

**ESTCP Funding Opportunities**  
**January 15, 2009**

Dr. Jeffrey Marqusee  
Director, ESTCP



## DoD's Environmental Technology Programs



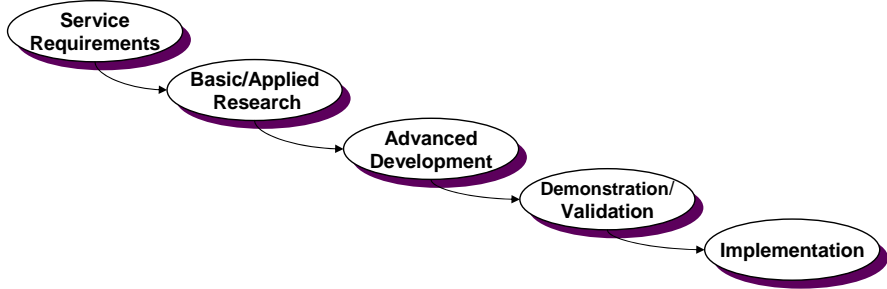
- Science and Technology

- Demonstration/ Validation

# Environmental Technology Development Process



**SERDP**      **ESTCP**



**DUSD(I&E)**   **DDR&E/DUSD(S&T)**   **DUSD(I&E)**  
**REGULATORY COOPERATION**



## ESTCP Program Goals

- Demonstrate Innovative Cost-Effective Environmental Technologies
  - ◆ Capitalize on past investments
  - ◆ Transition technology out of the lab
- Promote Implementation
  - ◆ Direct technology insertion
  - ◆ Gain regulatory acceptance

➡ *Priority: needs of the DoD user community*



# Environmental Drivers

## Sustainability of Ranges, Facilities, and Operations



**Maritime Sustainability**  
**Threatened and Endangered Species**



**Toxic Air Emissions and Dust**



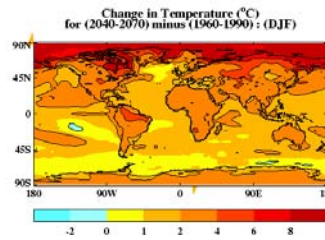
**UXO & Munitions**  
**Constituents**



**Noise**



**Urban Growth & Encroachment**



**Climate Change**



## Environmental Drivers

### Reduction of Current and Future Liability

#### Contamination from Past Practices



- Groundwater, Soils and Sediments
- Large UXO Liability
- Emerging Contaminants

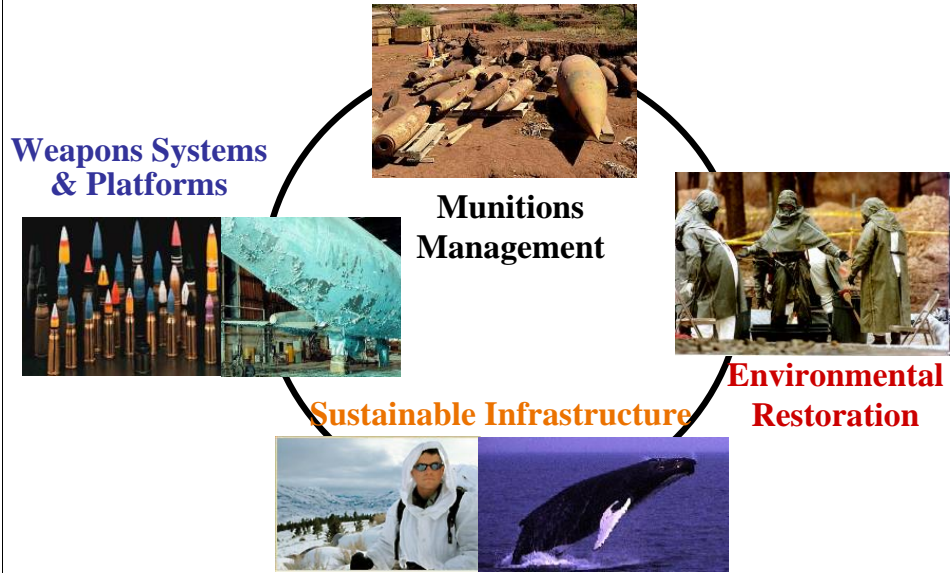
#### Pollution Prevention to Control Life Cycle Costs



