HEADLINES

Fall 2011 Meeting DoD's Environmental Challenges

INSIDE THIS ISSUE

Perchlorate-Free Flares Undergo Qualification Testing

Modeling Underwater UXO Mobility in Reef Environments

Understanding the Behavioral Ecology of Cetaceans

Recovering Energy from Landfill Gas

DoD Cleanup Goals Drive Workshop to Address Future Restoration Challenges

Award-Winning Research on Ecotoxicology of Energetics Presented at NATO Conference

New to the SERDP and ESTCP Web Site: Resource Conservation Tools and Training

SERDP and ESTCP Program Update

Coming in November: 2011 Symposium & Workshop

ANNOUNCEMENTS

SERDP FY 2013 Solicitations Now Open - **Learn More**

LAST CALL! Upcoming Symposium Deadlines
-November 7: Hotel Room Block Closes
-November 16: Advance Registration Closes

New SERDP and ESTCP Resources - **Browse by Program Area**

SERDP Funding Opportunities

SERDP is currently seeking innovative science and technology proposals to address DoD's environmental needs through several open solicitations. On October 27, SERDP released its FY 2013 Core Broad Agency Announcement and Federal Call for Proposals and the FY 2013 SERDP Exploratory Development (SEED) Solicitation. In September, SERDP released a special Resource Conservation solicitation to fund a new 5-year Defense Coastal/Estuarine Research Program (DCERP) effort.

More information on these funding opportunities is provided in the SERDP and ESTCP Program Update article below.

Perchlorate-Free Flares Undergo Qualification Testing

The U.S. Navy and Army are jointly testing two novel, perchlorate-free red flare compositions that were developed with SERDP and ESTCP support to qualify them for incorporation into service inventories. These perchlorate-free compositions have equal or superior performance compared to their in-service perchlorate-containing counterparts. When implemented by the military services, the flare compositions will eliminate the release of perchlorate from flares into the environment and, as a result, will help reduce risk to human health and the environment and prevent future groundwater contamination and costly cleanup efforts. **Full Article**

Modeling Underwater UXO Mobility in

CALENDAR

November 29-December 1: Partners in Environmental Technology Technical Symposium & Workshop (Washington, DC)

January 5: Pre-Proposals Due for the SERDP Core Solicitation

January 5: Proposals Due for the Resource Conservation Special Solicitation

January 15: SERDP and ESTCP Quarterly Progress Reports Due

March 8: Proposals Due for the SERDP SEED Solicitation

March 13-15: SERDP Scientific Advisory Board Meeting (Arlington, VA)

RELATED EVENTS

November 13-17: Society of Environmental Toxicology and Chemistry (SETAC) North America 32nd Annual Meeting (Boston, MA)

December 5-9: 2011 American Geophysical Union (AGU) Fall Meeting (San Francisco, CA)

KEEP IN TOUCH

Phone: (703) 696-2127

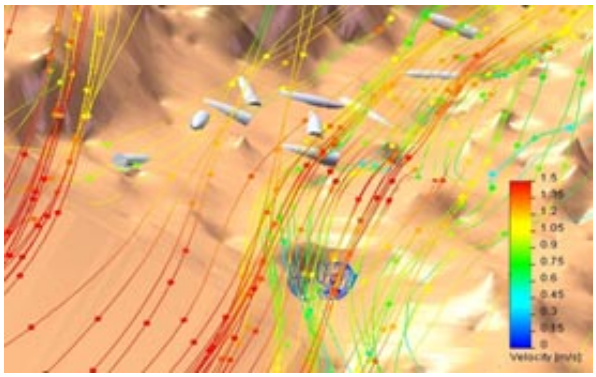
Web: www.serdp-estcp.org

Subscribe to RSS Feed

Send Us an E-mail

Reef Environments

The underwater environment presents significant challenges for the detection, characterization, and recovery of military munitions. Relatively little is known about the location and condition of the munitions, the manner in which the munitions move over time, the distribution of scrap and other sources of clutter, and specific site conditions such as bottom composition and water turbidity. To address the location of unexploded ordnance (UXO) in reef environments, ESTCP investigators have expanded the capabilities of the UXO Mobility Model to capture reef geomorphology. This feature will enable prediction of UXO migration and burial in reef environments, informing risk assessments and munitions response actions at underwater munitions sites. **Full Article**



