



Sediment Tracer Study in Lexington Harbor For Detroit District

ERDC Dredging Operations Technical Support Program (DOTS)

U.S. ARMY CORPS OF ENGINEERS

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Response Summary:

The Lexington Michigan marina consistently fills with sand and requires regular maintenance dredging. The breakwater surrounding the marina is porous and it is suspected that the sediment transport is occurring through the breakwater versus through the entrance to the channel. The planned effort consists of taking sediment from Lexington Harbor, dyeing the sediment with a rust based dye, and then placing the sediment on the lake ward side of the breakwater. The sediment will be monitored to determine the amount of transport into the harbor.



Figure 1. Sampling Sediment in Lexington

Period of Performance:

3-25-19-3-29-19

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

Demonstrates a cheap method of staining sediment in order to justify grouting in the breakwater. Reducing the total amount of sediment inside the breakwater will allow for a reduction in the required amount of dredging for Lexington.

Deliverable:

A qualitative determination of the sediment transport through the breakwater at Lexington, MI was made. If it is proven that sediment is flowing through the breakwater the breakwater will be grouted in to reduce the amount of dredging required. This results in a long term cost savings to the Corps, and increases the functionality of the marina due to decreased downtime for the harbor.



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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DOTS ID: DOTS-19-R26