



# DoD CHESAPEAKE BAY PROGRAM JOURNAL

PROTECTING THE CHESAPEAKE BAY FOR MILITARY READINESS, FOR OUR COMMUNITY, FOR FUTURE GENERATIONS

## Meet the Newest DoD Regional Environmental Coordination Office Member, Krista Parra

By: Kelly Duckworth, Michael Baker International

Ms. Krista Parra recently joined the DoD Regional Environmental Coordination (REC) Office for Regions 1, 2 and 3 as the new Outreach Program Manager. In her role, she will develop and provide outreach support for the REC office including the DoD Chesapeake Bay Program.



Ms. Parra started working for the Navy in 2009 after graduating from Georgia Institute of Technology with a BS in Civil Engineering. After a year and half of rotating through the organization as an intern, she settled in as a Remedial Project Manager (RPM). Ms Parra held the position of RPM in support of Hampton Roads Naval installations for the past five years. Working with

Virginia Department of Environmental Quality and EPA Region III, she led efforts in cleaning up sites using innovative technologies such as zero-valent iron for trichloroethylene in groundwater and electromagnetic classification of anomalies at an underwater unexploded ordnance site. Additionally, as part of a remedial action, she implemented an enhanced extended detention basin that receives 40%+ of an installation's stormwater.

When asked what she is most excited about in her new role, she said, "I am excited to partner with multiple state regulatory agencies; to provide them with a greater understanding of how DoD strives to be a lead environmental steward, while still meeting the mission of our war fighters."

DoD continues to implement requirements of the Chesapeake Bay total maximum daily load (TMDL) such as best management practices that reduce nutrient and sediment loads from

urban stormwater. "We have one of largest and most productive estuaries in our backyard. DoD is an important stakeholder and seeing their dedication to the cause is inspiring. As a parent of two young children, I want to be able to say I did what I could to provide them with a cleaner, safer, more stable world. I worked towards this goal as a RPM and will continue to in this position. I look forward to sharing DoD's environmental stewardship initiatives and programs throughout the Mid-Atlantic and Northeast regions. "

REC staff are already beginning to see the benefits of having Krista on the team and are excited to watch the development and execution of the Navy's environmental outreach program. Please send Ms. Parra, [krista.parra@navy.mil](mailto:krista.parra@navy.mil), any good news stories or information for your respective environmental program areas. Program highlights and good news stories will be used to promote the Navy's environmental stewardship activities through mechanisms such as Facebook, public portal websites, events, and other communication materials.

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# DoD Chesapeake Bay Program: Updates and Highlights

By: Sarah Diebel, DoD CBP Coordinator

## Draft 2016-2017 DoD Water Quality Programmatic and Implementation Milestones

On 10 November 2015, the DoD Chesapeake Bay Program (CBP) submitted programmatic and BMP implementation milestones to the watershed jurisdictions for review and comment. DoD CBP also conducted a federal interagency review prior to sharing with the jurisdictions. Jurisdictions responded positively to our submittals and appreciated our leadership. EPA released the programmatic milestones for a 30-day public comment on 17 November 2015. The full report can be read here: <http://executiveorder.chesapeakebay.net/post/Draft-Federal-Water-Quality-Two-Year-Milestones-for-2016-2017-Issued-for-Public-Comment.aspx>

## Executive Order 13508 FY15 Progress Report and FY16 Action Plan

Each year the DoD CBP works with other federal representatives in the development of a federal report on progress and future actions. Funding levels organized by goal from the annual datacall will be submitted, as well as, high level actions completed over the fiscal year. The report completion date has not been released.

## DoD CBP FY15 Annual Progress Report

Information collected from the annual datacall will be used to develop a more detailed report compared to the federal report. The report will provide an executive summary of the high level actions completed by DoD and the Services, funding levels for FY15 and projections for FY16, summarize specific achievements that contributed to the goals and outcomes of the EO 13508 and 2014 Chesapeake Bay Watershed Agreement, and DoD 2016-2017 two-year milestone commitments. This report will be complete in spring 2016.

