

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, to reduce the Department of Defense's (DoD'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:

GEOPHYSICAL DESCRIPTION OF LIVE SITES

Effective and efficient use of detection, localization and classification systems requires a detailed knowledge of the geophysical environment in which they will operate. Methods and techniques to provide that information is requested. Attention to scales of typical ordnance is required to anticipate the clutter conditions of the sites. Areal scales of sites range from 100's to 1000's of km². Some locations will, in addition to spatial scale variability, have hydrodynamic variability, requiring a time-based element of condition(s) change.

WIDE AREA AND/OR DETAILED SURVEY TECHNIQUES

Systems are needed to cost-effectively survey large (kilometer-scale) areas to identify concentrations of munitions. Tools are also sought to provide evidence an area may have been used infrequently or may not have been used for munitions-related activities. 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.

MOBILITY AND TRANSPORT OF MUNITIONS

SERDP and ESTCP have been supporting research involving the burial and/or mobility of underwater munitions when subjected to underwater environmental forces. Improved understanding of munitions transport and fate may help inform site munitions response management decisions. Proposals to test and demonstrate/validate models addressing this topic will be considered.

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 responds 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](#).