



Continued Development and Coordination of DoD Installation Submerged Aquatic Vegetation Programs in the Chesapeake Bay

08-363

Background:

Submerged aquatic vegetation (SAV) is an extremely important ecological resource in need of protection and restoration in the Chesapeake Bay. As a major steward of shoreline in the watershed, the DoD has made SAV restoration a key component of its contribution towards meeting the goals of the Chesapeake Bay Program's *Chesapeake 2000* agreement, to which it is a signatory. The U.S. Army Environmental Command at APG, in collaboration with the Chesapeake Research Consortium (CRC) and Ecosystem Solutions Inc. (ESI), conducted follow-up monitoring at SAV restoration sites planted in DoD waters of the Bay since 2006, and planted two additional restoration sites using SAV seeds.

Objective:

This project sought to continue support of the CRC Freshwater SAV Partnership, provide follow-up monitoring of the survival and health of recently planted SAV restoration sites on military installations in the Chesapeake Bay watershed, and continue to demonstrate innovative technologies, such as new seeding techniques, to restore SAV to areas within or adjacent to installation waters. These areas include two large-scale restoration sites and one additional small demonstration project.

Summary of Approach:

A demonstration site established at NAB Little Creek, VA with last year's project funding (07-363) was assessed for the number of plants/m², species present, and water quality (temperature, dissolved oxygen, and salinity). Both eelgrass (*Zostera marina*) and wild celery (*Vallisneria spiralis*) seeds were sustainably harvested in the summer and fall, respectively, in cooperation with the Maryland Department of Natural Resources from naturally occurring populations within the Bay. Two new SAV restoration sites identified by comprehensive monitoring in the previous two years were selected for large-scale expansion using seed-based techniques (Aberdeen Proving Grounds, MD; Naval Amphibious Base Little Creek, VA). Through generous boat support from the U.S. Fish and Wildlife Service Chesapeake Bay Field Office, one more small-scale demonstration planting was established at the Bloodsworth Island U.S. Naval Reservation, MD.

Benefit:

The overall goals of this project were accomplished through collaboration between numerous representatives of the CRC Freshwater SAV Partnership, a centralized source of restoration information and resources with staff

that can facilitate, for all Bay installations, interactions with other groups in the region actively participating in SAV restoration and research as well as seek funding not otherwise available to DoD natural resource managers. Further, this work specifically addresses Objective 2.2 of the "DoD 2008-2012 Strategic Action Plan for the Chesapeake Bay," to maintain and establish new beds of SAV on or adjacent to DoD installations in the Bay. The products of this project will help provide current and future service men and women with a healthy environment in which to train and work, and awareness of the need to incorporate good environmental stewardship into soldier training, morale, welfare and recreation.

Accomplishments:

Our results indicate that seed-based SAV restoration in the Chesapeake Bay region can be a successful planting method, especially in DoD areas where more traditional planting methods may not be safe. Post-restoration monitoring of both the eelgrass and wild celery restoration sites showed some new seedlings in the planting areas. Our success in establishing wild celery seedlings at the APG site is the first known demonstration of in-situ restoration by seed for that species in the Upper Bay. In summary, this project has 1) provided three new SAV restoration sites; 2) demonstrated success using wild celery seeds as a direct and sustainable in-situ restoration application; and 3) continued access to collaborative partners, reference material, newsletters, and technical support via the Freshwater SAV Partnership (www.chesapeake.org/SAV/partnershiphome.html).



Todd Beser, APG, holds up a bag of wild celery seeds just prior to their distribution at a restoration site in the Gunpowder River. Photo by Rebecca Thur, CRC.

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