rev. November 2016
Cost figures as of: February 2017

Bayou Grande Chenier Marsh & Ridge Restoration (BA-173)

Project Status

Approved Date: 2014 **Project Area:** 354 acres
Approved Funds: $2.74 M **Total Est. Cost**: aaaTEC
Net Benefit After 20 Years: 264 acres
Status: Engineering and Design
Project Type: Marsh Creation
PPL #: 23

Location

The project is located in Plaquemines Parish west of the Mississippi River near West Pointe a la Hache. Specifically, the project features are south of Lake Hermitage and along the eastern side of Bayou Grande Cheniere.

Problems

Significant marsh loss has occurred south of Lake Hermitage with the construction of numerous oil and gas canals, subsidence, and sediment deprivation. The most significant loss occurred during the 1960s and 1970s. Based on the hyper-temporal analysis conducted by USGS for the extended boundary, loss rates in the project area are estimated to be -1.16% per year for the period 1984 to 2011.

Restoration Strategy

The goals of the Bayou Grande Chenier Marsh and Ridge Restoration Project (BA-173) are to restore marsh habitat adjacent to the eastern shoreline of Bayou Grande Chenier, reestablish the corresponding section of the bayou's forested ridge habitat along this shoreline, and create terraces to restore marsh in open water habitat. Specific objectives are to 1) restore 302 acres of brackish marsh habitat, 2) construct the marsh platform to an elevation that supports healthy marsh; 3) reestablish 10,625 linear feet of the historic Bayou Grande Chenier Ridge to an elevation that supports healthy woody vegetation, 4) establish the ridge with diverse native woody species, and 5) construct 12,000 linear feet of terraces to an elevation that will support healthy marsh.

Riverine sediments will be hydraulically dredged and pumped via pipeline to create/nourish approximately 302 acres of marsh. Containment dikes will be constructed around the perimeter of the marsh creation cells. The proposed design is to place the dredged material to a target fill elevation of +3.0 feet which would ultimately settle to an approximate elevation of just under +0.75 feet NAVD88 (Geoid 12A) at TY20. Tidal creeks are expected to form naturally and containment dikes will be gapped and degraded to enhance the naturally formed tidal creeks.

As subsidence and salt water intrusion take hold, the prominent ridge along Bayou Grand Chenier is converted to marsh.

Hydraulically dredged river sediments will be used to restore 10,625 linear feet of the Bayou Grande Cheniere Ridge. The ridge will have a 25-ft crown width, a target height of +4.5 ft NAVD88, and side slopes of 1(V):8(H). Herbaceous plantings (e.g., seashore paspalum) will be necessary immediately after construction and bottomland hardwood species (seedlings and saplings) will be planted by Year 3. Funding for tallow control and maintenance plantings is also included.

In addition, 11,700 linear feet of earthen terraces will be constructed resulting in the creation of approximately 10 acres of wetlands benefiting 154 acres of open water. Each terrace segment will be approximately 450 feet long and built to an elevation of +3.0 feet, with a 25-foot crown width and 1(V):4(H) side slopes. The terraces will be constructed with a bucket dredge using in situ material from within the terrace field.

