

NAVFAC Northwest Designs & Installs Bio-infiltration Pond at NAVMAG Indian Island

Technology Allows Installation to Meet Environmental Benchmarks

THE NAVAL FACILITIES Engineering Command (NAVFAC) Northwest Public Works Department Naval Base Kitsap Bangor discovered that a stormwater outfall at Naval Magazine (NAVMAG) Indian Island was exceeding benchmarks established by the U.S. Environmental Protection Agency's (EPA) requirement to protect finfish, in particular juvenile out-migrating salmonids.

Stormwater sampling at outfalls is a requirement of the current stormwater permit at NAVMAG Indian Island located near Port Townsend, WA. The EPA imposed additional monitoring for copper and zinc at NAVMAG Indian Island due to concerns with endangered fish species including salmon, steelhead and bull trout, on a monthly basis at three outfalls which discharge into the marine waters of Port Townsend Bay.

Even after a heavy rain there is no direct discharge into Port Townsend Bay. All stormwater at this outfall is running through the bio-filter.

Two of the three outfalls passed the additional monitoring requirement however a third outfall (SW-120) located adjacent to the ammunition wharf trestle failed and prompted a corrective action to design and install a filter cartridge within the catch basin. This filter binds copper and zinc before the water flows out into Port Townsend Bay and the environment. With no copper or zinc sources stored in the area the most likely source was from truck brake pads and tires. This outfall is located near a paved area that receives vehicle traffic transiting onto the pier. Even though Washington State has banned copper from vehicle brakes, there are still vehicles with brakes containing copper.

To clean up the water before it flows into Port Townsend Bay, the NAVFAC Northwest Public Works Department

Naval Base Kitsap Bangor designed a bio-infiltration pond to collect the discharge. This pond is designed with specific mulch that binds up the metals from the stormwater runoff. Plantings such as Common Rush (*Juncus effusus L.*) were planted within the retention basin. Common Rush is a salt tolerant species which can grow in standing water and is the most common type of Rush found in coastal marine wetlands.

Even after a heavy rain there is no direct discharge into Port Townsend Bay. All stormwater at this outfall is running through the bio-filter. With no direct discharge the EPA has removed the additional sampling requirement and stormwater sampling is no longer necessary at outfall SW-120. The cost of this project was less than \$48,000 but still represents a cost-savings to the Navy as sampling and analysis from this outfall is no longer required.

The shoreline and near shore ecosystem adjacent to the project site is an important habitat area utilized by juvenile salmonids as an outmigration corridor, forage fish as spawning habitat and it has an extensive eelgrass bed which provides food and refuge for a variety of finfish, waterfowl, shorebirds and marine mammals. This water quality enhancement project directly benefits this habitat area and the marine species which rely heavily on it for survival by reducing contaminant discharge which could impair and impact the substrate, nearshore vegetation, and other elements of the shoreline ecosystem.

The project was needed to satisfy a requirement of NAVMAG Indian Island's stormwater permit. The permit requires stormwater samples to be collected at various identified outfalls and analyzed for certain metals. EPA sets benchmark levels for each analyte, and if stormwater sample exceeds any of the benchmarks, then corrective action is required. The bio-infiltration pond serves as the corrective action.

It was a proactive cost-savings measure implemented by the NAVFAC Northwest Public Works Department Naval Base Kitsap Bangor's Stormwater Pollution Prevention Program and Water Quality Best Management Practices to reduce contaminant discharge from this outfall near the ammunition wharf. ⚓

CONTACT

Leslie Yuenger
Naval Facilities Engineering Command Northwest
360-396-6387
DSN: 744-6387
leslie.yuenger@navy.mil

CNO Recognizes FY 2013 Environmental Award Winners Via Virtual Ceremony

Navy Saves Time & Money, Reduces Its Carbon Imprint

WINNERS OF THE Fiscal Year (FY) 2013 Chief of Naval Operations (CNO) Environmental Awards competition were recognized August 14, 2014 via a video teleconference (VTC) ceremony at the Pentagon.

Twenty-seven winners were selected in 10 categories including Natural Resources Conservation, Environmental

Quality, Sustainability, Environmental Restoration, Cultural Resources Management, and Environmental Excellence in Weapon System Acquisition.

We're leveraging some innovative thinking and technology to provide recognition that's much deserved, but also saving time and travel dollars while reducing our carbon footprint.

—Vice Admiral Phil Cullom



“Environmental stewardship is important for the Navy on many levels,” said CNO Admiral Jonathan Greenert. “How we respond to our environment is what Americans see—did we take the time to care? If we can't get the environmental aspect of our ranges right, we'll never get them built and operating. And once we retire, what we leave behind is how we contributed to our environment that is important for the future.”



CNO Admiral Jonathan Greenert congratulates 24 commands across the globe via VTC at the Pentagon during an award ceremony to recognize the CNO Environmental Award recipients for the Fiscal Year 2013. By using VTC technology the Navy is able to save money and reduce the carbon imprint that would have resulted from the various command representatives traveling to meet for a physical presentation of the awards.



Director, CNO Energy and Environmental Readiness Division Rear Admiral Kevin Slates reads off the individual award accomplishments of 24 commands across the globe during the VTC award ceremony.

For More Information

A COMPLETE LIST of winners, along with their submission packages, can be found the Department of the Navy's Energy, Environment and Climate Change web site at <http://greenfleet.dodlive.mil/environment/awards/cno-environmental-awards>. A detailed summary of all award winners was featured as the cover story entitled "CNO Recognizes Award Winners for Exceptional Environmental Stewardship: Laudable Efforts Include the Safe Removal of Contaminated Siding from Dirigible Hangar at Moffett Field" in the summer 2014 issue of *Currents*. You can browse the *Currents* archive at the magazine's on-line home at <http://greenfleet.dodlive.mil/currents-magazine>.

This is the second time the awards ceremony has been held via VTC. Prior to 2013, the ceremony took place annually at the U.S. Navy Memorial and Naval Heritage Center in Washington, D.C. During his remarks at the event, Vice Admiral Phil Cullom, deputy CNO for fleet readiness and logistics (N4), mentioned the environmental and fiscal advantages of conducting the ceremony virtually.

"We're leveraging some innovative thinking and technology to provide recognition that's much deserved, but also saving time and travel dollars while reducing our carbon footprint," said Cullom.

The CNO Environmental Awards has recognized exceptional environmental stewardship by Navy ships, installations, individuals, and teams annually since 1994. ⚓

Photos by Chief MC Specialist Peter D. Lawlor

CONTACTS

Ashley Tolbert
 Chief of Naval Operations Energy and Environmental Readiness Division
 703-695-5116
 DSN: 225-5116
ashley.tolbert.ctr@navy.mil

Katherine Turner
 Chief of Naval Operations Energy and Environmental Readiness Division
 703-695-5073
 DSN: 225-5073
katherine.m.turner.ctr@navy.mil