## Jurisdiction BMP Verification Programs

On 14 October 2015, the DoD CBP submitted a consolidated list of comments. Replies were only received from the District of Columbia and Maryland. Maryland stated that it would improve clarity for DoD facilities. The District of Columbia rejected our request to remove the point-of-contact person and, as a result, all DoD services are now in one entry, with Sharon Baumann as the primary point of contact.

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# Recycle Your Christmas Trees at NAS Oceana

By: Krista Parra, DoD/REC Outreach Coordinator

Naval Air Station Oceana and JEB Little Creek - Ft. Story are collecting live Christmas Trees to be reused!

Recycling of live Christmas Trees free of tinsel, ornaments, and lights help rehabilitate the dunes!

2015 Christmas Tree Recycling

Where?

NAS Oceana: BLDG 78 across from the stables on Oceana Blvd.  
NASO Dam Neck Annex: BLDG 127 off of Regulus Ave., at the southeast corner of the parking lot  
thru 31 Jan 2016  
Call NASO Environmental at 433-2151 for more information.

JEB Little Creek: "E" Beach Parking Lot  
JEB Fort Story: Former Sandpiper Recreational Center (Bldg 720) Tennis Courts  
26 Dec 2015 thru 10 Jan 2016  
Call JEB Little Creek - Ft. Story Environmental 462-5361 or 373-9753 for more information.

Thank you for your support!

Every year NAS Oceana and JEB Little Creek-Fort Story collect Christmas trees to strengthen and build up the sand dunes and shoreline along their installations. Trees are stacked up to three trees high behind sand fencing and at weak spots on the beach. Over 2000 trees are needed and collected from various community sources. To donate your 2015 Christmas tree, contact NAS Oceana at (757) 433-2151 or JEB Little Creek - Fort Story at (757) 462-5361.



Jacob Barfield from the 1st Lieutenant's Department at Dam Neck positions the evergreens behind the dune fencing Jan. 9, 2013. The trees are placed with the cut ends toward the ocean, so the fuller part of the tree can collect the most sand.  
Photo credit: MC2 Antonio P. Turreto Ramos



# Fort Detrick Environmental Efforts Increase Lifespan of Landfill

By: Shannon Bishop, USAG Public Affairs

Thinking about waste doesn't create the most glorious image in your mind, but what if I told you that waste could be repurposed and reused to help the environment while also saving thousands of government dollars? Would that make it a little more interesting?

This month, after Fort Detrick secured a contract with a local transportation company, the waste products from the Waste Water Treatment Plant will be sent off post for composting. Composting sewage sludge will continue to contribute to Fort Detrick's Net Zero efforts while also reducing operating costs at the landfill and substantially increasing the life expectancy of the landfill located on Area B.

The Army Net Zero initiative aims to cut back on energy and water use and convert waste to resources.

Since 1989 Fort Detrick has been using a landfill located on Area B to dispose of sewage sludge that is the byproduct of the treatment process at the WWTP. According to Mark Lewis, water quality program manager, sewage sludge has been the largest waste component disposed of at the landfill. As a result, the life expectancy of the landfill was dramatically reduced.

"Before, the expected life span of the landfill was over 100 years," said Lewis. "Once we started using the landfill to dispose of dried sludge from the WWTP the lifespan of the landfill drastically decreased."

Sewage sludge must be 'dried' before it is disposed of in the landfill. Despite it being 'dried' the waste still has a considerable amount of moisture to it at this point in the process which means that 3x the amount of soil has to be mixed with the sludge before it can be placed in the landfill.

"All that extra soil takes up a lot of space," said Lewis. "Historically, Fort Detrick has disposed of about 680 tons of sewage sludge in our landfill each year. Now, all that sludge will be used for composting and eventually recycled back into the land somewhere."

In order to make this contract happen, considerable coordination was conducted with regulatory agencies to ensure the sewage sludge was within specific limitations allowing for the composting of the material. Lewis indicated that Fort Detrick will receive enough credit for the recycled materials to meet the annual Net Zero goals and diverting the sludge from the landfill will save the government over \$100,000 per year.

