November 2020
Cost figures as of: March 2021

Breton Landbridge Marsh Creation (West)
River aux Chenes to Grand Lake (BS-38)

Project Status

Approved Date: 2019
Approved Funds: $3.83 M
Project Area: 423 acres
Total Est. Cost: $37.5 M
Net Benefit After 20 Years: 372 acres
Status: Engineering and Design
Project Type: Marsh Creation
PPL #: 28

Location

This project is located in Region 2, Breton Basin, Plaquemines Parish.

Problems

Historically, this area was nourished by the freshwater delivered by the Mississippi River until the creation of the levees along the lower river. In 1991, the Caernarvon Freshwater Diversion began delivering freshwater to the marshes in the area. The major cause of wetland loss has been from storm activity (i.e. Hurricane Betsy and Katrina), causing both storm-induced scouring and salt water intrusion. Altered hydrology and oil/gas development have exacerbated this loss. High subsidence rates range from 2.1-3.5 ft/century. Natural lakes and bays increase in size due to coalescense with marsh lost to water and increased wave fetch. The 1984 to 2016 USGS loss rate is -1.76%/yr for the extended boundary area.

Many areas of once healthy marsh platforms in Breton Sound have converted to open water. Continued marsh loss in this area will affect the overall ecosystem functions within sound.

Restoration Strategy

The project goals are to restore 423 acres of marshes and bank lines along the south side of Grand Lake. There will be 326 acres of marsh creation and 97 acres of marsh nourishment, respectively, via confined disposal in four disposal areas of sediment dredged from Grand Lake.

Three disposal areas will be fronted by constructing a lakeside berm. The berm would be constructed with a combination of bucket dredge and marsh buggies. The lakeside slope of the berm would be planted with appropriate vegetation. The non-lakeside portions of the dikes will be gapped no later than three years post construction (i.e., the lakeshore berm would not be gapped). Data will be acquired from 224 additional acres to allow flexibility for an analysis of alternate features.

The overall landbridge concept incorporates marsh and shoreline restoration in a west-to-east configuration across the basin to be completed in two to three phases. This overall, long-range, restoration goal would create/nourish 1,000 to 2,000 acres of intermediate marsh across 7 miles of the Breton Basin from River aux Chenes to Bayou Terre aux Bouefs.

Progress to Date

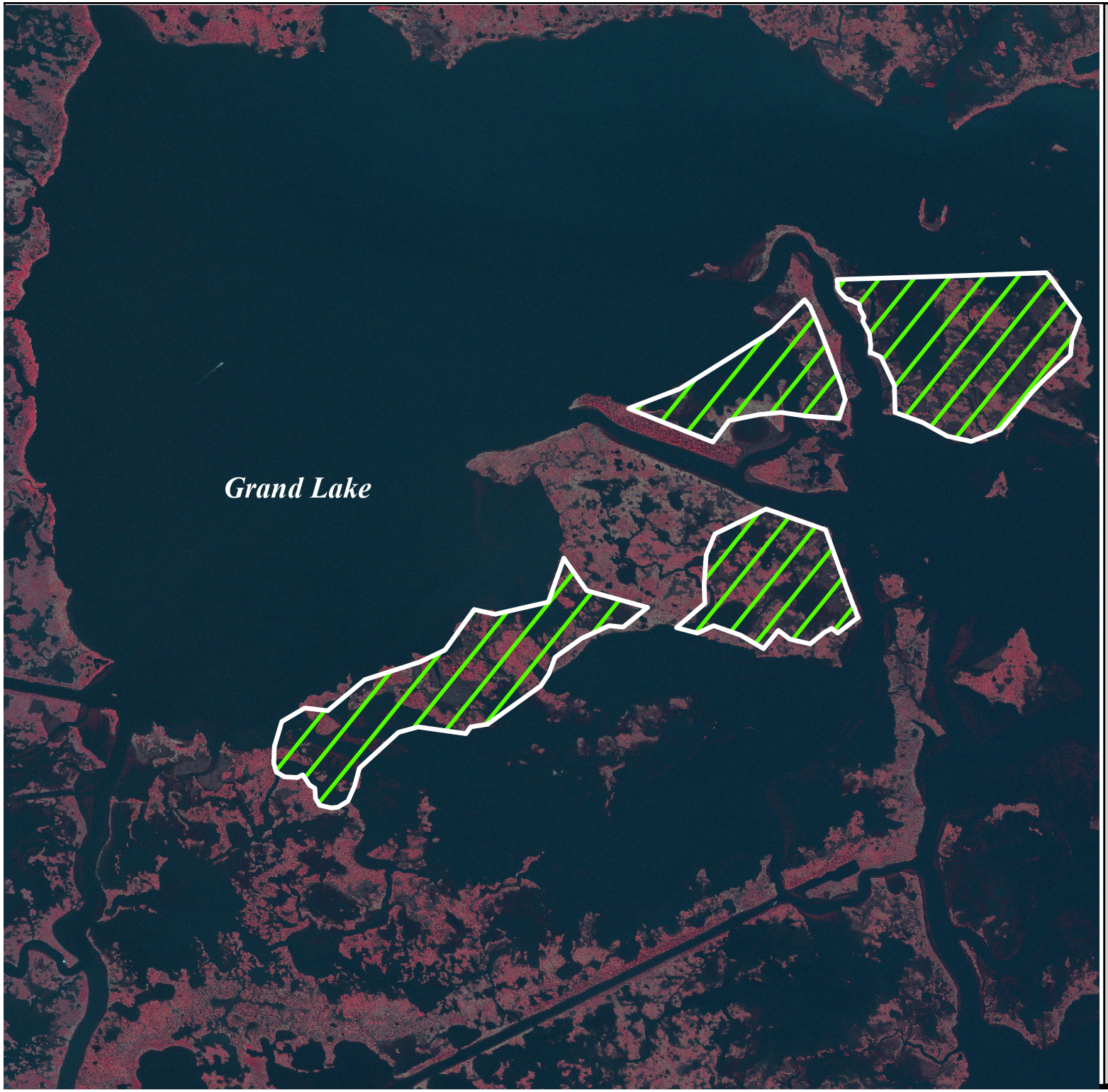
This project was approved for Phase I Engineering and Design in February 2019.

This project is on Priority Project List (PPL) 28.

For more 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) 342-4733



Breton Landbridge Marsh Creation (West) (BS-38)

Confined Disposal Marsh Creation & Nourishment *

Project Boundary

*denotes proposed features

USGS science for a changing world

Louisiana

Project Location

N

0.15 0 0.15 0.3 Kilometers

0.15 0 0.15 0.3 Miles

Map Produced by:
U.S. Department of the Interior
U.S. Geological Survey
Wetland and Aquatic Research Center
Coastal Restoration Assessment Branch
Baton Rouge, La.

Background Imagery:
2018 NAIP Photography

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