Management of Contaminated Sediment for Habitat Uplift & Restoration

PROBLEM

- Contaminated sediment remediation often involves unsustainable end-use of dredged material
- This public-private partnership project investigates field technology deployment to evaluate how lower- to mid-tier contaminated dredged material can be beneficially used

SOLUTION

- Use specific amendments to stabilize low- to mid-tier contaminated sediments.
- Use layered clean sediment placement to further provide chemical isolation and promote habitat establishment.
- Deploy various field technology concepts at two legacy contaminated sites, pending agency approval
  - Site 1: Kingman Lake, Washington, D.C. (part of Anacostia River Sediment Project)
  - Site 2: Newtown Creek, New York

IMPACT

- Provides concepts for beneficial use (BU) of contaminated sediments
- Offers sustainable sediment management
- Presents economic advantages

December 2023

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WHAT'S NEXT

- Deploying (pilot-scale) field technology at two sites
- Monitoring of technology effectiveness
- Knowledge sharing with industry peers and via workshops
- Advancing concepts to full scale for research and development

APPLICATIONS

- Build scientific database and proof-of-concept for full-scale application of BU of contaminated sediments
- Identify best amendment practices and standard operating procedures for wider applications
- Develop regulatory acceptance and permitting guidance
- Exchange information through published papers and workshops

STATUS

- Initial meetings with stakeholders: Nov/Dec 2023
- Baseline sampling at two sites: Jan to Feb 2024
- Development of concept designs: Jan to Mar 2024
- Finalize designs: Mar to Sep 2024
- Target field technology deployment: Nov/Dec 2024 (assuming streamlined agency permit approvals)

BENEFITS

- Sustainable remedial approach for Superfund and other legacy contaminated sites
- Conversion of legacy contaminated lands into productive habitats
- Reduced carbon footprint by avoiding moving materials off-site
- Alternate remedial concept for Superfund sites
- Lowered costs and return on investment (for CERCLA sites)