



ERDC Dredging Operations Technical Support Program (DOTS)

U.S. ARMY CORPS OF ENGINEERS

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Response Summary:

The USACE Rock Island District (MVR) has ongoing studies in their area of responsibility that seek to determine the source of sediment infilling reservoirs and other dredged regions, including fish wintering habitats in the Mississippi River. If the sources of accumulating sediment can be determined, MVR may be able to better mitigate sediment erosion in specific regions, reducing the amount of deleterious shoaling. At the FY18 Regional Sediment Management (RSM) In-Progress Review Meeting, MVR sought guidance from ERDC in FY19 to help identify the appropriate sedimentary geochemical markers to elucidate sediment sources, as well as how to collect and process vibracores to provide sediment for these analyses. The actual field effort was funded by both RSM and internal project funds, and was executed in July 2019. This DOTS response allowed for ERDC researchers to meet with MVR's H&H and Geotechnical teams prior to the field effort to provide the initial technology transfer of the coring techniques (coring equipment plus vessel support). In addition, site visits were conducted to allow ERDC to provide guidance on where samples need to be collected.

Period of Performance:

24 February – 01 March, 2019.

Benefits of the Response to the USACE Dredging/Navigation Program:

Sediment accumulation in reservoirs and dredged regions reduces the lifespan and effectiveness of these systems, often faster than originally planned when projects are designed and constructed. In order to not lose project effectiveness, mitigating sediment erosion and subsequent accumulation can reduce or even eliminate future dredging costs.

Deliverable:

ERDC researchers Dr. Heidi Wadman and Dr. Jesse McNinch traveled to MVR in February of 2019. They assessed MVR's existing core capabilities and potential vessel support, and provided guidance on how to modify and expand the existing capabilities to collect vibracores suitable for geochemical analyses. MVR also arranged for site visits to potential reservoir and riverine sites, and ERDC provided guidance on which sites were the most suitable to demonstrate the techniques, and where the actual samples should be collected. The result was a fully prepared and streamlined field effort in July, at a savings to both RSM and the District.



Providing environmental and engineering technical support to the U.S. Army Corps of Engineers
Operations and Maintenance navigation and dredging missions

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