Understanding the Behavioral Ecology of Cetaceans

The U.S. Navy's Energy and Environmental Readiness Division, Office of Naval Research, and SERDP have long been concerned with the potential impacts of naval sounds, such as sonar, on marine mammals, in particular cetaceans (whales, dolphins, and porpoises). A determination that such sounds have adverse consequences on cetaceans could lead to restrictions on the use of sonar for training purposes. Without baseline information, however, it is extremely difficult to determine when exposure to anthropogenic sound results in a biologically significant or adverse response. Four SERDP projects are now under way to improve understanding of the behavioral ecology of cetaceans. **Full Article**

Recovering Energy from Landfill Gas

DoD owns and operates more than 100 landfills on its installations. These landfills produce waste gas streams that contain methane and require expensive treatment processes to minimize their impact on the environment. With ESTCP support, Southern Research Institute is demonstrating the capability of the FlexEnergy Powerstation™ FP250 (Flex) system to provide efficient on-site power production using landfill gas and other low quality waste fuels. The Flex system will generate about 220 kW of renewable electric power that will feed directly into Fort Benning's electrical distribution system as part of this demonstration. Utilization of landfill gas and other low quality waste fuels at DoD facilities can provide significant economic, environmental, and energy security benefits while contributing to the achievement of DoD's stated goals and objectives for implementing renewable domestic energy production. **Full Article**

DoD Cleanup Goals Drive Workshop to Address Future Restoration Challenges

DoD's Installation Restoration Program has set goals to achieve Response Complete (RC) at 90 percent of sites at active installations and Formerly Used Defense Site properties by the end of FY 2018 and to achieve RC at 95 percent of these sites by the end of FY 2021. Despite substantial progress made in the past 20 years, significant challenges remain for remediation of chlorinated solvent-contaminated groundwater at some sites. The Cost to Complete (CTC) is generally driven by high remedial costs at these sites. Cleanup to unrestricted use is often desired, but technically difficult to achieve, and sustainable remediation has become an increasingly important goal. To address these challenges, SERDP and ESTCP hosted a workshop this past summer on investment strategies to optimize research and demonstration impacts in support of DoD's restoration goals. Such strategies will help ensure research and demonstration efforts are useful, timely, and integrated into the current practices and plans for the Installation Restoration Program.

A Workshop Summary Report is now available, and SERDP has issued an FY 2013 Statement of Need on *Improved Assessment and Optimization of Remediation Technologies for Treatment of Chlorinated Solvent-*

Contaminated Groundwater. For details on the solicitation and proposal submittal process, visit http://www.serdp-estcp.org/Funding-Opportunities/SERDP-Solicitations.

At this year's upcoming Partners in Environmental Technology Technical Symposium & Workshop, a technical session titled *Incorporating Innovative Technologies to Meet DoD Restoration Goals from Remedy in Place to Response Complete* will highlight key topics discussed during the workshop. Additional details regarding this session are available at http://symposium2011.serdp-estcp.org/Technical-Sessions/2D. **Full Article**

Award-Winning Research on Ecotoxicology of Energetics Presented at NATO Conference

SERDP Principal Investigators recently presented a paper on their award-winning research at the North Atlantic Treaty Organization (NATO) Applied Vehicle Technology (AVT) Symposium on Munition and Propellant Disposal and its Impact on the Environment, October 17-20, 2011, in Edinburgh, Scotland. This research was recognized with The Technical Cooperation Program (TTCP) Achievement Award (2010) for significantly advancing the knowledge and understanding of the environmental fate and ecotoxicology of energetic materials to improve the ecological risk assessment of testing and training ranges at defense installations in TTCP nations. Scientifically-based Environmental Tolerance Values and bioaccumulation data for explosives, propellants, and related energetic materials were developed in this project as part of TTCP Key Technology Area 4-32 collaborative research â€œDevelopment of Environmental Tolerance Values for Defense Sites Contaminated with Energetic Materials."

TTCP Achievement Awards were presented to U.S. scientists Drs. Roman Kuperman, Ron Checkai, and Mike Simini (U.S. Army Edgewood Chemical Biological Center); Dr. Mark Johnson (U.S. Army Public Health Command); Dr. Guilherme Lotufo (U.S. Army Engineer Research and Development Center - Environmental Laboratory); and Dr. Thomas Hawkins (Air Force Research Laboratory). The Honorable Zachary Lemnios, Assistant Secretary of Defense for Research and Engineering, Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, as well as Dr. David Honey, U.S. TTCP Principal, and James Short, U.S. TTCP Deputy, presented the awards at the Scientific Achievement Awards Ceremony held in the Hall of Heroes, The Pentagon, April 21, 2011. Canadian scientists Drs. Geoffrey Sunahara and Jalal Hawari (National Research Council of Canada) and Drs. Sonia Thiboutot, Guy Ampleman, and Sylvie Brochu (Defence Research and Development Canada - Valcartier), represented by Dr. Sunahara, were recognized at a TTCP awards ceremony in Ottawa by Dr. Marc Fortin, Assistant Deputy Minister (Science and Technology),

Department of National Defence, and Chief Executive Officer, DRDC.

