September 2010 (rev)
Cost figures as of: March 2013

Freshwater Introduction South of Highway 82 (ME-16)

Project Status

Approved Date: 2000 **Project Area:** 19,988 acres
Approved Funds: $5.15 M **Total Est. Cost:** $6.34 M
Net Benefit After 20 Years: 296 acres
Status: Completed 2006
Project Type: Hydrologic Restoration
PPL #: 9

Location

The project is located in the north central and eastern portions of Rockefeller State Wildlife Refuge and Game Preserve and Miami Corporation property in Cameron and Vermilion parishes, Louisiana, 9 miles southwest of Pecan Island, LA.

Problems

The Chenier Subbasin of the Mermentau Basin, located south of Highway 82, has been experiencing saltwater intrusion due to lack of freshwater and nutrient input from the Lakes Subbasin. Excess freshwater in the Lakes Subbasin, located north of Highway 82, is available to reduce salinities further south in the Chenier Subbasin.

Restoration Strategy

The project components included: installation of four freshwater introduction water control structures; plug removal; modification of the Little Constance structure; and canal enlargement north and south of Louisiana Highway 82 to allow water flow under the highway from the Lakes Subbasin south into the Chenier Subbasin. A small "spray dredge" was used to enlarge the freshwater introduction channels that spread the dredged sediment in a thin layer over the existing marsh eliminating spoil banks and impacts to adjacent marsh. Higher water levels in the Lakes Subbasin afford the opportunity to divert water into the Chenier Subbasin. 26,000 linear feet of "duck-wing" earthen terraces were also constructed west of Rockefeller's Unit 14 impoundment.

Progress to Date

The project was approved for engineering and design in January 2000 and for construction in October 2004. Hydrologic modeling and final designs were completed in September 2003 and December 2004 respectively. Construction began in June 2005 and was completed in October 2006.

Monitoring Results

The various project features, with the exception of rock revetment, are in excellent condition and the structures are functioning as designed. Salinity levels were reduced in the target brackish marshes in southeastern Rockefeller Refuge. Operation of the structures to improve drainage allowed the area to recover in the fall of 2006 after Hurricane Rita. The vegetative recovery was greater in the project area after Hurricane Rita compared to that recorded in adjacent reference sites. Preliminary information in the 2008 monitoring report indicated that the project-area brackish marsh site showed a gain in elevation compared to other sites.

Early stages of the construction of a water control structure to move freshwater to brackish marshes to the south.

Small spray dredge enlarging the Grand Volle Ditch and spraying the spoil over existing marsh.

For more project information, please contact:

Federal Sponsor:
U.S. Fish and Wildlife Service
Lafayette, LA
(337) 291-3100

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

Freshwater Introduction South of Highway 82 (ME-16)

- Culvert
- Remove Existing Plug
- Weir
- Dredge Channels
- Terrace
- Project Boundary

USGS science for a changing world

1 0 1 2 Kilometers

1 0 1 2 Miles

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

Background Imagery:
2008 Digital Orthophoto Quarter Quadrangle

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