



2018 Secretary of Defense Environmental Awards Environmental Restoration, Individual/Team Award

Each year since 1962, the Secretary of Defense has honored installations, teams, and individuals for outstanding conservation achievements, innovative environmental practices, and partnerships that improve quality of life and promote efficiencies without compromising the Department of Defense's (DoD) mission success. The 2018 Secretary of Defense Environmental Awards cycle encompasses an achievement period from October 1, 2015 through September 30, 2017 (Fiscal Year (FY) 2016-2017). A diverse panel of 63 judges with relevant expertise representing Federal and state agencies, academia, and the private sector evaluated all nominees to select one winner for each of the nine categories that cover six subject areas: natural resources conservation, environmental quality, sustainability, environmental restoration, cultural resources management, and environmental excellence in weapon system acquisition.

About the Environmental Restoration, Individual/Team Award

The Environmental Restoration, Individual/Team award recognizes individuals and teams for efforts to protect human health and the environment by cleaning up identified DoD sites in a timely, cost-efficient, and responsive manner. Restoring these sites impacted by past defense practices protects military personnel and the public from potential environmental health and safety hazards. The 2018 winner of the Environmental Restoration, Individual/Team award is *Vieques Environmental Restoration Team, Puerto Rico*.

About Vieques Environmental Restoration Team, Puerto Rico

Vieques Naval Installation is a former Atlantic Fleet Weapons Training Area in Vieques, Puerto Rico, now listed on the National Priorities List. The former installation spans 23,000 acres with another 12,000 acres of surrounding waters. The Vieques Environmental Restoration Team includes representatives from Naval Facilities Engineering Command Atlantic, the Environmental Protection Agency, Puerto Rico Environmental Quality Board, Department of Natural and Environmental Resources, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Department of the Interior, and United States Fish and Wildlife Service. Despite challenges such as unexploded ordnance (and associated contaminants) across thousands of acres of land and sea floor, abundant ecologically and culturally sensitive resources, and numerous stakeholders, the team continues to work to meet its objectives. Those objectives include implementing prompt actions to protect human health, safety, and the environment; managing and prioritizing investigations and remedial actions; developing safe, cost-effective, and innovative cleanup approaches and technologies; executing a novel community involvement program; and maximizing partnerships.



Scientific divers collect sediment pore water samples adjacent to an underwater munition. Staff collected pore water, grab surface water, and sediment samples to help evaluate Polar Organic Chemical Integrative Sampler (POCIS) data. The POCIS technology helped demonstrate munitions constituents are not a significant concern in the marine environment, which may save millions of dollars at Vieques and other sites.

Major Accomplishments in FY 2016-2017

- The Vieques Environmental Restoration Team designed an innovative, time-critical removal action to safely and effectively clear submunitions from a former bombing range spanning 75 acres. The innovative approach uses remotely-operated equipment to remove large bombs via a magnetic attachment and an unmanned aerial vehicle to determine whether it is safe for cleanup workers to enter the area.
- The team successfully removed five World War II-era rockets just offshore of a small island adjacent to a popular public beach in the nearshore waters of the former Vieques Naval Installation. Staff instituted a non-time-critical removal action to accelerate the underwater cleanup of nearly 20 miles of shoreline to further expand safe and open access to the area for conservation and recreational purposes.



Subsurface soil sampling beneath a removed munitions item. An advanced geophysical classification (AGC) technology, Time-domain Electromagnetic Multi-sensor Towed Array Detection System, allows users to rapidly identify sampling locations, expedite the remedial investigation, and lower costs. Accumulated savings from this novel use of AGC are estimated to be \$100,000.

- In 2016 and 2017, the Vieques Environmental Restoration Team conducted a wide area assessment (WAA) of the densities and extent of underwater munitions across 12,000 acres. This assessment used a towed magnetometer array to determine the presence and distribution of potential munitions on and beneath the seafloor. The information the team gathered from the WAA is key to effectively strategize focused, follow-up investigations, help make remedial decisions, implement remedial actions, and perform long-term monitoring associated with underwater munitions.

- The Vieques Environmental Restoration Team instituted an eco-friendly remedial action process as a part of their cleanup efforts under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to allow safe eco-tourism on the island with minimal land disturbance. The remedial action includes removing munitions from all recreational areas while preserving over 90% of the island's vegetation.

- In 2016, the team supported a research project funded by the Department of Defense's Environmental Security Technology Certification Program to study munitions constituent concentrations underwater. The study used Polar Organic Chemical Integrative Samplers, which are designed to detect munitions constituents in seawater down to ultra-trace levels. The information gathered from this study supports a growing database of similar studies that demonstrate munitions constituents in the marine environment associated with underwater munitions sites are not a significant concern, which may save millions of dollars in investigation and cleanup costs.



Diver measuring the movement and burial of a munitions surrogate. Throughout 2016 and 2017, staff studied the movement and burial of 61 munitions surrogates just offshore of Vieques beaches. The Vieques team is working with the DoD Strategic Environmental Research and Development Program to assist in their efforts to develop a predictive model that will support underwater munitions cleanup efforts across DoD.