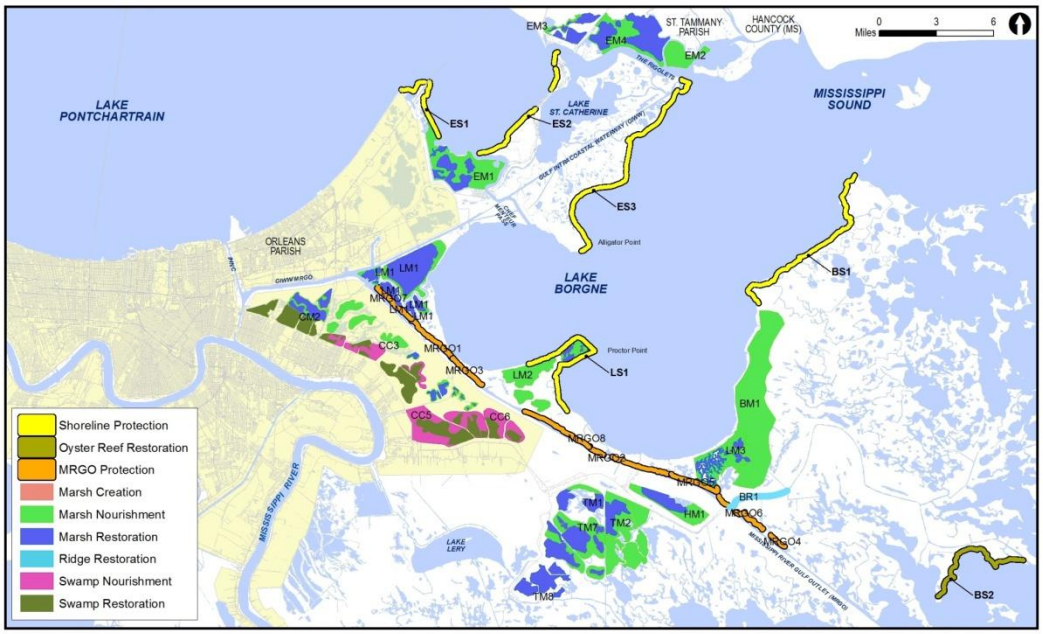
Mississippi River Gulf Outlet (MRGO) Ecosystem Restoration Plan
Orleans, St. Bernard, and St. Tammany Parishes, Louisiana

14 June 2012



ABSTRACT: The MRGO was a 76-mile navigation channel built as a shortcut from the Port of New Orleans to the Gulf of Mexico. Constructed in 1950s-1960s, the MRGO destroyed wetland habitat and caused widespread ecosystem changes. The channel allowed the intrusion of saltwater into the tidal wetlands bordering the City of New Orleans and surrounding coastal communities. Dredging and filling destroyed thousands of acres of wetlands, interrupted local estuary circulation patterns, and breached the Bayou La Loutre ridge, an important hydrologic boundary.

After Hurricane Katrina, the Corps of Engineers (USACE) developed a channel closure plan. In 2009, a rock closure structure was built at the Bayou La Loutre ridge. As a result of the closure, ship traffic no longer transits the channel and environmental conditions are improving with salinity levels falling throughout the estuary.

In the Water Resources Development Act of 2007, Section 7013, Congress requested an ecosystem restoration plan that would physically modify the MRGO and restore the areas affected by the navigation channel; restore natural features of the ecosystem that will reduce or prevent damage from storm surge; prevent the intrusion of saltwater into the waterway; integrate the recommendations of the Louisiana Coastal Area Report and the Louisiana Coastal Protection and Restoration Technical Report; and consider the use of native vegetation and diversions of fresh water to restore the Lake Borgne ecosystem.

The plan is conditionally authorized for construction, pending the determination by the Assistant Secretary of the Army (Civil Works) that the project is cost-effective, environmentally acceptable, and technically feasible. The study is 100% Federally funded. The State of Louisiana has been identified as potential non-Federal sponsor. However, the state disagrees with USACE over the cost-share requirements for implementation and has expressed unwillingness to participate unless it is undertaken at full (100%) federal cost.

