide Delta, and Grand Pass Ebb-Tide Delta. The project will also include the construction of approximately 10,000 feet of 4-foot wide, 2-foot deep tidal creeks. In addition, immediate post-construction aerial seeding with Japanese millet (*Echinochloa frumentacea*) or brown top millet (*Panicum ramosum*) will be followed by smooth cordgrass (*Spartina alterniflora*) and black mangrove (*Avicennia germinans*) vegetative plantings.

Progress to Date

This project was selected for Phase I (engineering and design) funding at the January 2002 Breaux Act Task Force meeting. It is included as part of Priority Project List 11.

This infrared aerial view of the project area was taken in 2000. The remaining barrier shoreline is in jeopardy of breaching with the next hurricane passage.

For more project information, please contact:

Federal Sponsor:
National Marine Fisheries Service
Baton Rouge, LA
(225) 389-0508

Local Sponsor:
Louisiana Department of Natural Resources
Baton Rouge, LA
(225) 342-7308

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Project Boundary

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0.25 0 0.25 0.5 Miles

0.25 0 0.25 0.5 0.75 Kilometers

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

Background Imagery:
1998 Digital Orthophoto Quarter Quadrangles

Map Date: March 10, 2002
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