TTCP is an international organization that collaborates in defense scientific and technical information exchange; program harmonization and alignment; and shared research activities for the five nationsâ€"Australia, Canada, New Zealand, the United Kingdom, and the United States. The Scientific Achievement Awards program was established to honor the outstanding achievements of TTCP scientists and engineers on the basis of excellence, relevance, productivity, exceptional quality of science, defense impact, and collaboration.

Research recognized by TTCP and presented at the NATO Symposium incorporated results from SERDP projects *Development of Toxicity Benchmarks and Bioaccumulation Data for N-Based Organic Explosives for Terrestrial Plants and Soil Invertebrates (ER-1416), Environmental Fate and Transport of a New Energetic Material, CL-20 (ER-1254, ER-1256), Development of Ecological Toxicity and Biomagnification Data for Explosives Contaminated Soil (ER-1221), and Determining the Bioavailability, Toxicity, and Bioaccumulation of Organic Chemicals and Metals for the Development of Eco-SSLs (ER-1210)*. The results of these projects were made internationally available in the book *Ecotoxicology of Explosives*.

New to the SERDP and ESTCP Web Site: Resource Conservation Tools and Training

Models, software, guidance documents, and databases developed under the Resource Conservation and Climate Change program area are now available under the Tools and Training tab of the SERDP and ESTCP web site! These tools will help promote the implementation of innovative science, technologies, and methods across DoD. Topics include ecosystem-based management, watershed management, species management, cultural resources management, and air quality management. Ecological forestry and climate change tools also will be available in the future.
Resource Conservation Tools and Training

SERDP and ESTCP Program Update

SERDP

Proposals selected in response to the FY 2012 SERDP solicitations were presented to the SERDP Scientific Advisory Board for review at its September and October 2011 meetings. Thirty projects were recommended for funding from the Core Solicitation and two projects from the SERDP Exploratory Development (SEED) Solicitation. In late September, the SERDP Council met

and approved the FY 2012 Program Plan. **SERDP FY 2012 New Start Project Selections**

On September 20, SERDP released a special solicitation for the **Defense Coastal/Estuarine Research Program (DCERP)** that requests proposals to perform fundamental ecological research on estuarine, coastal, and associated terrestrial ecosystems that are necessary to sustain military readiness. The desired outcome of the research is to: (1) understand the effects of military activities and infrastructure on these ecosystems and (2) support their sustainable and adaptive management. DCERP is an existing program that involves the execution of ecological research within the context of military land and other resource use. DCERP has been executed since late 2006 at Marine Corp Base (MCB) Camp Lejeune, North Carolina. This call for research proposals is intended to fund a new DCERP effort for a period of five years and also provide new thematic directions to guide the research effort. For complete details about this opportunity, visit www.serdp-estcp.org/Funding-Opportunities/SERDP-Solicitations/Resource-Conservation-Special-Solicitation. **Proposals are due January 5, 2012.**

On October 27, SERDP released its annual solicitations for FY 2013. Proposers from the private sector may respond to the Broad Agency Announcements (BAAs) and those from the federal sector to the Federal Call for Proposals. The Statements of Need (SONs) for the FY 2013 Solicitations are provided below. **Private and Federal sector pre-proposals responding to the FY 2013 Core Solicitation are due January 5, 2012.** New this year, Federal organizations will submit pre-proposals directly to SERDP. **Full proposals responding to the FY 2013 SEED Solicitation are due on March 8.** Visit www.serdp-estcp.org/Funding-Opportunities/SERDP-Solicitations for the instructions and schedule for proposal submission.