"No one is losing their jobs because of this either," Lewis continued. "Operating the landfill was considered an extra duty. Now that we have this contract in place, that manpower can be used in other places where it is needed. The process to get this contract was a long one and everyone made sure that this was a good decision all around. This is a good thing."

For more information about sewage sludge composting or waste water treatment at Fort Detrick call (301) 619-0044.



After water has been processed through the Wastewater Treatment Plant, the by-product, or "sludge," is disposed of in large dumpsters on site before being taken offsite for composting. Photo credit: Mark Lewis, Fort Detrick Environmental Management Office



# FEATURED INSTALLATION

## Fort Lee Stormwater Best Management Practice Designs

By Kevin Shao (HQDA), Dana Bradshaw (Fort Lee), and Eliza Ortiz (AEC)

The Army strives to be proactive with executing Stormwater Best Management Practices (BMPs) on Army Garrisons and facilities to ensure the Chesapeake Bay Total Maximum Daily Load (TMDL) requirements are met by conducting opportunity assessments across the board, collecting accurate land use data, inventorying existing BMPs, and identifying Areas of Interest (AOI) for pollutant reduction.



One particular example is at the Army Garrison, Fort Lee, where the next phase of the project to design BMPs is undergoing. Out of the six identified AOIs for BMP implementation, two sites AOI 15 and AOI 3 have 95% design anticipated to be complete early November 2015. Construction is anticipated to begin in December 2015. The first site is AOI 15, the parking lot of the Logistics University with 15.4 acres in impervious surface. The BMPs to be implemented at this site include porous pavement, infiltration trenches, dry swales, and grass channels. AOI 3 is a Health Center that consists of several buildings and parking areas with 12.8 acres of impervious surface. The BMPs to be implemented at this site include dry swales, perimeter sand filters, and pocket sand filters.

The pollutant reductions from these Areas of Interest are intended to meet the Virginia L2 reductions outlined in the Virginia Municipal Separate Storm Sewer System Permit and the Fort Lee TMDL Action Plan. The success of this project has evolved through coordination and regular communication with the Garrison's Master Planning, Environmental, and Engineering Divisions, along with the Construction Contractor, the Baltimore District, USAEC and the BMP Designer. Once the BMPs are constructed the BMP Designer will verify correct installation and provide future maintenance requirements and pollutant reductions to Garrison Fort Lee.



AOI 3 —Kenner Medical Center aerial view of the 12.4 acres impervious surface.  
Photo provided by Mr. Dana Bradshaw, Fort Lee

AOI 15 (below) —Fort Lee Logistics University  
The parking lot of the university encompasses 15.4 acres of impervious surface.  
Photo provided by Mr. Dana Bradshaw, Fort Lee



# DoD Chesapeake Bay Program: Updates and Highlights Continued

By: Sarah Diebel, DoD CBP Coordinator

## 2014 Chesapeake Bay Watershed Agreement, Management Strategies and Two-year Work Plans

As part of Michael Baker's current scope of work, it will be identifying specific actions and commitments that DoD CBP could provide as input to the two-year work plans. Several goal implementation teams have submitted draft work plans for additional input from other partners. DoD still does not have a complete package of the work plans from EPA, and some of the work plans are in draft form. Michael Baker will conduct an initial review of the work plans to identify any significant gaps or concerns (i.e., if DoD is committed to an action that we didn't sign up for as a participating agency). Additionally, they will do an assessment of all the FY16-FY17 projected projects in the datacall and look at applicable policy that DoD has set in place that could assist with identifying a higher-level commitment or action we can submit for specific outcomes. Support will be needed to identify points of contact for subject-matter expertise who are able to assist in the work plan review. A submittal of a draft work plan will be sent to service leads for review and concurrence.



