



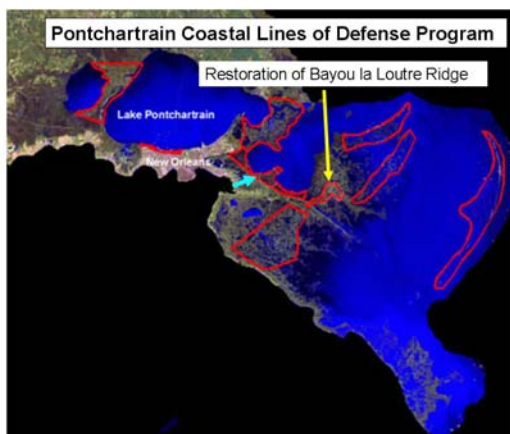
## Restoration of Bayou la Loutre Ridge (Pontchartrain Coastal Lines of Defense Program)

Lake Pontchartrain Basin Foundation – Coastal Sustainability Program

Restoration of Bayou la Loutre Ridge 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 breaching of the Bayou la Loutre ridge by the Mississippi River Gulf outlet in the 1960's was a dramatic hydrologic alteration to Pontchartrain Basin estuary. The repercussions of wetland loss, saltwater intrusion have cumulatively affected over 600,000 acres. The geometry of the MRGO spoil bank and the channel contributed significantly to the flooding devastation in St. Bernard during Hurricane Katrina. Restoration of Bayou la Loutre ridge must include alteration to the MRGO to restore the pre-MRGO hydrology. Restoration of the ridge allows for effective management of the estuaries utilizing diversion at Caernarvon and Violet.

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 Restoration of Bayou la Loutre Ridge project. The project includes constriction of the MRGO channel and re-building of the southern bank of the Bayou la Loutre Ridge. 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 – Restoration of Bayou la Loutre Ridge**

**Project Name:** Restoration of Bayou la Loutre Ridge

### **Coastal Planning**

Comprehensive Habitat Management Plan – endorsed by CRCL and LA Wildlife Federation Governor’s Advisory Commission policy recommendation to restrict MRGO draft to 12 feet.

### **Project Location**

Region 1, Pontchartrain Basin, St. Bernard Parish (**Figure 2**)

### **Problem**

*“Prior to construction of the MRGO, tidal flow into Lake Borgne was dominantly by flow from Mississippi Sound because the tidal flow from Breton Sound was reduced as it moved northwest across the marshes and wetlands through bayous and ponds toward Lake Borgne. Construction of the MRGO caused a reversal of the former circulation pattern, with the dominant tidal flow into Lake Borgne now coming from Breton Sound area directly via the MRGO”.*

U.S. Army Corps of Engineers, LCA Main Report , 2004

The effect of this alteration and greater tidal resulted in the following:

Estuarine Wetland & Lagoon Habitat Loss (to deep water or spoil) 27,600 acres

Estuarine Wetland Habitat Conversion (to higher salinity habitats) 38,000 acres

Dead Zone of Lake Pontchartrain (1/6 lake area benthic mortality) 64,000 acres

Estuarine (Laucastrine) salinity shift: Lakes Pontchartrain (5/6 area) and Borgne 488,400 acres (LPBF - Comprehensive Habitat Management Plan, 2006)

In addition, oyster production was reported to have declined 60-65% just a few years following opening of the MRGO. (Perret, W. S. et al, 1971, Cooperative Gulf of Mexico Estuarine Inventory and Study, Louisiana, Phase I and Phase IV, Louisiana Wildlife and Fisheries Commission)

### **Proposed Project Features**

- Constriction of the MRGO channel to GIWW dimensions (12’ X 125’) or smaller at Bayou la Loutre

Ridge (**Figure 3**)

- Rebuild soil foundation of the south bank of the Bayou la Loutre Ridge

- Re-forest the south bank of the Bayou la Loutre Ridge

### **Goals**

- Restore the function of the Bayou la Loutre Ridge as a hydrologic barrier

- Restore upland ridge forest habitat

- Reduce saltwater intrusion including elimination of the Lake Pontchartrain benthic “dead zone”

- Reduce bank erosion

### **Preliminary Project Benefits**

Preserve 1000 acres of wetland loss due to bank erosion in 20 years, Eliminate 64,000 acre dead zone,

Restore 500 acres of upland forest, Reduce frequency of high salinity events to fresh wetlands

