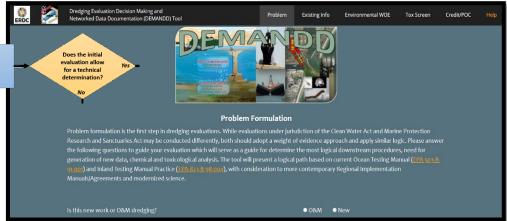## Focus Area

Risk Management

Problem

As part of the USACE mission to evaluation and move dredged material (DM) to maintain navigation channels (Director's Policy Memorandum CW2018-05), environmental evaluation of the prospective material is required by the Code of Federal Regulations. Inconsistent, incomplete and/or inappropriate analysis and reporting associated with DM assessments, coupled with overburdened staff results in unnecessary project delays and disputes over testing requirements, reanalysis and recollection of data. While the existing manuals provide useful guidance to DM regulators, they are over 30 years old and not reflective of the latest science. Efforts to update these documents have been perpetually delayed. These issues coupled with lack of consistent reporting and decision documentation lead to delays arising from having to address project specific issues not clearly covered within the existing guidance, revisiting previously resolved issues and/or negotiating disputes between permitting authorities.

Study Description

This project will modernize and automate the environmental compliance aspects of DM Evaluation Guidance into an electronic software executable to improve the consistency, speed of planning and execution of dredging evaluations across USACE Divisions. The best available science will be integrated to provide increased relevance, clarity and consistency for making better O&M decisions proactively. The focus is on improving consistency in analysis and decision making, better facilitating incorporation of recent scientific advances and adaptation to potential future changes to the regulatory dredging program. The tool and standard database and documents will be consistent with the objectives of the Navigation Data Integration Framework. The compiled product will allow USACE to better understand project scope and cost, percentage of historic compliance failures, use of multiple line of evidence approaches and full use of readily available information for future project decisions. To execute, the project consists of six tasks: (1) update current guidance; (2) develop standard database to facilitate use of historic information; (3) develop standardized documentation; (4) develop an electronic decision guidance tool; (5) engage a community of practice; and (6) transition the products for use.

Products

The research outcomes are communicated through technical reports and webinars to Districts, and in the software executable itself. Products include: (1) a Technical Note "Field Survey to Prioritize Needs for Modernizing Dredged Material Evaluation Guidance" published in 2021; (2) webinars demonstrating the process; (3) a case study journal article demonstrating the enhanced process for a USACE dredging evaluation; (4) a Technical Report (TR) "Modernizing Dredged Material Decision Guidance"; (5) a web-based version of the tool transitioned to ITL software developers for ease of communication of the desired functionality envisioned by the PIs.

Summary

The benefit to USACE operations is a more streamlined, consistent decision-making process standardized across USACE Divisions through dissemination of a modernized software application platform that is reflective of the latest science and easily updateable for consistently planning and executing dynamic DM evaluations; it will reduce disputes, unnecessary testing, and costly project delays and enable streamlined, cost-efficient reporting of results and faster review by standardized reporting templates summarizing only the essential information for current and future DM management decisions all while being consistent with the Navigation Data Integration Framework objectives.

Balancing operational and environmental initiatives and meeting complex challenges of dredging and dredged material placement in support of the navigation mission.