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# Regional Sediment Management Program

## Philadelphia District RSM Initiative for NAP Major Navigation Projects



### Description

The Philadelphia District (NAP) includes the Delaware River Basin within its project boundaries. The Delaware River Basin system encompasses all of the Delaware River and Bay, Schuylkill River, Christina River, Lehigh River and part of the Chesapeake and Delaware Canal as well as the coastal navigation projects from Manasquan Inlet, New Jersey to Indian River Inlet, Delaware. This system has five Corps of Engineers Dams and 25 Federal Navigation projects. The applicable business lines for this system are flood damage reduction, ecosystem restoration, recreation and navigation. The Philadelphia District's (NAP) Regional Sediment Management (RSM) efforts are focusing on development of a systems approach for operating and management of the major navigation projects within the Philadelphia District.

Navigation projects operated and maintained within NAP have traditionally been funded and managed on a project-by-project basis. An improved regional approach to the navigation program is being developed to identify common issues that are better solved on a regional basis, improve channel availability and subsequently life cycle costs and project benefits through more efficient practices, and improve regional efficiencies by engaging cross-mission objectives of the Corps (i.e., navigation, flood risk management, and environmental quality regarding sediments). To accomplish this regional/systems approach most effectively, better decision support, project management and communication tools are required. Additionally, these efforts will improve upon technical, managerial and local sponsor issues relative to dredge material placement and disposal area use that can significantly impede the district's ability to efficiently maintain the waterways. These efforts will lead to more efficient RSM practices within the district and can also provide information and lessons learned that may be applicable to the Division and Corps-wide.

Work was initiated in March 2011 based on three tasks identified in the Fiscal Year (FY) 2011 NAP RSM Proposal. These RSM efforts were further defined and are being continued in FY 2012 to address issues considered critical for the success of an RSM approach within the NAP Navigation Program. These tasks will culminate in identification of practical actions and opportunities for O&M dredging and placement locations based on optimizing sediment management.

### Issues/Challenges

Challenges include working with multiple databases and tool development timeframes and unforeseen delays that may occur. Additionally, coordination of varying missions, politics, standards and restrictions related to three states in the region (NJ, DE and PA).

### Expected Products

Completion of a Regional Dredging & Disposal Area Management Tool (Web-based and supported by Google Earth or Silverlight) for NAP projects and 2) a Regional Channel Prioritization Tool (CPT) for NAP Navigation Projects. The tool will be coordinated with project stakeholders and with developers of related national tools such as CE-Dredge.

Coordination with Dredging Operations and Environmental Research (DOER) program research staff to develop lessons learned from standards and potential project actions implemented nationally across USACE. This task will help with regional issues and assist NAP with the development of strategies to resolve numerous complex and politically charged engineering challenges related to NAP navigation projects including the Delaware



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River, Chesapeake & Delaware Canal, Wilmington Harbor, the NJ Intracoastal Waterway and numerous shallow draft coastal inlets along the NJ and DE coasts. Follow-up work to this task will not only benefit NAP but develop lessons learned for environmental practices, agency coordination and beneficial use opportunities regionally and nationally.

A specific follow-up task identified in an FY11 DOTS workshop and coordination with the Regional Dredging Team includes development of Delaware River Confined Disposal Facility (CDF) Effluent Discharge Best Management and Practices (BMPs) and Technologies to be presented in an RSM Technical Note. Additionally, a Technical Note on RSM Strategies and Actions for NAP Navigation Projects will be developed in FY12 with a plan to implement actions in FY13 and FY14.

### Potential Users

The USACE and specifically the Philadelphia and Baltimore District will be the main user of the Regional Dredging and Disposal Area Management tool, but lessons learned will be coordinated with the Mobile District and ERDC for development of related national tools such as CE Dredge. Project stakeholders such as the Regional Dredging Team and other Federal, state and local agencies will also benefit from the RSM products described above. End users of the products and results are the commercial and recreational navigation communities in the region.

### Projected Benefits

These analyses and reports will evaluate a systems approach for the NAP major navigation projects and identify practical and implementable alternative placement locations and beneficial use opportunities, producing innovative engineering solutions and ultimately reducing lifecycle costs. Benefits to the NAP Navigation Program will include more efficient technical and management techniques, as well as identification of practices and alternatives that will save O&M funds and allow for more cost-effective dredging (improve channel availability by moving more material for less dollars) to be accomplished. Although the primary goal of this initiative will determine options to save O&M navigation dollars, a secondary goal will be to identify ways to improve environmental quality of dredging operations and seek beneficial uses that are sustainable and cost less than traditional disposal area practices. Lessons learned and implementable actions will be included in a summary document that will not only provide guidance for NAP, related stakeholders and resource agencies, but will benefit other districts within the North Atlantic Division and potentially the Nation.

### Leveraging Opportunities

Potential RSM activities will be assessed for both Federal and non-Federal navigation and shore protection projects. Ecosystem restoration opportunities will also be identified. POH's RSM PDT will engage with state agencies such as Hawaii Ports Department (deep draft harbors) as well as the Department of Outdoor Boating and Recreation (shallow draft harbors).

### Points of Contact

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### Participating Partners

USACE Baltimore District, USACE Mobile District, Philadelphia Regional Dredging Team stakeholders, local and State agencies in Pennsylvania, New Jersey and Delaware.