

# Shoreline Project Establishes Healthy Ecosystem in Chesapeake Bay Watershed

## Stabilization Protects Mission Critical Infrastructure & Enhances Habitat

**NAVAL SUPPORT FACILITY (NSF)** Indian Head, MD, is near completion of the second phase of a four-phased shoreline stabilization project designed to protect mission critical infrastructure, as well as enhance aquatic and terrestrial wildlife habitat

and improve water quality by reducing sediment loading to the Chesapeake Bay watershed. The second phase began in March 2010 and installation of the stabilization structures was completed in November 2010.

The Navy partnered with the Southern Maryland Resource Conservation and Development Board, the Charles County Soil Conservation District, Coastal Design, and Coastline Design to conduct this project while reducing



Close up of barge work on the first sill spur.



Sediment fill in place behind the first sill structure. Work in distance is on the cobble beach area.



Sediment fill approaching final grade behind sill.

costs to the Navy and ensuring that shoreline stabilization expertise is provided through the use of a cooperative agreement. The total awarded funding for this cooperative agreement was \$5 million.

The project goals were met by installing sills and breakwaters approximately 55 to 70 feet offshore and filling in behind the structures with sediment to create intertidal wetland and riparian floodplain habitats along approximately 5,400 linear feet of the eastern shore of the Potomac River and the confluence of the Mattawoman Creek and Potomac River.

The sills were designed with windows to facilitate the movement of flora and fauna from open water to the fill areas behind the structures. The currently slumping shoreline banks will now be able to reach equilibrium and naturally revegetate as they are protected from the continuous wave activity on the Potomac River, fueled by a four-mile fetch in some locations and northeasterly winds.

Approximately 600 linear feet of sills will be installed in the Mattawoman Creek. As a result, NSF Indian Head has pulled these sill structures landward to mean high water to

## For More Insights

**FOR MORE INSIGHTS** into the first phases of this shoreline restoration initiative, read our articles entitled “Navy Initiates Potomac Shoreline Stabilization: Off-shore Breakwaters & Sills Will Prevent Erosion at NSF Indian Head” and “Conservation Groups Partner in NSF Indian Head Shoreline Planting: Stabilization Project is Largest in Chesapeake Bay Watershed” from the summer 2008 and spring 2009 issues of *Currents*. The entire *Currents* archive is available on-line at [www.enviro-navair.navy.mil/currents](http://www.enviro-navair.navy.mil/currents).



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reduce impacts to existing submerged aquatic vegetation beds and anadromous fish spawning areas. These 600 linear feet will only have riparian floodplain habitat created behind the structure as a result of the landward

movement. A cobble beach is also being installed within the 5,400 linear feet in an area that receives a large quantity of groundwater seepage to reduce erosion associated with the seepage and add variety in the design of the project for wildlife purposes.



LEFT TO RIGHT: Glenn Gass, Charles Soil Conservation District; CDR Dennis Quick, Naval Support Activity South Potomac Executive Officer; Robert Summers, Deputy Secretary of the Maryland Department of the Environment and Seth Berry, NSF Indian Head Natural Resources Program Manager discussing the shoreline project and planting efforts.

In October 2010, the National Aquarium in Baltimore recruited volunteers from the AmeriCorps, Maryland Conservation Corps, Charles County Master Gardeners, Aquarium Conservation Team, local community and Navy military and civilian personnel to support the planting of trees, shrubs and grasses in the riparian floodplain areas. The Aquarium staff and volunteers plan to return in May 2011 to plant native wetland plants in the intertidal wetland areas and replace damaged or dead trees and shrubs from the fall planting effort.

Currently, the design for the final two phases is in progress and installation of these two phases is anticipated in late 2011 or early 2012. The final two phases will concentrate stabilization efforts at NSF Indian Head's Stump Neck Annex along the confluence of the Mattawoman Creek and Potomac River, and at several locations along the eastern shore of the Potomac River where eroding shoreline banks have begun to compromise the integrity of mission critical infrastructure.

The design of the final two phases will remain the same as the previous two phases, however, several areas will require bank grading to stabilize banks below buildings and groundwater discharge will be intercepted and transported to the toe of the sill or breakwater structure. The total awarded funding for the final two phases is \$10 million. [↕](#)

*Photos by Seth Berry*

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Volunteers work to plant trees in the riparian floodplain habitat created during the shoreline stabilization project.