May 2008

Cost figures as of: April 2025

Floating Marsh Creation Demonstration (LA-05)

Project Status

Approved Date: 2003 **Project Area:** Coastwide
Approved Funds: $1 M **Total Est. Cost**: $1 M
Net Benefit After 20 Years: N/A
Status: Completed
Project Type: Demonstration: Marsh Creation
PPL #: 12

Location

This project is located within the fresh and intermediate marshes of the Mandalay Wildlife Refuge in Terrebonne Basin.

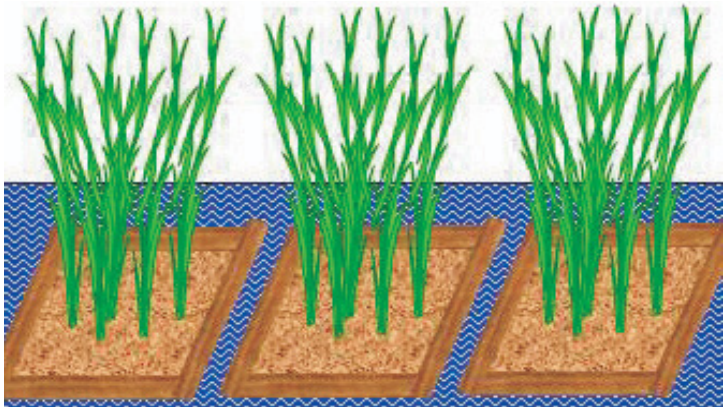
Problems

Tens of thousands of acres of marsh within the fresh and intermediate zones of the Barataria and Terrebonne Basins converted to open water between 1968 and 1990. Large areas of fresh and intermediate open water exist in marsh interiors presenting opportunities for reestablishment within those basins. These types of open water areas are not well-suited for typical projects such as sediment diversions, beneficial use of dredge material, or dedicated dredging because they are generally located at long distances from natural sediment sources, frequently dredged navigation channels, or other water bodies with bottom substrates containing material suitable for marsh creation. Additionally, the substrate under these large areas of fresh and intermediate open water is often fluid organic matter which would not support the weight of added sediment.

Progress to Date

The Louisiana Coastal Wetlands Conservation and Restoration Task Force approved funding for this demonstration project at their January 2003 meeting. Project monitoring is underway.

This project is on Priority Project List 12.



This illustration shows an example of one of several possible designs that were tested for this project.

