

Sediment Sampling & Testing In Support of the Upper Providence River Navigation Study

Project Characteristics:

- *Dredge Planning & Design*
- *Project Management*
- *Sediment Coring*
- *Sediment Grain Size Analysis*
- *Sediment Chemical Analysis*

Woods Hole Group is the prime contractor for an IDIQ contract with the U.S. Army Corps of Engineers New England District. Under this IDIQ contract, a major data collection Task Order was contracted in support of a dredging project in Providence, RI. The New England District, in conjunction with the Providence Foundation and the City of Providence, proposed to dredge the upper Providence River and portions of the Woonasquatucket and Moshassuck Rivers. The project begins above Providence and extends through the downtown urban area. The dredging project is designed to increase navigation, enhance urban redevelopment, and help encourage urban revitalization projects such as the Providence WaterFire festival.

Environmental testing completed by Woods Hole Group provided the necessary environmental data to obtain the required permits and approvals for the dredging project. The results of sediment testing will be used to determine acceptable disposal options for the dredge material. The anticipated volume of the dredging project is approximately 40,100 cubic yards. The total dredge volume will be obtained from the upper Providence River, the Woonasquatucket Inner Channel, the Sedimentation Basin, and from the Moshassuck Channel.

The project required detailed Sampling and Analysis Plans (SAP) and Accident Prevention Plans (APP). These plans were approved by the USACE-NAE prior to the start of data collection. The data collection and chemical analyses procedures and protocols were checked by the USACE to ensure the project would be conducted in compliance with the USACE/EPA Regional Implementation Manual (RIM).



Once approved, 30 cores were obtained throughout the project area. Each core was split, photographed, and characterized by a Woods Hole Group sedimentologist to identify major sedimentary layers and sediment types. The Woods Hole Group was able to reduce the total number of cores analyzed for bulk chemistry from 30 to 9 by using the RIM guidelines that allow combining sediment of similar characteristic for analyses.

Sediments were analyzed for metals, PCBs, pesticides, PAHs, Total Organic Carbon, grain size, and percent moisture. All analytical and project deliverables were submitted in electronic and hard copy. Sediment grain size and chemistry data were delivered in RIM-compliant electronic format. All reports were delivered both as PDF's and as MS Word documents.

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