



Lake Borgne- MRGO Land Bridge – shoreline protection (Pontchartrain Coastal Lines of Defense Program)

Lake Pontchartrain Basin Foundation – Coastal Sustainability Program

The Lake Borgne-MRGO land bridge is one of ten priority project areas within the Pontchartrain Coastal Lines of Defense Program for the Pontchartrain Basin (**Figure 1**). All projects within this program provide significant habitat restoration and flood protection. The Lake Borgne-MRGO Land Bridge is an unnatural landscape barrier between Lakes Borgne and the MRGO. This narrow land bridge maintains the integrity of Lake Borgne’s southern shoreline. The land bridge is also an important buffer from storm surge’s energy attack on the current St. Bernard levee and also on any future “Category 5” levee alignment. These levees protect St. Bernard, several oil refineries and the Michoud Assembly Facility. A major oil spill occurred during Hurricane Katrina due to breaching of the St. Bernard levees. Loss of the land bridge would fundamentally alter Lake Borgne’s ecology and further jeopardize flood protection for St. Bernard. This land bridge has been a priority for local and state agencies for over a decade and is included in the LCA Near-Term plan. Two un-constructed CWPPRA projects are located on the land bridge. A third shoreline protection project is recommended on the Golden Triangle shoreline, which is Orleans Parish’s top “Tier 1” restoration project.

The Pontchartrain Coastal Lines of Defense Program represents an integrated set of projects which is based on the highly vetted Comprehensive Habitat Management Plan for the Pontchartrain Basin (2006). The CHMP was developed over two years by a team of qualified engineers, biologists and physical scientists including representation from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, University of New Orleans, Southeastern University, LA Department of Nature Resources, Pontchartrain Institute for Environmental Sciences and LSU AgCenter. The plan was peer-reviewed by representatives from National Marine Fisheries Service, Natural Resource Conservation Service, LSU, U.S. Geological Survey, LA Geological Survey, The Nature Conservancy, and EPA Gulf of Mexico Program Office and the Coalition to Restore Coastal Louisiana.

The final CHMP is a federally approved plan by the EPA Region VI office. The Coalition to Restore Coastal Louisiana and the Louisiana Wildlife Federation have passed resolutions endorsing both the Comprehensive Habitat Management Plan and the Pontchartrain Coastal Lines of Defense Program. Since its release, the Pontchartrain Coastal Lines of Defense Program has been presented to numerous parish, state and federal officials. It is also publicly accessible on the web.



Figure 1: Location of the Lake Borgne-MRGO Land Bridge preservation and restoration project. Project includes shoreline protection along the Golden Triangle and for narrow reaches of the land bridge. This project is one ten projects in the Pontchartrain Coastal Lines of Defense Program.

Lake Pontchartrain Basin Foundation, 2006, Comprehensive Habitat Management Plan for the Pontchartrain Basin, <http://www.saveourlake.org/wetlands.htm> on April 2006

Lake Pontchartrain Basin Foundation, 2006, Pontchartrain Coastal Lines of Defense Program, <http://www.saveourlake.org/wetlands.htm> on April 2006

Lopez, J. A., 2006, The Multiple Lines of Defense Strategy to Sustain Coastal Louisiana, white paper, Lake Pontchartrain Basin Foundation

Fact Sheet – Lake Borgne-MRGO Land Bridge

Project Name: Lake Borgne-MRGO Land Bridge

Coastal Planning

Included in Coast 2050 & LCA Near-Term Plan

Comprehensive Habitat Management Plan – endorsed by CRCL and LA Wildlife Federation

Two un-constructed CWPPRA projects PO-30 (authorized for construction) PO-32 (Phase I design complete, construction funds un-approved)

Project Location

Region 1, Pontchartrain Basin, St. Bernard & Orleans Parishes

Problem

The narrow band of wetlands separating the MRGO channel from Lake Borgne is rapidly eroding on both the channel and lake side (**Figure 2**). Since Hurricane Katrina, we find Lake Borgne transgressing into the MRGO channel. If Lake Borgne and the MRGO continue to coalesce, the environmental impacts include at least the following: increase in salinity, disruption of natural littoral transport, expansion of the of a sediment sink, loss of fringing marsh, increase in the tidal prism, and an increase in hydraulic flushing. This marsh does provide some protection to the levees in St. Bernard (**Figure 3**). Although not adequate by themselves to protect the levee (as demonstrated by Hurricane Katrina), further loss of the wetlands will increase the need for other measures to protect the levees. The Golden Triangle wetlands are the only natural, direct buffer to surge within the infamous “funnel” between the MRGO and the GIWW.

Proposed Project Features

- Shoreline protection with rock breakwaters (ideally positioned offshore)

Goals

- Stabilize the Lake Borgne shoreline of the Lake Borgne-MRGO Land Bridge

Preliminary Project Benefits

Primary benefit of the project is to maintain landscape integrity and prevent further loss of hurricane protection due to shoreline erosion. The total acres of marsh preserved 613 acres (PO-30, 167 acres; PO-32 266 acres; Golden Triangle, 180 acres) in 20 years.

