

REGIONAL SEDIMENT MANAGEMENT EVALUATIONS FOR ADAPTIVE MANAGEMENT

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ABSTRACT

The US Army Corps of Engineers initiated implementation of the Regional Sediment Management (RSM) Program in 1999 with the objective of optimizing the utilization of sediments and management of projects through a systems-based approach. The purpose of the program is to implement adaptive management strategies across multiple projects which optimize the use of sediment while supporting sustainable solutions to the navigation and dredging, flood and storm damage reduction, and environmental enhancement missions. While RSM strategies increase benefits, an additional goal is to reduce costs or collaborate with partners to share costs. Historically, the RSM program has provided opportunities to evaluate and implement various RSM actions throughout USACE Districts as pilot projects. Districts have implemented RSM pilot projects with the objectives of improving sediment management practices and strategies within their region and providing lessons learned that will benefit other districts and regions nationally. The actions underwent limited analysis and allowed the districts to implement a rational solution, followed by monitoring, performance assessment, and refinement, all key components to adaptive management. One of the major goals of the RSM program is to improve the efficiency in evaluating potential RSM actions that result in implementation of improved sediment management strategies in the short term. The pilot projects have resulted in significant advancements in technologies in the areas of data collection, management, and analysis; numerical modeling; web-based tools; and communications that have positioned the USACE to more efficiently and effectively implement regional approaches to improve our understanding of regional processes, share information and data, collaborate, and therefore improve decision making in the management of our sediments and projects. Our technical capabilities have enhanced from the project to regional and national scales, providing the ability to evaluate and implement actions to improve the utilization and management of sediments. Adaptive management practices provide the opportunity to try new strategies and revise those strategies to reach a balance between efficient project performance and project constraints. With advancements in data management, coastal process modeling, and improved coordination, the RSM program provides the potential to implement RSM actions in time scales on the order of dredging cycles. A series of RSM Evaluation templates are being developed as part of the RSM program to guide efficient evaluation and implementation of RSM actions.

Keywords: Dredging, sustainable solutions, regional processes, optimize, sediment budget.

Biography: John is a research hydraulic engineer with the Army Corps' Engineer Research and Development Center where he is part of the Coastal Hydraulics Laboratory and is the technical lead for the Regional Sediment Management Program, actively involved with improving sediment budget development techniques through integrated data collection and numerical modeling efforts. Additionally, he is the Program Manager for the Shoreline Erosion Control Demonstration Program and is involved with Asset Management activities.

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