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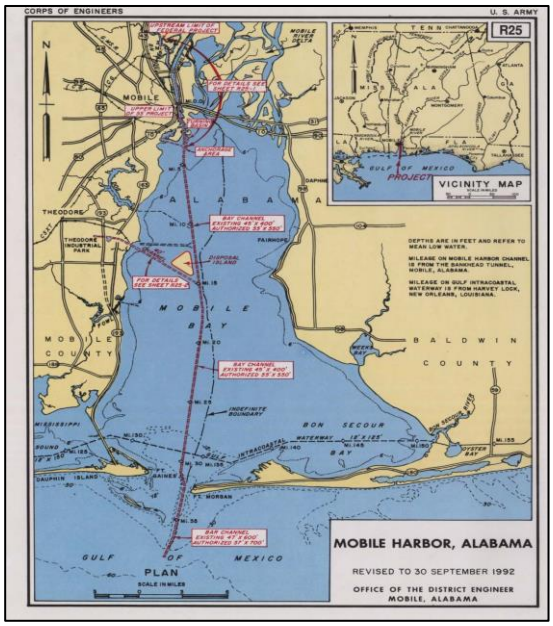
# National Regional Sediment Management Program Mobile District (SAM):

# Beneficial Use Opportunities for Wetland Sites Associated with O&M Projects

## Description




The Mobile District has the responsibility for maintaining federally authorized navigation projects within its jurisdiction. Historically, much of the material removed from the from navigation channels is either placed in the ODMDS, open-water sites, or confined disposal facilities (CDFs) which in many cases are nearing capacity. Shorelines within Mobile Bay and surrounding water bodies have experienced significant changes from natural processes and anthropogenic activities. Winds, waves, tides, currents, and extremes of each resulting from tropical cyclones and winter storms, as well as sediment input, transport variations, and sea level changes, have led to alterations in shoreline position. Coastal land loss resulting from these natural processes and human activities poses a serious problem to not only property owners and infrastructure, but also nearshore and coastal habitats such as intertidal, beach, and dune environments, as well as the ecological communities and wildlife that inhabit them.

## Issue/Challenge To Address

Evaluation of wetland areas coupled with the design of dredged material placement techniques that focus placement to directly benefit wetlands would be beneficial towards increasing dredged material placement capacity for navigation maintenance operations. It is feasible that beneficial use in wetlands may demonstrate a semi-permanent sink for dredged material that increases estuary sustainability by keeping sediment in the estuary as well as placing the material in a manner that prevents transport of sediment back into navigation channels. The study will investigate opportunities and develop a strategy to beneficially use dredged material from maintenance of navigation channels to restore wetlands in areas exhibiting significant shoreline change. Taking advantage of such opportunities will help restore wetlands and promote the retention of sediment within the natural sediment systems while providing placement alternatives of dredged material and wetland functions.

Specific goals include:

- Integration and leveraging of ongoing research
- Determination of parameters for selection of BU sites in the Mobile Delta
- Utilization/development of tools for screening of potential BU sites
- Leverage ongoing agency partnership to identify potential demonstration sites
- Evaluation of technical methodologies and limitations

It is anticipated that future follow-on activities would include implementing a demonstration project. Monitoring of the demo is necessary to document the behavior of the placed material and associated environmental benefits. Such information would be useful in refining models/tools by identifying what parameters are most useful in planning BU for wetlands.

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**Successes Lessons Learned**

Building on successes of Mobile District's RSM implementation strategies such as re-establishing open-bay dredge material placement options that retains sediment in the natural system, will be beneficial toward identifying methodologies to implement beneficial use opportunities associated with enhancing and restoring surrounding wetlands. The project offers substantial opportunities to document and build on Federal, state, local, non-profit, and academia collaborative efforts with different missions and purposes. Opportunities that could be applied in other areas of the southeast and the nation include: collaboration and support; fine grained sediment transport modeling; information exchange and dissemination; knowledge management; training; and integration of the regulatory, planning, engineering, and operational processes. The RSM approach for beneficially using dredged material to enhance and restore wetlands in the vicinity of navigation projects provides the ability to coordinate and collaborate; integrate numerous tools, technology, and data; leverage funding; and enhance partnerships. Knowledge from this effort can be used by other Districts towards evaluating economic and ecological benefits of wetlands and similar ecological systems when dealing with maintenance activities.

**Expected Products**

- Wetland Placement Criteria
- Summary of Screening Models and Tools
- Meeting with Agencies to Identify a Demo Project
- Attend annual RSM IPR and workshop
- Draft Technical Note – BU of Dredged Material for Wetlands

**Stakeholders/Users**

All efforts involving the selection of potential sites and placement strategies will be coordinated through the various support agencies consisting of representatives from the following agencies: Alabama Port Authority, Alabama Department of Conservation and Natural Resources, Alabama Department of Environmental Management, Environmental Protection Agency – Mobile Bay National Estuary Program, National Marine Fisheries Service, United States Fish and Wildlife Service and Dauphin Island Sea Lab.

**Projected Benefits**
**Value Added**

Placing material from the navigation channel will prolong the use of the current open water sites and retain more sediment in the Bay's natural system. The strategy being developed will emphasize connection between major maintenance dredging requirements of the Bay channel, beneficial uses, and sediment management methods that reduce dredging costs. The strategy will also recognize the ongoing collaborative and interagency coordination and partnerships necessary for the implementation of long term maintenance requirements. Improved communication and relationships within the USACE organization and with Federal, state, local agencies, and academia; improve District planning, engineering, and management practices; increase participation from project sponsors; improve data collection, sharing, and archival, technical tools; and improve understanding of regional processes thereby providing improved management decisions.

**Leveraging Opportunities**

The study activities will leverage completed products from previous RSM activities to evaluate sediment management practices within Mobile Bay. Coordinating with multiple State and resources agencies, SAM has been successful in implementing several beneficial use applications associated with placement of dredged material in Mobile Bay. Building on these successes, SAM has investigated additional beneficial use opportunities including the filling and restoring of areas within the Bay that were historically used for oyster shell dredging and mining operations.

**Points of Contact**

Elizabeth Godsey, Nate Lovelace, and Larry Parson (Mobile District)

**Participating Partners**

Interagency groups which consists of local, State and Federal agencies including academia and other non-government organizations, ERDC.