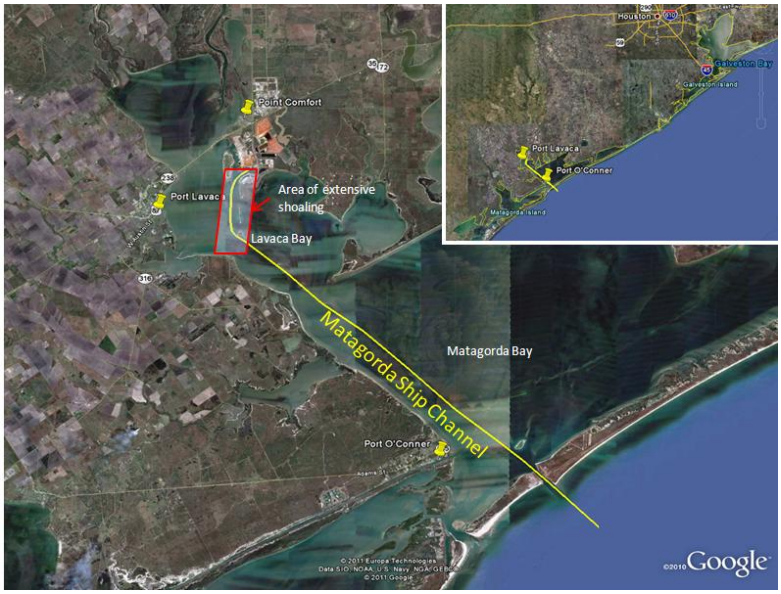
US Army Corps of Engineers®
Engineer Research and Development Center

# Regional Sediment Management Program

# Matagorda Bay RSM

## Description

The Matagorda Ship Channel is a deep draft navigation channel which consists of a 38' deep X 300' wide entrance channel which travels through a jettied entrance and a 36' draft X 200' wide main channel which extends 25.2 miles into Matagorda Bay. The navigation channel terminates at a 1000' X 1000' wide turning basin at Point Comfort. The navigation project is located in the vicinities of Port O'Connor, Port Lavaca, and Point Comfort in Matagorda and Calhoun Counties, Texas. Only one upland placement area exists for dredged material placement. The remaining disposal areas are all open water placement areas adjacent to the channel. Critical shoaling in upper reaches of the Matagorda Ship Channel causes annual draft restrictions resulting in the need for annual dredging projects. Project funding is typically limited and dredging to project depth without the advanced maintenance decreases the level of service to only three months. It is suspected that the critical shoaling in the upper reaches of the ship channel is mainly due to the disposal of dredged material into adjacent open water sites and that the material is migrating back into the channel affecting navigation. Also, it is suspected that sedimentation from the upper Lavaca Bay is contributing to the high shoaling rate in the Matagorda Ship Channel and measures to control this shoaling could benefit the project as well. Other portions of the channel—for example the entrance channel—experience extensive scour in contrast to the shoaling experienced in the upper reach. It is desired to evaluate the Matagorda Ship Channel, Matagorda Bay, and Lavaca Bay as a system and develop possible structures or other methods that can reduce the shoaling rate in the upper reach of the Matagorda Ship Channel resulting in an adequate level of service and safe deep-draft navigation for its users while also conserving valuable funds by increasing the cycle time between dredging events.




## Issue/Challenges

The annual dredging project is not providing a sufficient level of service for the waterway and additional funding is not available to dredge the channel more than once a year. If ideas can be developed to help prevent material from shoaling back into the channel, then they can be implemented and reduce dredging costs and increase channel reliability.

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## Matagorda Bay RSM

**Expected Products**

- Sediment Budget
- Calibrated Model of Matagorda Bay
- Development of Alternatives (possible structures or BU methods to reduce shoaling)
- Analysis of Alternatives with Refined Model
- Selection of Best Alternative
- Report and presentation

**Potential Users**

Users of Matagorda Ship Channel, Port of Point Comfort

**Projected Benefits**

Better management of sediments in the channel resulting in fewer draft restrictions, increased time between dredging events, and better usage of project funds.

**Leveraging Opportunities**

This project is a collaborative effort between the Regional Sediment Management Program, Coastal Inlets Research Program, and Dredging, Operations, and Environmental Research Program. This project presents a valuable opportunity to test and validate ongoing research methods and tools developed in the research programs in a real world environment. Collaboration between the research programs and SWG on this project will enhance research products while providing state of the art technologies for more efficient and cost-effective project execution and better regional sediment management practices.

**Points of Contact**

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**Participating Partners**

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