## Goal Implementation Team, STAR and Communication Workgroup Updates

If anyone is interested in participating on a GIT or workgroup, please let the DoD CBP know. There is an increase in activity right now due to work plan development. It would be very helpful to have some additional support from the Services and Installation staffs with expertise in these areas to participate.

## Chesapeake Bay Commission Meeting Recap



The Chesapeake Bay Commission held their quarterly meeting last 5-6 November 2015 in Easton, Maryland. The Commission requested we brief them on DoD initiatives and future plans to meet the Chesapeake Bay total maximum daily load. Because of the Commission's repeated interest, we also included information on DoD's stormwater fee policy. We will be working with appropriate stakeholders to follow up on a few items from the meeting.

The rest of the meeting focused primarily on the agricultural sector, which accounts for 37% of the nitrogen, 16% of the phosphorus, and 24% of the sediment Bay-wide. Pennsylvania contributes over half of the agricultural sector's nitrogen, while Virginia contributes 16% and Maryland contributes 17%. Representatives from EPA, Virginia, Maryland and Pennsylvania provided insight into "big picture" watershed issues; agriculture demographics and economics in the watershed; and evaluations of regulatory and voluntary programs. It remains to be seen how the agricultural community embraces change related to state commitments on significant nutrient and sediment reductions from the agricultural sector. Next meeting will be held on 7-8 January 2016 in Annapolis, Maryland.

For a complete list of the Commissions' meeting schedule, past minutes and presentations, visit: <http://www.chesbay.us/meetings.htm>.

## Advisory Committee Response Letters

During the last Executive Council meeting in July, the advisory committee, which is composed of different organizations that contribute to the overarching issues within the watershed, requested that the governors host a symposium on financing for sustainable stormwater management. The DoD CBP will be following up with appropriate stakeholders to determine if this type of symposium would be of interest because it pertains to obtaining private investment for localities to implement stormwater practices. The second topic of interest for DoD discussed, "The Stakeholder Advisory Report for Watershed Implementation Plan Development for Phase III." The report provides an assessment from various stakeholders within the watershed and their experiences with Phase I and Phase II WIP development. It provides input from the jurisdictions, citizens, scientific community, and DoD. DoD is participating in an action team to help develop an action plan that outlines a specific path forward in the development of EPA Phase III WIP expectations. One of the key aspects the DoD CBP will be monitoring, includes the development of local area targets as part of the Phase III WIPs, especially since federal facilities have been given targets. Sarah Diebel will continue to follow this topic as the action plan is created and report back to the group.

If you have any questions regarding these updates, please contact the DoD CBP Office.



By: Kelly Duckworth, Michael Baker International

During the FY15 DoD Chesapeake Bay Annual datacall, installations were asked about participation in National Public Lands Day (NPLD) to obtain a grant or another source of funding for a specific project. Five installations were awarded funding for environmental stewardship projects on their installations through NPLD. Below is a description on the types of projects conducted at three of those installations using NPLD funding.

## Fort A.P. Hill - Travis Lake Historic District Building Cleanup

Fort A.P. Hill (FAPH) conducted a clean-up and repair project at three storage buildings in the Travis Lake Historic District on FAPH. The Travis Lake Historic District is listed on the Virginia Landmarks Register and is eligible for inclusion in the National Register of Historic Places. Travis Lake briefly supported winter encampments during the Civil War, and in the 1930s the lake became the focus of a recreational lodge that was constructed only a few years prior to the Army acquiring the area for the creation of FAPH. Travis Lake now serves as a recreational area and wildlife refuge, with lodging available in historic buildings and modern cabins. The project focused on cleaning and repairing three contributing structures in the Historic District which involved: trimming/removing surrounding vegetation; removing trash and debris; cleaning building interiors; repairing doors and windows; cleaning and repairing roofs and gutters; reinforcing damaged woodwork; sealing minor building penetrations with caulk; and, a brief training session on the role of the Archaeological Resources Protection Act on federal lands.



Contributing resources to the historic district. Photo credit: Fort A.P. Hill through their NPLD flyer.



