LONG-TERM MANAGEMENT OF IMPACTED AQUATIC SEDIMENTS

OBJECTIVE
Demonstration projects are sought for innovative technologies that specifically address the management, risk characterization, remediation, or monitoring of sediments impacted by per- and polyfluoroalkyl substances (PFAS), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), heavy metals, chemicals of emerging concern, or mixtures containing these chemicals. Of particular interest are the following:

- Development of innovative, more cost effective in situ remedial technologies.
- Demonstrations that facilitate the application and commercialization of passive samplers.
- Demonstrations of tools or methodologies to evaluate amendment placement and remedy integrity.
- Demonstrations of new monitoring tools to reliably predict the long-term performance of remedies and the expected long-term risk reduction.
- Development of innovative technologies for sustainable dredged material disposal alternatives.

For those proposing projects addressing PFAS issues, review the SERDP and ESTCP memo for specific quality assurance/quality control (QA/QC) requirements for all projects addressing PFAS.

Impacted marine, estuarine, brackish, and freshwater sediments are of interest. Proposals addressing sediments contaminated with radionuclides will not be considered. Proposed technologies should have completed all required laboratory work, although site specific treatability work prior to the field demonstration is acceptable. Specific Department of Defense (DoD) demonstration site(s) may be suggested in the pre-proposal, but are not required. Technologies and methods are sought that have well defined demonstration/validation questions to address. ESTCP demonstrations should address technical and/or regulatory issues that inhibit the widespread use of the proposed approach across DoD. ESTCP supports demonstration at a scale sufficient to determine the operational performance of the remediation technology and to estimate its expected full-scale costs. Full-scale cleanup of specific sites is not performed under ESTCP.

BENEFITS
Results from this work will provide the DoD with an improved capability to cost-effectively characterize, remediate, and manage aquatic sediment sites impacted by chemicals of concern.

BACKGROUND
Marine and freshwater sediments are the ultimate receptors of chemicals in effluent from urban, agricultural, industrial, and recreational activities, both at sea and on shore. The DoD is responsible for the management of thousands of sites with organic compounds and metals in sediments. A growing body of evidence suggests that sediment removal as a means of remediation can at times
result in more ecological damage or show no measurable ecological improvement. Therefore, development of cost effective in situ management strategies for sediments impacted by chemicals of concern at DoD sites is a critical need. The current regulatory paradigm for characterizing risks associated with the level of contamination in sediments generally does not include measures of the actual bioavailability of these contaminants to human or ecological receptors. However, there is clear and growing evidence that demonstrates that some of these contaminants are less available to potentially harm humans or ecological receptors than is suggested by simply extrapolating effects based on total concentrations of contaminants in bulk soil or sediment.

ESTCP has supported the demonstration of a number of technologies related to contaminated sediments. Proposers should be familiar with the ESTCP portfolio of technologies and tools in order to avoid duplication of previous efforts. Description of ESTCP projects addressing sediment issues are available on the ESTCP website.

**POINT OF CONTACT**
Herb Nelson, Ph.D.
Director
Environmental Security Technology Certification Program (ESTCP)
4800 Mark Center Drive, Suite 16F16
Alexandria, VA 22350-3605
Phone: 571-372-6400
E-Mail: herbert.h.nelson10.civ@mail.mil

For pre-proposal submission due dates, instructions, and additional solicitation information, visit the [ESTCP website](#).