



Regional Sediment Management Program Mobile District (SAM):



Pascagoula Harbor DA10 Littoral Zone Placement Sand Transport

Description

The Mississippi Coastal Improvements Program (MsCIP) and the Pascagoula Harbor Federal Navigation program have proposed a modification in the future placement location of dredged material for the Pascagoula Federal Navigation Channel. The intent of the revisions is to ensure that placement of future dredged material within the littoral zone will enhance the natural transport of dredged material to Horn Island while not increasing costs of operation of the Pascagoula Federal Navigation Channel.

Issue/Challenge To Address

The Mobile District has the responsibility for maintenance of the federally authorized navigation project for the Pascagoula Harbor Federal Navigation Project. Between 1962 and 2009, placement of littoral sand dredged from the Pascagoula Harbor Navigation channel was placed in DA-10/Sand Island and to the south in the littoral zone placement site as a means to re-introduce littoral material transported into and dredged from the channel to the littoral zone west of the channel. Byrnes et al. (2010) noted that sand leaving DA-10 via littoral transport was significantly lower than the amount of material being placed at the site and as a result an emergent island formed. Based on these findings the Mobile District began evaluating possible revisions of sediment placement within DA-10. Bathymetric change analysis and sediment transport modeling were used to form recommendations to place sediment further to the south and west along the shallow shoals exposed to the open Gulf waves.

To help ensure present day sediment placement practices at Pascagoula are consistent with maintaining the sediment transport of the barrier island system at the least cost a sand transport study utilizing tracers that mimic the physical properties of sand from the Pascagoula Harbor Navigation Channel are being used to validate existing models and supplement longer term monitoring and adaptive management decisions being made from bathymetric change studies.

Successes Lessons Learned

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

Expected Products

- Validation and/or identification of optimum placement locations
- Final Report and Presentation

Stakeholders/Users

Stakeholders engaged through the MsCIP multiagency team and the MsCIP Monitoring and Adaptive Management Group consists of members of the National Park Service, United States Geological Survey, U.S. National Marine Fisheries Service, U.S. Fish and Wildlife Service, Mississippi Department of Marine Resources, Mississippi Department of Environmental Quality, Bureau of Ocean Energy Management and Environmental Protection Agency.

Projected Benefits Value Added

Long-term value added to the barrier island system will be documented through the MsCIP Long-term Adaptive Management Plan through volumetric change analysis. If cost savings can be identified through identification of a more optimum placement site with the sand tracer study then short-term cost savings will also be documented.



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Leveraging Opportunities

This RSM effort is being conducted in conjunction with the various stakeholders engaged through the MsCIP program and ongoing nearshore berm research being conducted under the Coastal Inlets Research Program.

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Participating Partners

National Park Service