Signage posted at NAS Oceana for dune rebuilding. Photo Credit: Michael Wright

## Naval Air Station Oceana - Sand Dune Restoration Planting

Naval Air Station Oceana partnered with the National Aquarium to restore sand dunes on Dam Neck Annex (DNA). Naturalized dunes provide a unique "natural" landscape training component, as well as, a visual barrier from the sea (safety/security). The dune is generally all that separates many of our land based training missions from the ocean tides and winds. Having access to both land and ocean are critical to the military mission. Without dunes, DoD would lose that unique training ability. With dune habitat diminishing at alarming rates, improving existing habitat is all the more important. This project promotes enhancing and stabilizing dunes at NASO DNA. It creates habitat for a wide variety of wildlife. Dunes provide food, shelter, and water sources to various migratory birds, pollinators and other species of special concern. Properly managed dunes can also increase nesting grounds for endangered sea turtles. Loggerhead and Kemp's ridley sea turtles nest at NASO DNA, which is their most northern nesting territory. A variety of dune enhancement and stabilization projects were completed include: planting dune habitat vegetation; repairing and installing dune fencing; and, repairing, replacing, and installing dune management area signage.

## NSA Hampton Roads Portsmouth Annex - Pollinator Project

NSA Hampton Roads Portsmouth Annex partnered with the Elizabeth River Project, a local conservation group, military and civilian volunteers to perform required maintenance to their pollinator garden. Volunteers repaired storm damage to the Arbor, weeded, and added 250 supplemental plantings of various native trees, shrubs, and perennials to attract butterflies in the Pollinator garden created at NSA Portsmouth Annex in 2014.

## Adelphi Laboratory Center

Details on the project at Adelphi Laboratory Center are forthcoming as these events were completed in the Fall of 2015.

The DoD CBP appreciates the extra effort these installations took in order to obtain funding to promote environmental stewardship projects. Any projects in support of Public Lands Day can be submitted as OSD Legacy projects. Legacy proposal submissions will be tentatively open in late spring so get your thinking caps on and stay informed through

<http://www.publiclandsday.org/>



Volunteers plant supplemental pollinator perennials at NSA Hampton Roads during their 2015 National Public Lands Day event. Photo Credit: Linda Hicks



# Green Infrastructure: An Overview of Options and Winter Maintenance

By: Christine Yott, Michael Baker International

On 3 November 2015, the United States Environmental Protection Agency hosted a webinar on winter maintenance of green infrastructure. Speakers included Tom Ballestero, Director of University of New Hampshire Stormwater Center; Brooke Asleson, Watershed Project Manager for Minnesota Pollution Control Agency; and, Matt Morreim, Assistant Street Maintenance Engineer for St. Paul, Minnesota.

## What is Green Infrastructure?

Green infrastructure is a sustainable approach to treating stormwater management. Conventional stormwater infrastructure is designed to move urban stormwater away from developed areas. In contrast, green infrastructure reduces and treats stormwater at its source while delivering environmental, social, and economic benefits. When rain falls in developed areas, it carries pollutants from our roofs, streets, and parking lots into our waterways. When rain falls in undeveloped areas, the water is absorbed and filtered by soil and plants. Green infrastructure uses vegetation, soils, and other elements and practices to restore some of the natural processes required to manage water and reduce impacts to our developments and waterbodies.

### Examples of Green Infrastructure

Some examples of green infrastructure include:

**Biofiltration** – vegetated systems designed to capture stormwater and remove pollutants through infiltration and/or vegetation uptake;

**Permeable Pavement** – pavement which allows stormwater to infiltrate into underlying soil;

**Filtration** – a variety of devices that actively or passively filter pollutants out of stormwater and are often used in conjunction with other green infrastructure;

**Green Roof** – roofs with a vegetated surface and substrate designed to reduce runoff through transpiration and evaporation and filter rainwater through media, vegetation, and geotextiles; and,

**Constructed Wetland** – manmade wetland intended to intercept runoff, reduce peak flows, decrease runoff volume, and mitigate pollution.

