



US Army Corps
of Engineers®
Engineer Research and
Development Center

Regional Sediment Management Program

New York District: Sandy Hook Channel Sediment Management



Description

The Sandy Hook Federal Navigation Channel (“the Sandy Hook Channel”) is a critical, deep draft navigation channel that provides access to the New York Harbor, and naval facilities in Raritan Bay. In recent years the Sandy Hook Channel has experienced a dramatic increase in the rate of shoaling that has necessitated more frequent dredging and more expensive dredging operations, due to the shallow depths of the shoals that limit the effectiveness of hopper dredges. This increase in shoaling may be due, in part, to the Atlantic Coast of New Jersey, Sandy Hook to Barnegat Inlet Beach Erosion Control Project, constructed updrift (south) of the Sandy Hook Channel in the last two decades, which has added millions of cubic yards (cy) of sand to the littoral system.



Location Map: Sandy Hook, New Jersey, and surrounding area.

Issue/Challenge To Address

Prior to 2008, the Sandy Hook Channel required relatively infrequent dredging, which could effectively be accomplished with a medium-size (2,000 - 4,000 cy) hopper dredge. However, beginning in 2009 there has been a dramatic increase in the dredging requirements to keep the navigation channel deep enough for naval vessel traffic. The Sandy Hook Channel was dredged in FY10 and FY12, removing 132,000 cy and 176,000 cy of sand, respectively. This increase in shoaling is likely due to the northern migration of the spit at Sandy Hook. An examination of recent aerial photography shows the growth of the spit at Sandy Hook, which is impinging upon the Sandy Hook Channel.

Successes Lessons Learned

To Be Determined

Expected Products

This Regional Sediment Management (RSM) initiative is intended to identify RSM alternatives that could be implemented to reduce the maintenance dredging costs for the Sandy Hook Channel, while addressing additional problems and needs for sediment in the area.

Stakeholders/Users

For this effort to be successful, this must be a collaborative effort between Federal, State, and local agencies including National Park Service. The New Jersey Department of Environmental Protection is the sponsor for the Federal coastal storm risk management program in New Jersey and would likely be a key, non-Federal participant. The U.S. Fish and Wildlife Service would also be a key stakeholder, since the accreting spit at Sandy Hook is used by piping plovers. The Department of the Navy also utilizes the channel for access to their facilities located in Raritan Bay. The U.S. Coast Guard has a vested interest in ensuring that the channel is safe for navigation. All stakeholders are interested in addressing the sediment accumulation and shoaling issue.

Projected Benefits

The identification, evaluation and comparison of alternatives, along with identification of a strategy for implementing these RSM alternatives is the key component in identifying and implementing RSM alternatives. A Technical Note will serve to achieve collaboration with the stakeholders, and identify the relative merits of the alternatives, the options available and the steps necessary to achieve the RSM objectives. This also provides the opportunity to recognize that the solution could vary over time; that the needs that present themselves at the time of one maintenance dredging operation, could be different in the future. This mandates flexibility in the ability to implement RSM solutions that are responsive to those changing needs.

Leveraging Opportunities

To Be Determined

Points of Contact

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Participating Partners

New Jersey Department of Environmental Protection
Nation Parks Service
U.S. Fish and Wildlife Service
Department of the Navy
U.S. Coast Guard