FY 2013 SERDP Statements of Need

Environmental Restoration

In Situ Remediation of 1,4-Dioxane-Contaminated Groundwater

Improved Assessment and Optimization of Remediation Technologies for Treatment of Chlorinated Solvent-Contaminated Groundwater

Munitions Response

Advanced Technologies for Detection, Classification, and Remediation of Military Munitions on Land

Improvements in the Detection, Classification, and Remediation of Military Munitions Underwater

Improvements in the Detection, Classification, and Remediation of Military Munitions Underwater (SEED)

Resource Conservation and Climate Change

Department of Defense Pacific Island Installations: Impacts of and Adaptive Responses to Climate Change

Improved Understanding of Soil Ecology to Meet Department of Defense Natural Resource Management Challenges

Weapons Systems and Platforms

Non-Isocyanate Polymers for Military Topcoats

Ionic Liquids Technology

Environmentally Advantaged Submunitions

Application of Synthetic Biological Techniques for Energetic Materials

ESTCP

In September, as part of the FY 2012 Solicitation process, full proposal submitters presented their proposed work to the ESTCP Technical Committees (ETCs). The ETCs made recommendations to the ESTCP Director. Selections for the Environmental topics have been made, and an announcement will be made soon regarding the Energy topics. **ESTCP FY 2012 New Start Project Selections**

The FY 2013 ESTCP Solicitations are planned to be released in early 2012. Watch www.serdp-estcp.org/Funding-Opportunities/ESTCP-Solicitations for details.

Coming in November: 2011 Symposium & Workshop

Sponsored by SERDP and ESTCP, the *Partners in Environmental Technology Technical Symposium & Workshop* will be held November 29-December 1, 2011, in Washington, D.C. Conference attendees will have many opportunities to network with more than 1,200 environmental professionals from the military Services; academic and research institutions; private sector technology and environmental firms; and Federal, state, and local regulatory and policy-making organizations.

The comprehensive technical program will feature 15 technical sessions and four short courses. Technical session (TS) and short course (SC) agendas are now available (see Technical Program below), so be sure to check out this year's offerings to identify options that match your areas of interest. And, a reminder that space in short courses is limited, so be sure to register soon.

Don't Miss Out on Lower Registration Rates!
Advance Registration Closes November 16

Full advance rate: $450
One-Day advance rate: $250
Student rate: $75

Note: Registrations received after November 16 will be processed at the on-site rate of $525 for full registration and $275 for one-day registration.

Event To Be Held at New Venue â€" Washington Hilton
Hotel Room Block Closes November 7

To receive the special government per diem rate, be sure to contact the Washington Hilton to make your reservation.

Technical Program Agendas Now Available

TUESDAY AFTERNOON, NOVEMBER 29

- Role of Fire in the Carbon Cycle under Climate Change (TS)
- National and International Regulatory Impacts on DoD Operations: Refining the Goals of DoD's Strategic Plan for 'REACH' (TS)
- Energy Management and Technologies for DoD Buildings (TS)
- Improving Our Understanding of the Impact of Contaminants Stored in Low Permeability Zones (TS)

WEDNESDAY MORNING , NOVEMBER 30

- Challenges to Military Readiness Posed by Climate Change (TS)
- Classification Applied to Munitions Response - Development (TS)
- Impact of Particulate Emissions from Gas Turbine Powered Aircraft (TS)
- Incorporating Innovative Technologies to Meet DoD Restoration Goals from Remedy in Place to Response Complete (TS)

WEDNESDAY AFTERNOON, NOVEMBER 30

- Next Generation Energetic Materials - Striking a Balance between Performance, Insensitivity, and Environmental Sustainability (TS)
- Classification Applied to Munitions Response - Production Applications (TS)
- Renewable Energy on DoD Installations (TS)
- Environmental Molecular Diagnostic Tools: Innovations and Applications (TS)

THURSDAY MORNING, DECEMBER 1

- Pacific Island Restoration Challenges (TS)
- Microgrids for Energy Security on DoD Installations (TS)
- Best Management Practices for Controlling Munitions Constituents on Operational Ranges (TS)
- Implementing Classification on a Munitions Response Project (SC)
- Estimating DNAPL Source Zone Natural Attenuation (early morning) (SC)
- Thermal Treatment Technologies: Lessons Learned (mid morning) (SC)

THURSDAY AFTERNOON, DECEMBER 1

- Field Methods to Distinguish between Vapor Intrusion and Indoor Sources of VOCs (SC)

Strategic Environmental Research and Development Program (SERDP)
Environmental Security Technology Certification Program (ESTCP)
Phone (703) 696-2127 - Fax (703) 696-2114
901 North Stuart Street, Suite 300 - Arlington, VA 22203