rev. January 2012
Cost figures as of: June 2014

Riverine Sand Mining/ Scofield Island Restoration (BA-40)

De-authorized

Project Status

Approved Date: 2005 **Project Area:** 746 acres
Approved Funds: $2.93 M **Total Est. Cost:** $2.93 M
Net Benefit After 20 Years: 234 acres
Status: De-authorized
Project Type: Marsh Creation
PPL #: 14

Location

The project area (called "Scofield Island" for the purpose of this project) is located between Scofield Bayou and the point where Bay Coquette has merged with the Gulf of Mexico along the Plaquemines barrier shoreline in Plaquemines Parish, approximately 10 miles southwest of Venice, Louisiana.

Problems

A large shoreline breach developed early in 2003 after the passage of Hurricane Lili in October 2002. The gulfside erosion rate is approximately 13 feet per year. It is expected that the shoreline erosion rates and percent loss per year have increased since the passage of Hurricane Lili in 2002 and the relatively high frequency of tropical storms in 2003. Wetlands, dune, and swale habitats within the project area have undergone substantial loss due to oil and gas activities (e.g., pipeline construction), subsidence, sea level rise, and marine- and wind-induced erosion causing landward transgression and, more recently, breaching and breakup.

This project will help to stabilize the eroding barrier shoreline, which is shown above.

Restoration Strategy

The goals of this project are to repair breaches and tidal inlets in the shoreline, reinforce the existing shoreline with sand, and increase the island width with back barrier marsh creation to increase longevity. The design approach is to maximize surface area habitat remaining after 20 years by preventing shoreline breaching through the introduction of riverine sand and offshore fine sediment that will be dredged (i.e., mined) and pumped in.

Project strategies include the construction of 429 acres of dune area, including the dune itself, dune foreslope and backslope (above-tide, sloping elevations in front of and behind the dune), and marsh platform (areas behind the dune backslope where marsh will be created). Of that acreage, approximately 278 acres would settle to intertidal back barrier marsh. A double row of sand fencing will be installed along the 12,700-foot length of dune. A tidal pond will be constructed in the marsh platform, and approximately three years after construction, containment dikes (built from material removed from the borrow canal) will be gapped as needed to ensure tidal exchange with the marsh platform. Over three years, the dune and marsh platform will be planted with bitter panicum (*Panicum amarum*), Gulf cordgrass (*Spartina spartinae*), marshhay cordgrass (*Spartina patens*), seaoats (*Uniola paniculata*), smooth cordgrass (*Spartina alterniflora*), matrimony vine (*Lycium barbarum*), and black mangrove (*Avicennia germinans*).

Previous barrier island work has found limited sand resources in the nearshore Gulf of Mexico. Additional sand sources must be identified to support barrier shoreline restoration in the Barataria Basin. Dredgable sand resources appear to exist in the Mississippi River in the form of relic sand bars and bed load. Several possible sand sources for Scofield Island have been identified in the vicinity of Empire, Louisiana.

Progress to Date

The Louisiana Coastal Wetlands Conservation and Restoration Task Force approved funding for engineering and design at their February 2005 meeting. This project is currently de-authorized.

This project is on Priority Project List 14.

For more project information, please contact:

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

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

Riverine Sand Mining/ Scofield Island Restoration (BA-40)

- Sand Fencing *
- Tidal Pond *
- Beach/Dune Fill *
- Borrow Canal *
- Containment Dike *
- Marsh Fill *
- Project Boundary

* denotes proposed features

USGS science for a changing world

0.2 0 0.2 0.4 Miles

0.2 0 0.2 0.4 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 Quadrangle

Map Date: January 3, 2005
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