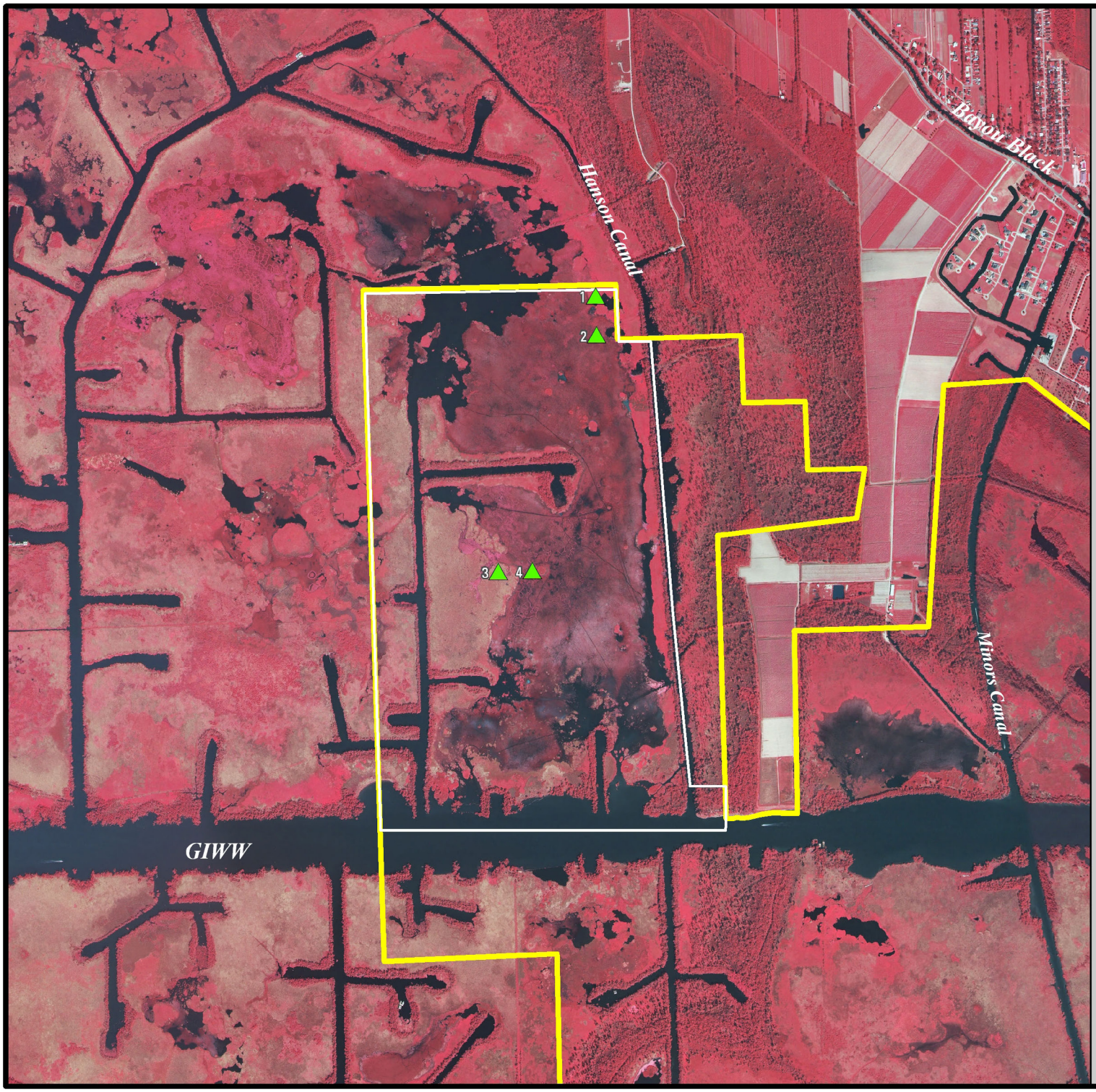
Restoration Strategy

The purpose of this demonstration project is to develop and field test unique and previously untested technologies for creating floating marsh for potential use in fresh and intermediate zones. The first phase of the project consisted of two components in which buoyant vegetated mats or artificial floating systems (AFS) were developed and tested in a controlled environment during the first two years of the project. Various combinations of plant species, planting methods, structure materials and substrates were tested to determine optimal buoyancy and structure design. In addition, plant response to environmental effects was evaluated in effort to identify methods to accelerate floating marsh mat development. For the second phase of the project, the AFSs were then deployed into open water areas for field testing on Mandalay National Wildlife Refuge in 2006. Monitoring of the AFSs field performance is ongoing. The goal of this project is to develop methods for restoration of open areas within deteriorated floating marsh and other freshwater areas where establishment of maidencane (Panicum hemitomon) marsh is desired. In addition, the technology being developed is to be transferable to wider applications across the LA coastal area.

For more information, please contact:

Federal Sponsor:
Natural Resources Conservation Service
Alexandria, LA
(318) 473-7756

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



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Location of Field Deployed Artificial Floating Systems

Project Boundary

Mandalay NWR Boundary

USGS
science for a changing world

N

0.1 0 0.1 0.2 Kilometers

0.1 0 0.1 0.2 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:
2005 Digital Orthophoto Quarter Quadrangle

Map Date: May 22, 2008
Map ID: USGS-NWRC 2008-11-0228
Data accurate as of: May 15, 2008