

Project Title: Efficient Dredging Strategies for Improving Transportation Infrastructure Resilience
Project Abstract (Brief Description): The viability of the marine highway system as efficient means of transportation is highly dependent upon weather patterns, which vary widely from year to year. Droughts can render waterways impassable to large ships, forcing distributors to either rely on other, more expensive, transportation modes to satisfy their transportation needs, or take action to restore waterway navigability. One way to accomplish this is by dredging, or excavating, certain stretches of waterways. The proposed research will develop mathematical modeling approaches to explore cost efficient dredging strategies for hardening inland waterway infrastructure against the possible impacts of drought events.
Describe Implementation of Research Outcomes (or why not implemented): Developed mathematical modeling approaches to explore cost-efficient maintenance strategies for hardening inland waterway infrastructure against the possible impacts of shoaling, weather events, and lock degradation are in progress.
Impacts/Benefits of Implementation (actual, not anticipated) <i>To be determined upon conclusion of the project:</i>
Web Links: martrec.uark.edu
Budget (Funding) Amounts & Source(s) (US DOT +Match(s) =Total Costs): \$113,747 Martrec + \$58,564 Academic Year Salary = \$172,311
Project Start and End Dates: 08/01/14-07/31/16. Extension to 12/31/16.
Principal Investigator(s) and Contact Information: Kelly Sullivan Ph.D
Principal Investigator Institution (University): University of Arkansas