- Elimination of Hazardous Materials Reduces Cost of Operation, Repair & Demil
- Goal is to achieve Compliance Through Pollution Prevention



## Focus Area Management Structure





## **ESTCP Methodology**

- Partner With Stakeholders and Test at DoD Facilities
  - ◆ Developer, regulators, end-user
  - ◆ Direct transition
- Validate Operational Cost and Performance
  - ◆ Independent test and evaluation
  - ◆ Satisfy regulatory and user communities
- Identify DoD Market Opportunities
  - ◆ Technology transfer across federal and private sector



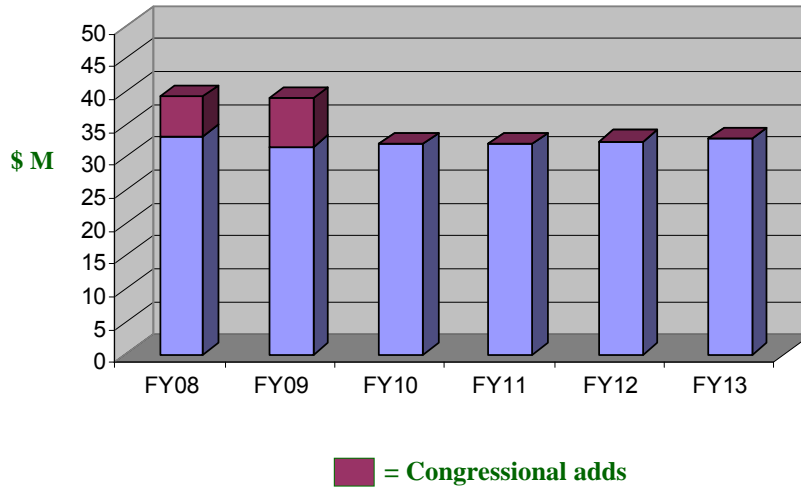


## Project Requirements

- Formal Demonstration Plans
  - ◆ Independent review
- Execution of Technology Demonstration
  - ◆ Collect cost and performance data
- Written Reports on Cost and Performance
  - ◆ Technical report
  - ◆ Cost and Performance Summary Report
- Support for Transition
  - ◆ Regulatory and end-user acceptance
  - ◆ Guidance and training

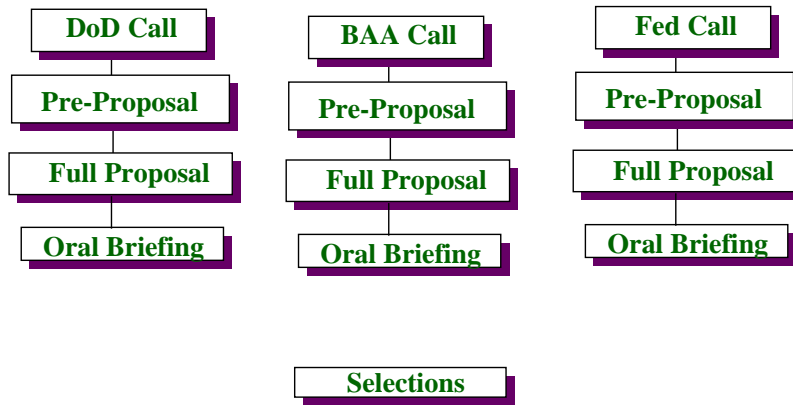


## ESTCP Funding





## ESTCP Solicitation Process





## DoD Call

- Broad Call for Dem/Val Projects
  - ◆ Address DoD environmental requirements
  - ◆ DoD lead required
- Pre-Proposal: Technology Selection
  - ◆ Short written pre-proposal
    - *Competitive process*
  - ◆ Full Proposal Requested
    - Modifications recommended
- Selection
  - ◆ Full proposal
  - ◆ Oral presentations