USACE evaluated a wide range of alternatives for ecosystem restoration, including structural methods (e.g. rock shoreline protection) and non-structural methods (e.g. invasive species control). An iterative alternatives evaluation revealed that a multi-faceted plan would be the most effective way to reasonably address ecosystem problems. Detailed evaluations were conducted for ecosystem restoration alternatives using a 50-year period of analysis. As a result of its investigations, USACE has identified a plan that would produce 36,576 Annual Average Habitat Units (AAHUs), restore and protect approximately 57,472 acres of habitat through marsh, swamp and ridge restoration, shoreline protection and oyster reef restoration as the National Ecosystem Restoration (NER) Plan – the plan that maximizes net ecosystem benefits to the Nation and fully complies with Army policy. The NER plan is the Federally Identified Plan.

The plan would produce 36,576 Annual Average Habitat Units (AAHUs) and restore and protect approximately 57,472 acres of habitat in the study area, including 14,123 acres of fresh and intermediate marsh; 32,511 acres of brackish marsh; 10,318 acres of cypress swamp; 466 acres of saline marsh; and 54 acres of ridge habitat along Bayou La Loutre. The Federally Identified Plan provides 71 miles of shoreline protection, including 5.8 miles of oyster reef restoration. The plan also includes two recreational features.

The plan includes features recommended for construction (contingent upon the identification of a non-Federal sponsor), features conditionally recommended for construction (subject to monitoring results), features recommended for additional study, and a Monitoring and Adaptive Management Plan. The conditionally recommended features will be subject to future reporting requirements for approval.

Shoreline protection, marsh restoration and nourishment, and ridge restoration features are recommended for construction contingent upon identification of a non-Federal sponsor. The implementation sequence is based on a number of factors, (e.g. land loss rates and dredging limitations). As an example, shore protection in an area subject to wave erosion would be constructed before creating a restored marsh in the same area.

Most cypress swamp restoration features are conditionally recommended. Because salinity levels in the area are changing, an initial adaptive increment of 400 acres of cypress restoration would be constructed and monitored. If the assessment of the initial increment is favorable, additional cypress restoration increments may be constructed. However, if data indicate that conditions prohibit successful cypress restoration, implementation of additional features will be deferred until long-term data indicate that these features can be sustainably built.

The Violet Freshwater Diversion requires additional study to develop the feature to a feasibility level of detail, and is therefore recommended for further analysis. Several restoration projects in the study area were considered part of the Future Without Project condition because the construction of these features is planned by other local, state and Federal entities. Periodic evaluation of the study area is recommended to identify additional needs if these features are not built or do not perform as anticipated.

Extensive investigations were conducted to identify potential impacts of the alternative plans in close coordination with Federal and State agencies. The proposed action would impact Lake Borgne water bottoms, as a result of sediment removal and the physical act of dredging. The nature of these impacts is unknown. In coordination with National Marine Fisheries Service, a monitoring and adaptive management program has been developed for impacts to Lake Borgne waterbottoms and any potential impacts to Gulf sturgeon. All impacts are discussed in detail in the Final Environmental Impact Statement, and adverse impacts are avoided or minimized to the maximum extent practicable.

Based on October 2012 price levels, the total first cost of the Federally Identified Plan is $2.9 billion. The first cost includes $190 million for Monitoring and Adaptive Management. In accordance with the provisions of Federal laws and policies, the Federal share of the first cost of the plan is $1.9 billion. The non-Federal share of the plan is $1 billion, including all lands, easements, rights-of-way, relocations and disposal areas. Operation, Maintenance, Repair, Rehabilitation, and Replacement (OMRR&R) costs are estimated to be $14 million annually.

The plan would restore one of the Nation's most important estuaries. The area provides protection for the production and transport of important oil and gas supply; the Nation's second largest commercial fishery; and navigation and port facilities which together support America's number one port complex by tonnage. The plan would restore institutionally and technically significant habitat and protected resources, providing a more sustainable future for the ecosystem and the people who depend upon it.

REPORT DOCUMENTATION: Pertinent documentation on the project, the results of the Civil Works Review Board, and subsequent Washington-Level Review Actions, are linked below:

- CWRB Agenda
- Project Summary
- CWRB Briefing Slides
- CWRB Lessons Learned
- CWRB Meeting Record
- State & Agency Review Comment Letters
- Documentation of Review Findings
- Signed Chief of Engineers Report
- Advance Copy to Congressional Committees
- ASA(CW) Memo to OMB
- OMB Response
- ASA(CW) Transmittal to Congress
- Signed Record of Decision
- Authorization

ADDITIONAL INFORMATION:

Mississippi Valley Division

New Orleans District

MRGO Ecosystem Restoration Plan