## Salting Roads During Winter – Balancing Public Safety with the Environment

Asleson and Morreim discussed the need to balance public safety with environmental impacts when it comes to applying salt to roads when there is winter precipitation. Heavy use of salt can impact surface water by leading to elevated levels of chloride, which harm aquatic life by disrupting the cellular process that moves water through cell membranes. To address this issue, the Twin Cities Metropolitan Area has developed a draft Chloride Management Plan and total maximum daily load (TMDL) for chloride. The Chloride Management Plan outlines how to prioritize efforts to reduce salt, implement strategies, and then track results.

## Performance of Green Infrastructure During Winter

Ballestero discussed green infrastructure’s performance during the winter months and what maintenance should be carried out to keep it functioning at its peak. First, data indicates that while some green infrastructure may freeze before surrounding soil (e.g., permeable pavement), it also thaws more quickly than other infrastructure following a rain event. Therefore, it has the ability to begin functioning properly again sooner than some conventional infrastructure. Porous pavement in particular has less snow and ice buildup than conventional pavement after it is plowed because it has the ability to soak up melted water.

## Overcoming Challenges to Maintaining Green Infrastructure

Many organizations have not yet incorporated routine maintenance of green infrastructure into their public works programs. Maintenance is not something to be conducted only when there is a failure, but should be scheduled to ensure upkeep of the system. This not only ensures that the infrastructure is working correctly, but also leads to lower lifetime maintenance cost. Public works personnel should understand that the key to maintenance is understanding the inspections and loading rates at each individual site. Some sites will need more maintenance than others if they have a high loading rate. Public works agencies should set a schedule to ensure that each individual site is inspected as often as required and build on efficiencies to save time and money.

## Maintaining Green Infrastructure for the Chesapeake Bay

Despite the fact that much of the Chesapeake Bay watershed is situated below the traditional “snow-belt,” we apply a large amount of road salt. About a third of all road salt used in the nation is applied to states in the mid-Atlantic region. Therefore, winter maintenance of green infrastructure and careful application of road salt is important not just to the most northern states, but to our Chesapeake Bay watershed as well. Taking the time to develop winter procedures for these activities will protect this important waterbody and save money by preventing more costly repairs.



Examples of Green Infrastructure. Photo Credit: EPA, *The Importance of Operation and Maintenance for the Long-Term Success of Green Infrastructure*, March 2013.



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## { CHECK IT OUT }

### CECOS Training [Available Anytime]

<http://www.netc.navy.mil/centers/csfe/cecos/>

The Naval Civil Engineer Corps Officers School Environmental Division offers several online training modules accessible via the DENIX website. These modules may be viewed at anytime convenient to you. To view these modules, you must have a DoD CAC ID card and a DENIX account.

### Advanced Analysis of BayFAST, CAST, MAST and VAST Scenario Results [ Presented on 3 December 2015 at 1300]

<https://www.bayfast.org>

The Chesapeake Bay Program hosted a webinar to show methods for analyzing scenario results. Analysis techniques showed how to identify BMPs that maximize reductions, minimize costs, and target implementation at highest loading areas. This training assumes participants have a familiarity with basic use of BayFAST, CAST, MAST or VAST. For those who are unable to attend during its regularly schedule time, or who wish to review the materials presented again, the webinar was recorded and posted to the website: <http://www.bayfast.org/Documentation.aspx>

### DoD Chesapeake Bay Action Team Meeting [ 28 January 2016 at 1000]

<https://conference.apps.mil/webconf/quarterlyCBAT>

Every quarter, the DoD Chesapeake Bay Program hosts a DoD only forum to discuss Chesapeake Bay watershed topics related to the installations. All environmental managers, water program managers, and natural resource managers are encouraged to attend.

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This newsletter is distributed via email. Contact the DoD Chesapeake Bay Program with any questions, comments, or to be added to the email distribution list (email: [sarah.diebel@navy.mil](mailto:sarah.diebel@navy.mil) or telephone: 757-341-0383).