## **BAA/ Fed (non-DoD) Creating Partnerships**

- Call for Technologies
  - ◆ Selected topic areas
- Pre-proposals: Technology selection
  - ◆ Short written pre-proposal
    - *Competitive process*
- Identify DoD Partners
  - ◆ Develop Dem/Val project
- Selection
  - ◆ Full proposal
  - ◆ Oral presentation

## **FY 2009 Solicitation**

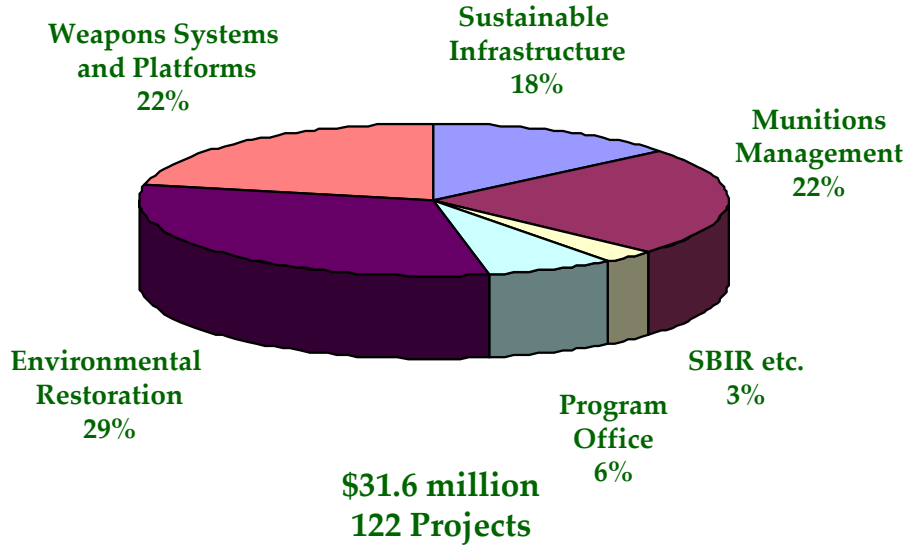




## FY09 ESTCP Selections

Solicitation	Pre-Proposals	Full Proposals	Selected
DoD (Services)	92	30	17
BAA (external)	147	34	15

# ESTCP FY 2009





**FY 2010 Solicitation**





## **DoD Topics**

- Environmental Restoration
  - ◆ Soils, Sediments, Water
- Military Munitions
  - ◆ MMRP, Active Range Clearance
- Weapons Systems and Platforms
  - ◆ Manufacturing, Maintenance, Emissions, Greenhouse gases
- Sustainable Infrastructure
  - ◆ Facilities and Energy, Natural and Cultural Resources



## **BAA/Fed Topics**

- Remediation of Contaminated Groundwater
- In-Situ Remediation of Contaminated Sediments
- Characterization, Control and Treatment of Range Contamination
- Military Munitions Detection, Discrimination and Remediation
- Energy Efficiency and Renewable Energy for DoD Installations



## Remediation of Contaminated Groundwater

- In situ remediation technologies are sought that specifically address the cleanup or management of groundwater contaminated with chlorinated solvents, metals, energetic compounds, emerging contaminants of interest to DoD, or mixtures of these contaminants.
- Characterization, optimization, assessment, and/or long-term monitoring tools related to remediation of contaminated groundwater also will be considered.
- In particular, management tools or technologies to address:
  - ◆ DNAPL source zones that cause persistent groundwater plumes are of interest
  - ◆ Costs associated with long-term monitoring.
- Both passive treatment approaches (e.g., treatment barriers or walls) and active treatment approaches will be considered.



## **In-Situ Remediation of Contaminated Sediments**

- ESTCP hosted a workshop on Research and Development Needs for Understanding and Assessing the Bioavailability of Contaminants in Soils and Sediments . Proposers are encouraged to review the summary report for additional details on the critical demonstration needs:

[www.serdp.org/Research/upload/Bioavailability\\_Wkshp\\_Nov\\_2008.pdf](http://www.serdp.org/Research/upload/Bioavailability_Wkshp_Nov_2008.pdf)

- In situ remediation technologies are sought that specifically address the remediation or management of sediments contaminated with polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), heavy metals, or mixtures containing these contaminants.
- Contaminated marine, estuarine, brackish, and fresh water sediments are of interest.