Identification of Potential Issues

Oyster leases in Lake Borgne

Preliminary Construction Costs

Total cost for 3 projects is estimated to be \$49.4M including PO-30, \$16.6M (approved), PO-32, \$13.8M (unapproved), Golden Triangle, \$19M (assumes \$500/ft)

Preparers of Fact Sheet

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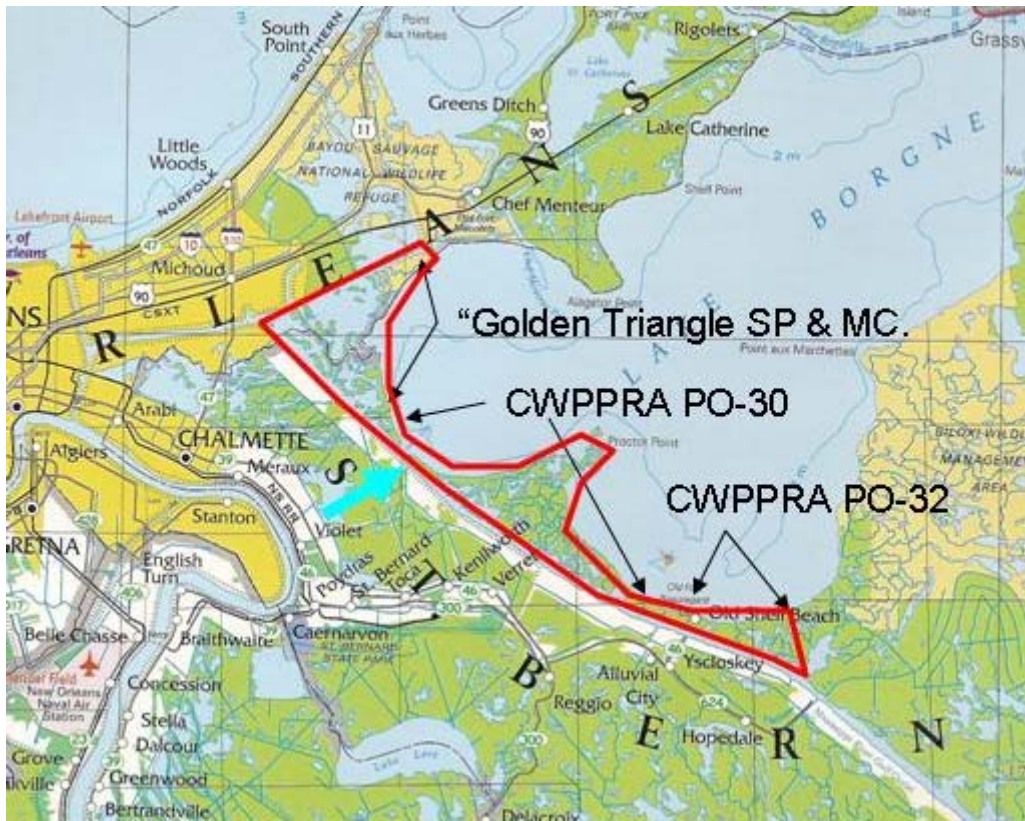


Figure 2: Lake Borgne-MRGO Land Bridge and location of three projects. PO-30 is authorized for construction under CWPPRA. PO-32 is waiting for funding approval. The Golden Triangle project has not been designed but would be primarily shoreline protection with some marsh creation.

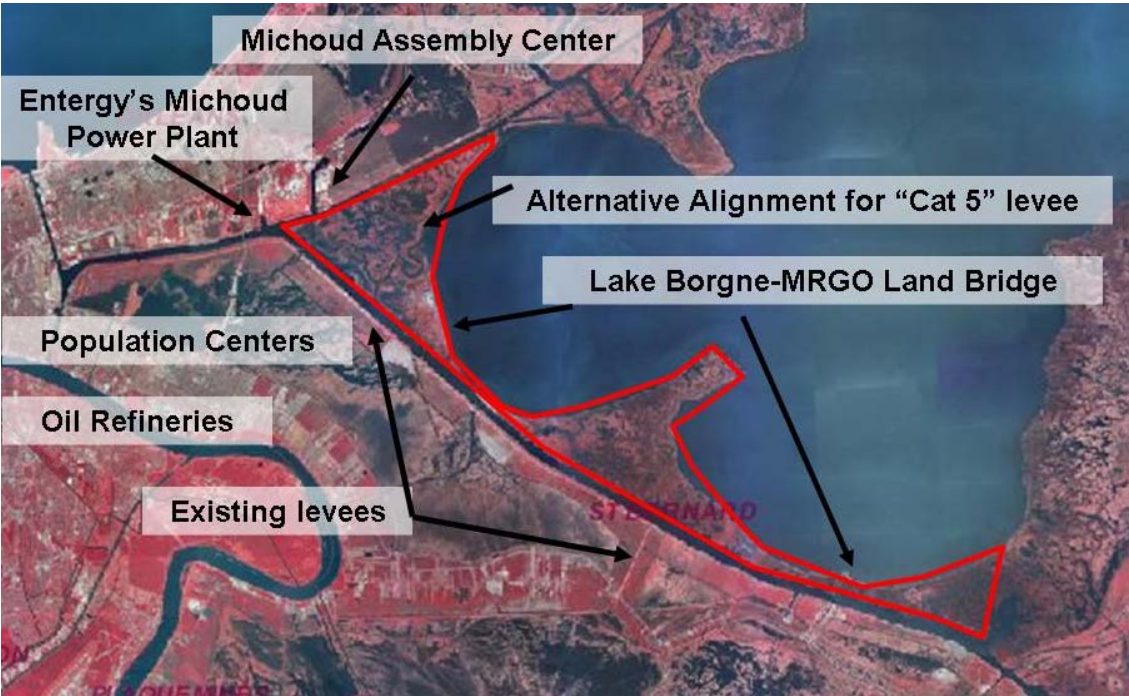


Figure 3: 2005 Pre-Hurricane Katrina imagery of the Lake Borgne-MRGO Land Bridge and nearby infrastructure.