

Engineering With Nature Project Fact Sheet



Title

Incorporating Engineering With Nature (EWN) and Landscape Architecture (LA) Designs into Existing Infrastructure Projects

Background

This project is focused on the identification of USACE infrastructure that is scheduled (or anticipated to be scheduled) for repair, replacement, and/or some degree of modification. USACE coastal navigation assets include: 1,067 navigation projects, 19 lock chambers, 13,000 miles of channels, 929 navigation structures, and 844 bridges. USACE inland navigation assets include: 27 inland river systems, 207 lock chambers (at 171 lock sites), and 12,000 miles of inland river channels. Many of the structures associated with these assets are in need of repair or replacement. This project seeks to illustrate the incorporation of EWN alternatives into project designs using landscape architecture practices.

Objectives

ERDC engineers/scientists are working with landscape architects and USACE Districts to propose EWN designs and practices that ultimately are incorporated into select infrastructure projects. Such efforts will offer “triple win outcomes” to the overall project while enhancing and/or prolonging the existing maintenance cycle. Moreover, incorporation of biological approaches/ materials could potentially alleviate any mitigation requirements that are required because of potential impacts to aquatic resources.

Approach

In FY 18, the EWN Initiative developed CESU agreements with two universities with landscape architecture schools that would collaborate to deliver the products of this work unit. During FY19, the Project Delivery Team the EWN Initiative identified six projects in four USACE Districts to evaluate and carry forward to the investigation stage and ultimately the development of products. In FY20, the team will continue to develop innovative EWN/NNBF strategies and associated project renderings for USACE Districts that are pursuing CSRSM studies and projects.

Outcomes

Future anticipated deliverables associated with this project will include, but are not limited to: (1) project reports and renderings that will be provided to the respective districts; (2) Tech Note that describes approach/methodology for prioritizing and ranking of existing Corps infrastructure projects that were identified as candidates for EWN integration; (3) Journal Article that characterizes the projects and approach for integrating EWN application; and round table discussions with respective districts to showcase product deliverables including reports and applicable project renderings.



Soo Locks Observation Deck.



Traditional canal design that conveys water.



EWN/LA canal design a “great” functional solution.

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