



Tampa Bay & Sarasota Bay RSM

Description

The barrier islands in southwest Florida are separated by a system of multiple passes fronting Sarasota Bay and Tampa Harbor that share the tidal prisms of large bay areas. As a consequence, engineering activities in any individual pass affects the hydrodynamics and sediment transport of adjacent passes. A comprehensive understanding of the Sarasota Bay and Tampa Harbor system is necessary to further the understanding of how individual engineering activities affect the system in a regional manner.

Currently within this system, the understanding of the fate and transport of nearshore sediment placement is being furthered through RSM monitoring studies at Egmont Key, at the entrance to Tampa Harbor.



Figure 1: Tampa Bay, Sarasota Bay and associated inlets and passes.

Issue/Challenges

Availability of beach quality sand has been identified in the ebb shoal of Big Sarasota Pass, but the connectivity of all of the passes in Sarasota Bay necessitates a comprehensive understanding of the effects of any engineering project to mine sediment from the ebb shoal, including effects to adjacent beaches and to the passes in Sarasota Bay. In addition, maintenance for navigation purposes, including Longboat Pass, Big Sarasota Pass, Venice Inlet, and the Intracoastal Waterway in Sarasota Bay further impact the hydrodynamics and sediment transport through all of the passes.

The Corps owned dredge, the Currituck, is currently planned to dredge Longboat Pass and beneficially place the material in the nearshore of Egmont Key, at the entrance to Tampa



US Army Corps
of Engineers®
Engineer Research and
Development Center

Regional Sediment Management Program



Tampa Bay & Sarasota Bay RSM

Harbor. Use of this dredge greatly reduces O&M costs since a variety of contractual, design, and construction components of typical dredging work are not required. Results of this work impact the future of nearshore placement in the region.

Expected Products

- Appendix to the “Longboat Pass Assessment Report” using CMS
- Longboat Pass / Egmont Key Nearshore Placement Technical Note
- CMS as an engineering tool to determine the Connectivity of Passes within the Sarasota Bay System Technical Note
- Evaluate capabilities nearshore placement capability of Currituck
- Document findings in joint tech note with ERDC

Potential Users

USACE, ERDC, Florida Department of Environmental Protection (FDEP), Florida Inland Navigation District (FIND), local navigation and HSDR sponsors, other stakeholders within study area.

Projected Benefits

This effort furthers understanding of inlet/barrier island connectivity with the major purpose of linking navigation projects to regional coastal systems for maximum beneficial use of dredged material. It also furthers ERDC nearshore berm research.

Points of Contact

Matthew Schrader, P.E. (USACE-SAD-SAJ-PD-PN) 904.232.2043

Leveraging Opportunities

RSM funds will be leveraged with current O&M funds to complete this work. ERDC is receiving separate funding to conduct research on nearshore placement.

Participating Partners

USACE-SAD-SAJ, ERDC, local sponsors, FIND, University of South Florida (USF)