Innovative Engineering with Nature (EWN) Construction Techniques

Dredging Operations Environmental Research (DOER) Program

U.S. ARMY CORPS OF ENGINEERS BUILDING STRONG®

Focus Area

Innovation in Sediment Management - Innovative Construction and Operations Technologies

Problem

Engineering with Nature (EWN) projects are constructed using a range of techniques. Common EWN projects use dredged material (DM) placement to bolster elevation of the marsh platform for subsiding marshes, or to restore wetlands or mudflats that have converted to open water. Unconfined placement without any form of containment may not be able to achieve sediment elevation goals. Construction of EWN projects require innovative and adaptive techniques, especially in tidal or marsh environments.

Study Description

This effort will host a series of EWN construction techniques workshops and invite participants from industry, government agencies, and academia. The workshops are scheduled to be hosted in conjunction with the Western Dredging Association (WEDA) Regional Chapter Meetings during Fall 2023 (Easter, Pacific and Gulf Coast Chapters) and Spring 2024 (Midwest Chapter). The goal for the workshops is to synthesize current innovative construction techniques and equipment, and to identify future needs. It is expected that multiple research initiatives and statements of need will be derived from the workshop discussions.

Products

1) Series of regional workshops on EWN Construction Techniques, 2) White paper describing the current state of EWN construction techniques and future needs

Summary

A range of unique construction techniques are needed to perform EWN projects. This project will provide insight as to the current state of the science regarding EWN construction techniques and will inform future research needs. Information will also be provided as to how dredged material consolidation impacts EWN construction.

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

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