

Environmental Security Technology Certification Program (ESTCP)

MUNITIONS RESPONSE (MR) IN UNDERWATER ENVIRONMENTS

Proposals should address survey techniques or recovery methods to find or remediate unexploded ordnance (UXO) and discarded military munitions at underwater sites, both in the water and in the layered sediments below the water, to reduce the Department’s current liabilities under the Military Munitions Response Program. Many sites affected by munitions have depths less than 5 meters although water depths down to 35 meters are of concern. Aquatic environments include ponds, lakes, rivers, estuaries, and coastal or open ocean areas. Munitions of interest range from small projectiles and mortars to large bombs. Technologies proposed may address only a subset of the entire range of potential munitions or environments. ESTCP has particular interest in technologies addressing the following areas:

DEVELOPMENT OF STANDARDIZED UNDERWATER UXO DEMONSTRATION SITES

Well-documented test beds are needed to demonstrate the effectiveness of a variety of acoustic, magnetic, electromagnetic induction (EMI), and optical systems that have been developed to detect and classify UXO in the underwater environment. A workshop held at the 2018 SERDP and ESTCP Symposium provides guidelines, requirements, timelines, and responsibilities for the development, management, and use of those test beds ([Workshop Report: Underwater UXO Standardized Test Beds](#)). Proposals are welcome for the development and management of multiple test bed sites. These proposals should include historical and real-time environmental measurements and characterization of the proposed sites; development of methods for placement, positioning, and recovery of targets of interest; an approach to obtain assessments needed to obtain all environmental permits required for the demonstrations; and plans to provide logistics, facilities, plans, and other needed support to accommodate multiple system demonstrations.

WIDE AREA AND/OR DETAILED SURVEY TECHNIQUES

Systems are needed to cost-effectively survey large (kilometer-scale) areas to identify concentrations of munitions and areas free of munitions. Technologies addressing this aspect of the problem must provide high areal coverage rates but may be successful with only modest probabilities of detection and classification. In areas found likely to be contaminated, subsequent detailed data collection may be required to define the nature and extent of munitions contamination. In this regime, individual items must be detected with high probability and sufficient location accuracy that they may be unambiguously identified for retrieval or continued monitoring.

Proposals addressing novel sensors, platform integration, or large-scale collection of field data at real munitions sites will be considered.

COST-EFFECTIVE RECOVERY AND DISPOSAL METHODS

Improved methods are needed to cost-effectively and safely recover munitions from the underwater environment. Current practices employing divers for manual retrieval of targets are typically dangerous and expensive. Proposals should focus on recovery in the shallow water environment, where munitions are likely to be encountered by the public (to depths routinely accessed by recreational divers), and should address explosive safety issues. Cost-effective, safe, and environmentally acceptable remediation techniques are also needed for underwater items that cannot be moved due to explosive safety concerns and where blow-in-place operations underwater can significantly impact marine life.

Relevant existing projects can be viewed on the [ESTCP website](#).

SPECIAL INTEREST TOPIC

ESTCP has issued one topic area of general interest through a Broad Agency Announcement (BAA) to the private sector:

- Innovative Technology Transfer Approaches

DoD investigators are encouraged to submit proposals through the DoD submittal process that corresponds to this BAA topic area.

POINT OF CONTACT

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