

Engineering With Nature Project Fact Sheet



Title

Strategic Placement of Sediment for Engineering and Environmental Benefit

Background

Dredged sediment is a resource under utilized by the U.S. Army Corps of Engineers. Much of the dredged sediment goes to confined upland disposal facilities or to open water disposal sites. These sites provide no benefit to the regional sediment system and these practices are employed even in systems that have been classified as sediment starved. Utilizing these dredged sediments strategically within the regional system benefits multiple Corps business lines.



Strategic placement nearshore berm at Tybee Island, GA

Objectives

Strategic placement of dredged sediment is the practice of cost-effectively placing sediment at dispersive sites so that natural forces can transport the sediment toward desired receptors. The sediment is thus maintained beneficially in the regional system. The objective of this research effort is to provide guidance for strategic placement options that benefit navigation, flood risk management, and environmental resource missions of the Corps. Products will outline the synergy between strategically placed sediments and benefits to nearby receptors.

Approach

Strategic placement is being practiced in the Corps. By evaluating specific projects, lessons can be learned that will support broader application of the practice. Implementation of strategic placement solutions will be described that are both cost-effective (meet the federal standard) and sustainable. A dispersive placement site is a key component to sustainability of the designated strategic sites. Evaluation of how natural forces can be harnessed to beneficially transport the dredged sediments is also critical to success.



Island in the Atchafalaya River created by strategic upstream placement of dredged sediment

Outcomes

The product of this research task will be a technical report and a series of technical notes. These documents will supply the user with sufficient information to evaluate potential strategic placement sites near dredging operations. Descriptions will include information on 1) evaluating natural forces (waves, and currents) in the region which drive sediment transport, 2) determining appropriate sediments for various applications (receptors), 3) identifying and optimizing site selection, and 4) monitoring effectiveness. The descriptions will rely heavily on successful case studies of ongoing strategic placement within the Corps.

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