October 2002
Cost figures as of: March 2013

Lake Chapeau Sediment Input and Hydrologic Restoration, Point Au Fer Island (TE-26)

Project Status

Approved Date: 1993 **Project Area:** 13,024 acres
Approved Funds: $6.79 M **Total Est. Cost:** $6.84 M
Net Benefit After 20 Years: 509 acres
Status: Completed May 1999
Project Type: Hydrologic Restoration and Marsh Creation
PPL #: 3

Location

The project encompasses approximately 13,000 acres of intermediate marsh, brackish marsh, and open water near Lake Chapeau on Point Au Fer Island, some 30 miles south of Morgan City, Louisiana in Terrebonne Parish. It is bounded by Fourleague Bay to the north, Atchafalaya Bay to the West, Locust Bayou's network of canals to the south, and by Wildcat Bayou and a single oilfield canal to the east.

Problems

Existing canal networks that extend into the center of Point Au Fer Island have considerably altered its hydrology. Specifically, excessive tidal water exchange has increased erosion, creating a 30% loss of the island's interior marsh over the past 60-70 years.

An aerial close-up view of the created wetlands with a prominent lobe in the foreground.

Restoration Strategy

The project reestablishes hydrologic control points, reducing the tidal fluctuations that cause the erosion and scouring of the island's interior marsh. It also promotes conditions that will sustain communities of aquatic vegetation.

The project's first component, sediment input, restored marshes west of Lake Chapeau and reestablished a land bridge between two existing bayous. An estimated 850,000 cubic yards of material were hydraulically dredged from Atchafalaya Bay and spread to a thickness of approximately 2 feet to create 160 acres of marsh.

The project's second component, hydrologic restoration, included the construction of seven weirs in man-made channels around the perimeter of the project area. In addition, existing spoil banks were gapped in one channel, and a 6,700-foot section of natural bayou was dredged. One rock plug was also installed at the dredge pipeline access corridor to address damage which occurred during construction and two additional weirs were installed in an existing canal to address spoil bank breaches that occurred after installation of the seven weirs. The weirs, gapping, and dredging restored the natural circulation and drainage patterns within the central portion of Point Au Fer Island.

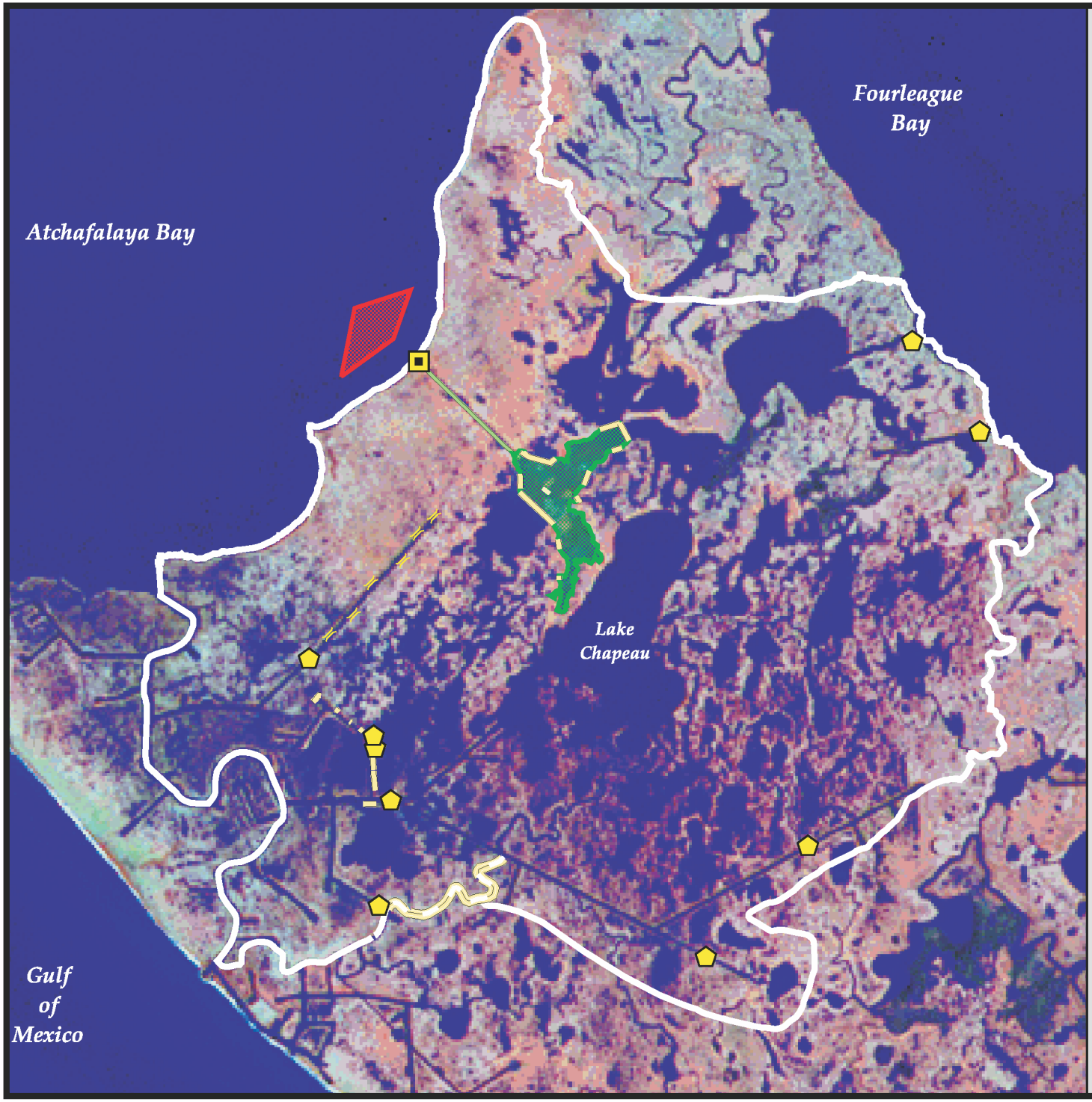
Progress to Date

In the spring of 2000, 40,000 plugs of smooth cordgrass (*Spartina alterniflora*) were planted in the area where the dredged sediments had been placed. Monitoring indicates that the plants are vigorously growing and spreading. Additional monitoring of water flows and salinities is underway. This project is on Priority Project List 3.

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



Lake Chapeau Sediment Input and Hydrologic Restoration, Point Au Fer Island (TE-26)

- Plug
- Spoil Gap
- Weir
- Vegetative Planting
- Containment Dike
- Dredge Channel
- Marsh Creation Area with Vegetative Planting
- Dedicated Dredging Area
- Project Boundary

USGS science for a changing world

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0.5 0 0.5 1 Kilometers

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

Background Imagery:
Thematic Mapper Satellite Imagery 2000

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