



ERDC Dredging Operations Technical Support Program (DOTS)

U.S. ARMY CORPS OF ENGINEERS

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Response Summary:

The USACE Buffalo District is conducting a study to determine the type and elevation of material located in the Lower East Entrance Channel of Ogdensburg Harbor, which needs to be excavated in order to deepen the navigation channel from -19 feet LWD to -27 feet LWD. In support of this study, 7 combination rock/core borings were collected in December, 2013, and 21 more were collected in November, 2017. The boring data indicated significant spatial variation in the subsurface elevation between: (1) unconsolidated sediment and underlying glacial till; and (2) glacial till and underlying bedrock. Given the complexity of removing the different types of material, Buffalo requested assistance from ERDC CHL in conducting a full sub-bottom chirp geophysical survey of the region using their dual-spectrum subbottom profiler. This profiler is mounted on a 16-foot catamaran, allowing for operation by small vessels and/or in shallow or narrow regions (Figure A). These data, and the previously collected borehole data, will be processed by ERDC to produce contour maps showing the elevation of the contacts described above, and isopach maps of the unconsolidated sediment and glacial till. The data will be used to refine the dredging and excavation plan for the harbor deepening effort.



Period of Performance:

The survey was conducted 26-27 August, 2018, under rapidly deteriorating conditions (small craft advisory). Survey region is plotted in yellow, and actual survey lines are shown in blue on Figure B. Data QA/QC and initial processing will be completed by 05 October 2018. Contour and isopach maps will be completed by 15 October, 2018, with a report to follow in Q2/Q3 of FY19.

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

Uncertainty in dredging volumes to be removed can often greatly increase the cost estimate for a removal effort. Given that uncertainties in the amount and elevation of different material to be excavated will be greatly reduced by the extensive coverage of the geophysical survey, these data should allow a more accurate request for material removal.

Deliverables:

Survey data and initial data processing & QA/QC were completed for the DOTS request. Buffalo will provide internal funds for the final data interpretations and map products in early FY19.



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