## **Characterization, Control and Treatment of Range Contamination**

- Management tools and technologies are sought to cost effectively and more accurately delineate munitions constituent source zones and contaminant loading on test and training ranges.
- Treatment and control technologies are sought that specifically address the remediation or containment of range-related contaminants and residue such as metals, energetics (RDX, HMX, TNT, DNT, picric acid), propellants such as perchlorate, or mixtures containing these contaminants in soils.
- ESTCP hosted a workshop on Research and Development Needs for Understanding and Assessing the Bioavailability of Contaminants in Soils and Sediments . Proposers are encouraged to review the summary report for additional details on the critical demonstration needs:

[www.serdp.org/Research/upload/Bioavailability\\_Wkshp\\_Nov\\_2008.pdf](http://www.serdp.org/Research/upload/Bioavailability_Wkshp_Nov_2008.pdf)



## **Military Munitions Detection, Discrimination and Remediation**

- **Classification:** Technologies are needed that can discriminate munitions ranging from 20 mm projectiles to 2000 lb. bombs from other items in the sub-surface. A single technology need not be applicable to all possible ordnance types, nor all possible site conditions. Technologies are requested for ultimate inclusion in a series of live-site Classification Demonstrations being conducted by ESTCP in four categories:
  - ♦ Integrated systems (hand held, man-portable, or vehicle towed) that can survey tracts of land, detect potential munitions and discriminate munitions from clutter;
  - ♦ Systems that are cued by other survey technologies which can cost effectively, non-invasively interrogate the suspected item and discriminate munitions from clutter;
  - ♦ Signal processing technologies that can exploit the current state-of-the-art magnetic and electromagnetic induction survey data to improve classification capabilities; and
  - ♦ Production technologies that have demonstrated the ability to collect classification-quality survey data and analyze these data using advanced processing techniques.
- **Underwater Munitions:** Technologies are needed that can reliably detect and classify munitions that are proud or buried, either individually or in clusters, in the underwater environment. Munitions of interest range from small projectiles to large bombs at depths to 120 feet.



## **Energy Efficiency and Renewable Energy for DoD Installations**

- Innovative technologies and methods are sought to improve energy efficiency and increase the use of renewable energy on DoD installations.
- Technologies of interest include but are not restricted to:
  - ◆ innovative energy efficient lighting, heating, and air conditioning, and other technologies to support sustainable building design and operations to reduce energy demand for all types of DoD buildings, including historic properties
  - ◆ renewable energy sources at various power levels
  - ◆ supporting technologies such as energy storage and control technologies to manage these resources
  - ◆ technologies that reduce both water and energy demand

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## **FY 2010 Solicitation -Dates-**

- ESTCP Solicitation Released January 8, 2009
- Pre-proposal Due: March 5, 2009 4 PM EST
  - ◆ Pre-proposals received after this time will not be reviewed
  - ◆ Pre-proposals sent via fax or electronic mail will be rejected
- Full Proposal Requested June 2009
  - ◆ Full Proposal Due: August 6, 2009 4 PM EST
- Oral Briefing in Arlington VA, September 2009
  - ◆ Selection October 2009
  - ◆ Project Initiation March 2010
- Visit the ESTCP Web Site for Solicitation Details
  - ◆ [www.estcp.org/opportunities](http://www.estcp.org/opportunities)



## **Selection Criteria**

- Relevance (Pass / Fail)
- Appropriate for Demonstration (Pass/Fail)
  
- Technical Merit
- Cost/Benefit
- Transition Potential
- Cost



## Hallmarks of a Competitive Proposal

- Clearly address a DoD Environmental Need
- Well defined demonstration/validation questions
- Provide significant benefit
  - ◆ Reduced costs
  - ◆ Improved performance
- Technically sound
  - ◆ Detailed technology description
  - ◆ Detailed technical approach



## Internet Resources



[www.estcp.org](http://www.estcp.org)



# Thank You

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