### **Identification of Potential Issues**

Congressional deauthorization of the MRGO

### **Preliminary Construction Costs**

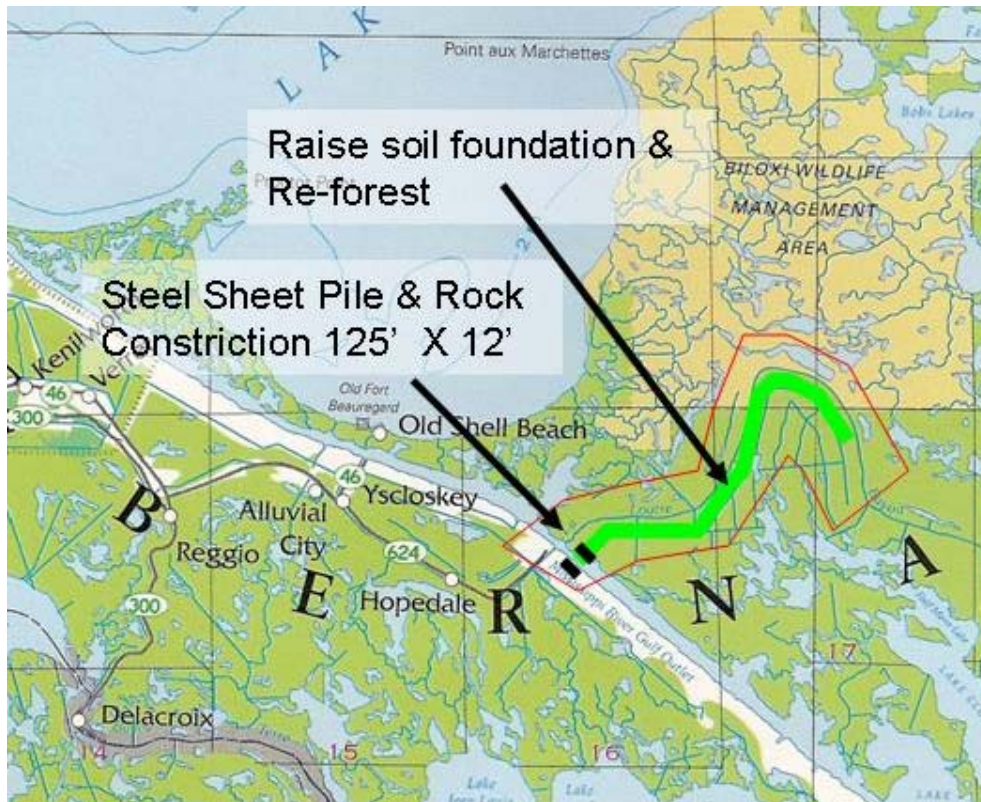
Total estimated construction cost is \$150M (\$70M for MRGO constriction & \$90 to rebuild ridge)

### **Preparers of Fact Sheet**

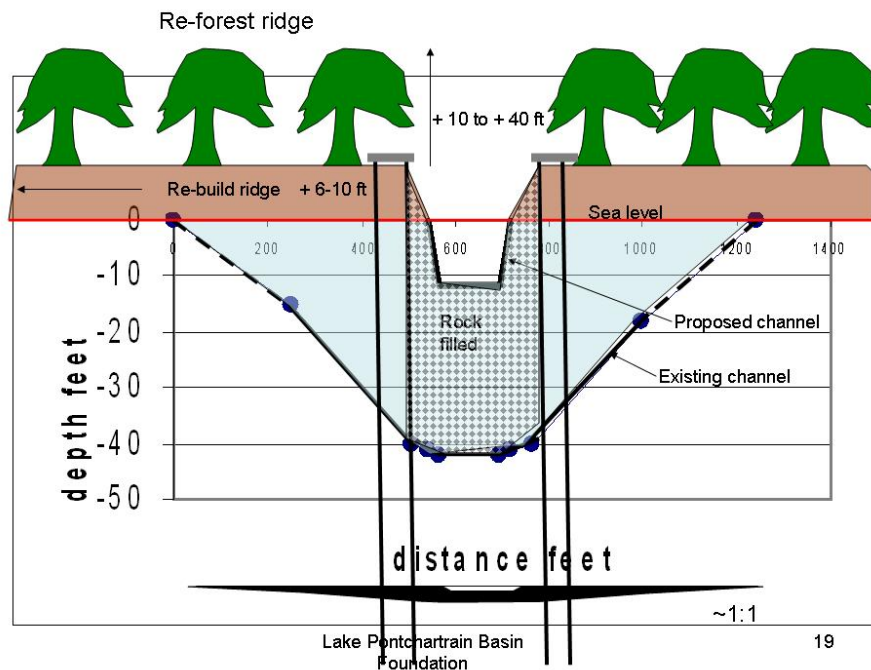
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**Figure 2:** Location map of the Restoration of Bayou la Loutre Ridge Project and the two primary project elements to constrict the MRGO channel and restore the southern bank ridge east of the MRGO



**Figure 3:** Channel profile of the existing MRGO at Bayou la Loutre Ridge and proposed channel modifications to constrict the cross-sectional area of the channel.