**FY 2021 Federal Outside DoD Call for Proposals: Topic B3** **January 7, 2020**

**Environmental Security Technology Certification Program (ESTCP)**

# LONG TERM MANAGEMENT OF CONTAMINATED AQUATIC SEDIMENTS

## OBJECTIVE

Demonstration projects are sought for innovative technologies that specifically address the management, risk characterization, remediation, or monitoring of sediments contaminated with polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), heavy metals, contaminants of emerging concern, or mixtures containing these contaminants. Of particular interest are the following:

- Demonstration 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.
- Demonstrations of technologies or tools that address the critical needs for advancing the regulatory acceptance and implementation of measures of bioavailability into contaminated sediments cleanup activities.
- Demonstration of innovative technologies for sustainable dredged material disposal alternatives.

In August 2016, the Strategic Environmental Research and Development Program (SERDP) and ESTCP co-sponsored a Workshop on *Research and Development Needs for Long-Term Management of Contaminated Sediments.* This workshop identified several high priority demonstration needs for long term management of contaminated sediments. A more detailed description of these issues can be found in the report from the workshop. Proposers are strongly encouraged to review the workshop report for additional detail and should align their proposed effort with the identified demonstration and technology transfer needs. For those proposing projects addressing PFAS issues, review the SERDP and ESTCP memo for additional requirements.

Contaminated marine, estuarine, brackish, and fresh water sediments are of interest. Proposals addressing sediments contaminated with radionuclides will not be considered.

## BACKGROUND

Marine and fresh water sediments are the ultimate receptors of contaminants in effluent from urban, agricultural, industrial, and recreational activities, both at sea and on shore. The Department of Defense (DoD) is responsible for the management of thousands of sites with organic compounds and metals contamination in sediments. A growing body of evidence suggests that sediment removal as a means of contaminant 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 contaminated sediments 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.

Proposed technologies should have completed all required laboratory work, although site specific treatability work prior to the field demonstration is acceptable. Specific 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.

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.
Program 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.