October 2002
Cost figures as of: March 2013

Four Mile Canal Terracing and Sediment Trapping (TV-18)

Project Status

Approved Date: 2000 **Project Area:** 1,214 acres
Approved Funds: $2.11 M **Total Est. Cost:** $3.79 M
Net Benefit After 20 Years: 167 acres
Status: Construction
Project Type: Sediment and Nutrient Trapping
PPL #: 9

Location

The project is located approximately 4 miles south of Intracoastal City in Vermilion Parish, Louisiana. The project area includes all of Little White Lake and part of the northeastern embayment of Little Vermilion Bay.

Problems

The main cause of current marsh loss is a shoreline erosion rate of approximately 8 feet/year. A combination of wind and wake energy prevents sediments introduced by the Gulf Intracoastal Waterway (GIWW) via the Vermilion River and Four Mile Canal from allowing subaerial marsh development in the area.

Restoration Strategy

Reduction of shoreline erosion will be achieved by the buffering capacity of the constructed terraces. The proposed terrace layout is very different for each area of the project. The "fish net" design for Little Vermilion Bay is designed to allow sediment deposition and the terraces in Little White Lake are aligned to reduce the wind-generated waves, thus reducing shoreline erosion. Thus, marsh habitat will be created in two ways within the Four Mile Canal Terracing Project area. First, marsh will immediately be built by creating approximately 90 terraces from dredged material and planting them with smooth cordgrass. This action alone will create 70 acres of subaerial land. Second, by reducing fetch and wave energy, terraces will promote the deposition of suspended sediments in the shallow water adjacent to the terrace edges in Little Vermilion Bay and Little White Lake. This will slowly build marsh over the life of the project as subaerial land is built and plants naturally become established.

The proposed terraces at Four Mile Canal will be constructed in a similar fashion as shown above. The above photo is of the *Captain Buford Berry* constructing terraces at the project at Little Vermilion Bay (TV-12).

Progress to Date

The cooperative agreement was awarded September 25, 2000. As a result of mitigation agreements between the Louisiana Department of Natural Resources and an energy company, an original construction feature for the Onion Lake area of the project has been removed. However, project goals and objectives will be maintained by enhancing the remaining features.

This project is on Priority Project List 9.

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

Four Mile Canal Terracing and Sediment Trapping (TV-18)

Terrace*

Project Boundary

* denotes proposed features

USGS science for a changing world

N

0.5 0 0.5 Miles

0.5 0 0.5 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: November 13, 2002
Map ID: 2002-11-535
Data accurate as of: November 13, 2002