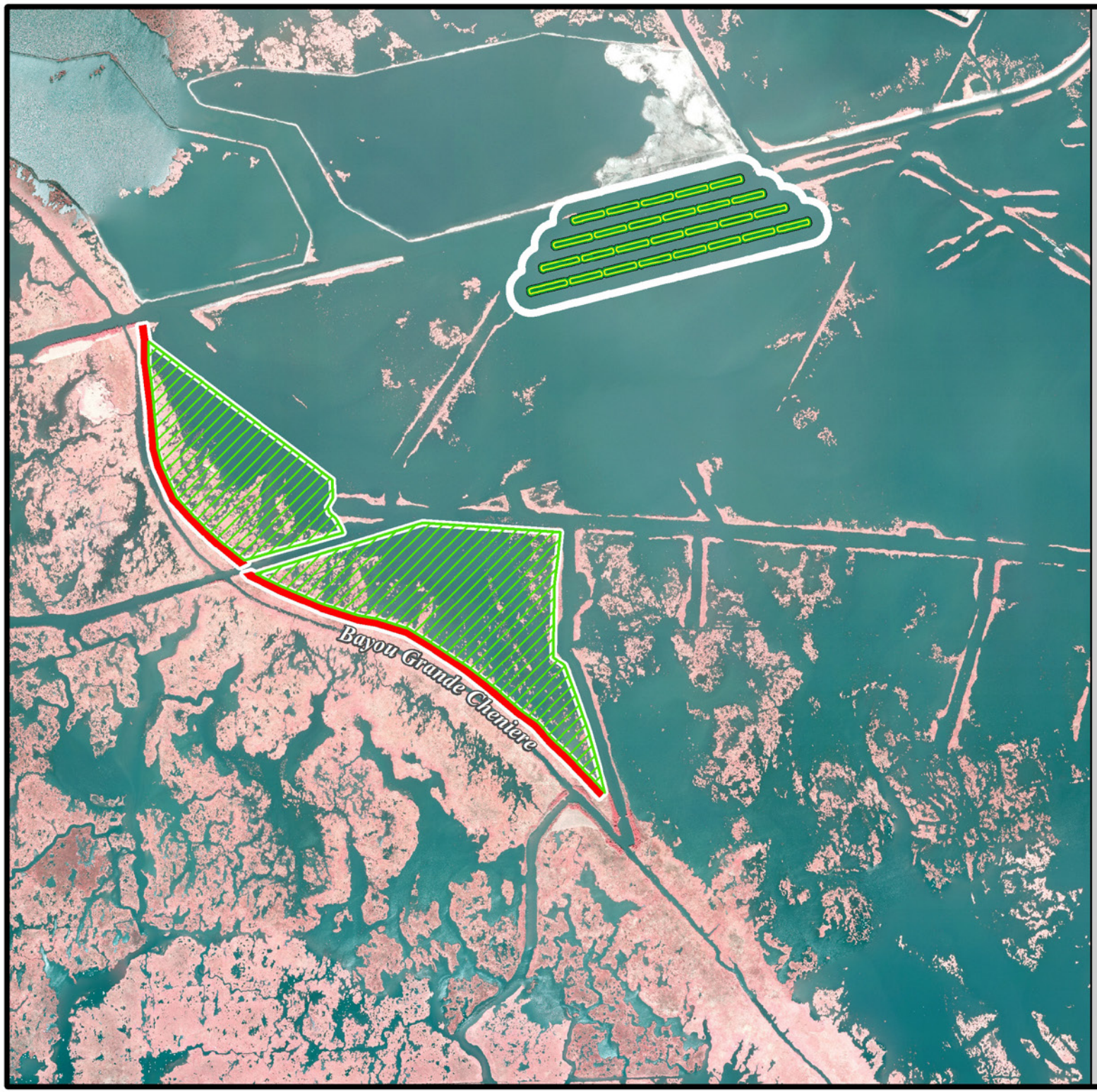
Progress to Date

This project is on Priority Project List 23.

For more information, please contact:

Federal Sponsor:
U.S. Fish and Wildlife Service
Lafayette, LA
(337) 291-3100

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



Bayou Grande Cheniere Marsh and Ridge Restoration (BA-173)

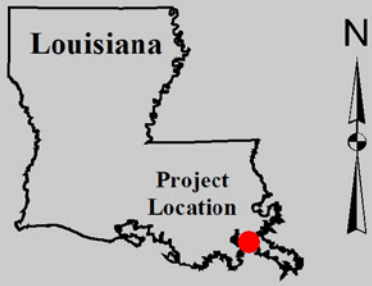
Ridge *

Terrace *

Marsh Creation *

Project Boundary

*denotes proposed features



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:
2012 DOQQ

Map Date: August 08, 2016
Map ID: USGS-NWRC 2016-11-0037
Data accurate as of: August 08, 2016