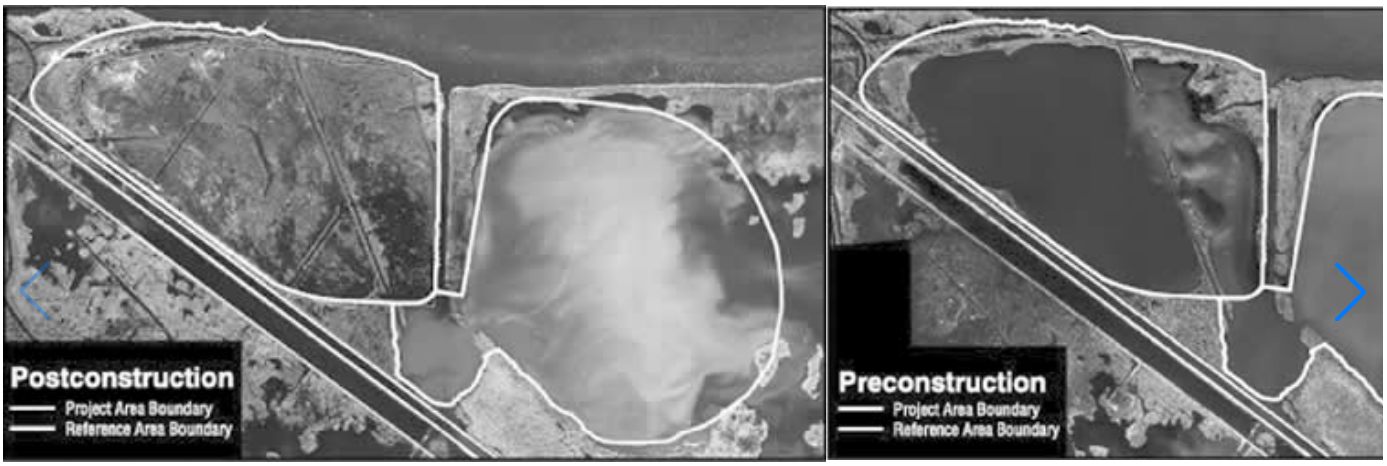
USA: Louisiana: Bayou La Branche Wetlands Restoration (St. Charles Parish)



Overview

This site used to brackish marshland on the southwestern shore of Lake Pontchartrain. Bayou La Branche served as a barrier to wave action by Lake Pontchartrain. It also provided filtering of contaminants and habitat for wildlife and fish. This site was levied and pumped in the early 1900s, converting the land to use by agriculture. When a hurricane broke the levee, this site filled with water. Wetland vegetation was never able to re-establish on site due to the fact that the water was too deep to support emergent vegetation. In 1993-1994, about 2.7 million cubic yards of sediment were taken from Lake Pontchartrain and put into Bayou La Branche. This project has been successful. Approximately 305 acres of shallow water habitat has been created. Managers expect the project to favorably progress as the sediment settles further and becomes a better elevation for emergent vegetation. Monitoring continues on this site.

Project Details

Lead entity types:

- Subnational Government

Adaptive management

Describe adaptive management processes and mid-course corrections taken to address unforeseen challenges and improve outcomes in each of the following categories:

Other:

This project succeeded in reducing the water level in the project area, thus providing acceptable conditions for emergent vegetation.

State of Progress:

- Closed/completed, no further follow-up

Project Start:

1993-11-02

Project End:

1994-04-17

Total budgeted expenses:

- USD 2-5 million

Global Regions:

- Northern America
- Americas

- World

Countries:

- United States of America

Ecosystem Functional Groups / Biomes:

- Brackish tidal biome

Ecosystems:

- Coastal saltmarshes and reedbeds

Extent of project:

- Other

Extent of restoration:

- Other

Degradations:

- Other forms of unsustainable agricultural practices

Description:

In the 1800s, the building of railroad tracks nearby created a barrier to drainage and sheetflow from the upland areas, altering the hydrology of the area. In the early 1900s the site was levied and pumped for agricultural use. This caused subsidence of the site. When a hurricane broke the levee in 1915, this former marsh became a large, open-water pond. In the 1960s, the construction of Interstate 10, adjacent to the site) altered the drainage of the area further, leading to more water flowing from Lake Pontchartrain into the site. Two hurricanes in the 1960s flooded the area further, killing even more marsh-adapted plants. Subsidence and flooding has continued through the years. Until restoration, only a very thin strip of marsh was left between the pond (which ad been marsh) and Lake Pontchartrain.

Planning and Review

Goals and Objectives

Was a baseline assessment conducted:

UNSURE

Was a reference model used:

UNSURE

were_goals_identified:

YES

Goals and objectives:

- Other

Goals Description::

The goal for this project was to re-create the marsh that used to exist on this site. Specifically, project managers wanted to create an area of 70% land and 30% water within 5 years of construction. This would create approximately 305 acres of shallow water habitat. Once fully restored, this site will be an important buffer between the upland areas and Lake Pontchartrain, and will be habitat for many species. This site was chosen for restoration, in part, because it was near to Lake Pontchartrain, the source of sediment. Also, this site is near Interstate 10, making the restoration efforts highly visible. This site will be monitored to evaluate the effectiveness of restoration.

Stakeholder Engagement

Were Stakeholders engaged?:

unsure

Description of Stakeholder Involvement:

USACE (US Army Corps of Engineers) LDNR (Louisiana Department of Natural Resources)

Ecosystem Activities and Approaches

General Activities: - An earthen berm was created around the site for water containment - Segments were removed from the barriers between the two project ponds and the exterior, which allows the water to flow more naturally and recreates a tidal system - Approximately 2.7 million cubic yards of sediment were dredged from Lake Pontchartrain - This sediment is expected to settle to a height that is conducive to marsh vegetation - The sediment was aerially seeded with Echinochloa crusgalli to stabilize the sediment and enhance volunteer plant growth - In the future, wetland plants may be planted onsite - Monitoring of sediment elevation, soil characteristics, and vegetation will continue until 2012

Categories of ecosystem restoration activities and approaches utilized:

- Ecological restoration

Specific type of rehabilitation and/or restoration approach implemented:

- Reconstruction or heavily assisted recovery (e.g. introduction of nearly all biota, major landform modification, major hydrological modification)

Project Outcomes

Eliminate existing threats to the ecosystem: By 1997, 300 acres of open water had been converted to land (80% land, 20% water), which exceeded the original goal. The sediment has settled to a level that was thought to be acceptable to wetland plants, but as of the last report, many wetland species were still absent the areas. Scientists believe that the sediment will need to settle further before many of the wetland species are able to invade the area. Monitoring has shown that the habitat value of this marsh is improving with time. Factors limiting recovery of the ecosystem: Physically, the sediment must settle into the correct elevation to support emergent plants. All of the structures officially built on this project have worked as anticipated. However, a local duck club created illegal weirs and blocked drainages on one section of the project to make it better waterfowl habitat. These structures prevented the outflow of water during low tides and impeded sediment settling. The structures were removed in 1999, but that area of the project is still dealing with soil elevations that are too high for emergent vegetation. Economic vitality and local livelihoods: This site can provide habitat for fish that are valuable both commercially and recreationally. This site also serves to filter out pollution and contaminants as well as buffer interior zones. Finally, this restored project is aesthetically pleasing.

Monitoring and Data Sharing

Does the project have a defined monitoring plan?:

NO

Open Access URL:

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Long Term Management

STAPER