



Regional Sediment Management Program Galveston District (SWG): Galveston Entrance Channel RSM



Description 3 SWG will identify sediment management options to reduce the amount of material that settles in the Gulf Intracoastal Waterway (GIWW), within the section that intersects with Caney Creek. Successful options would benefit SWG by increasing time between dredging cycles, reducing overall dredging costs, and minimizing the occurrences of vessel draft restrictions.



Figure 1 GIWW Intersection with Caney Creek

**Issue/Challenge
To Address**

Shoaling in the GIWW adjacent to Caney Creek has resulted in significant obstructions to channel navigation and requires costly emergency dredging operations. For example, in 2013 the District executed an emergency dredging contract for \$1,500,000 to remove 78,000 CYs of shoal material. Barges are now reporting groundings in this area on an annual basis. Analysis of physical conditions and alternative dredging and/or placement practices are needed to develop potential approaches that could decrease the need for emergency dredging operations and increase the channel availability. The channel reach encompassed by the project study area is an approximate 10,000 ft reach of the GIWW between stations 690+000 and 700+000, and includes Caney Creek to the north and the Gulf of Mexico cut to the south. Dredged material from this area is typically placed into Surf Zone PA 98 due to the unavailability of nearby confined placement areas. However,



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placement of material into the adjacent surf zone is potentially acting as a sediment source and contributing to the need for emergency dredging.

Successes Lessons Learned

Lessons learned will be compiled during the duration of this study.

Expected Products

- Description of Alternatives to be Analyzed
- Quantified impacts of each Alternative Solution
- Final Report and Presentation

Stakeholders/Users

Stakeholders include the Texas Department of Transportation, the Texas General Land Office, as well as waterway users.

Projected Benefits Value Added

Benefits would include the reduction of the GIWW overall dredging costs by identifying the various sources of material which enters the channel and finding ways to keep sediment in the system instead of settling in the channel. By attempting to minimize the amount of material which settles in the channels, SWG could potentially reduce the frequency of dredging in this section of the GIWW, reduce dredging costs due to decreased cubic yardage and decreased dredging frequency (i.e. reduced mobilization costs), and minimize the development of draft restrictions due to shoals in the channel.

Leveraging Opportunities

SWG has identified opportunities to perform this RSM study in conjunction with the Coastal Texas Feasibility Study, the Coastal Inlets Research Program (CIRP), the Dredging, Operations, and Environmental Research Program (DOER), and the RSM Upper Texas Coastal Sediment Budget Analysis. The Coastal Texas Feasibility Study Collaboration between these studies is anticipated to help better manage the GIWW project and the adjacent beaches as a system.

Points of Contact

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Participating Partners

Texas Department of Transportation