

# DoD Chesapeake Bay Program Welcomes Navy Environmental Resilience Program Manager

### By DoD Chesapeake Bay Program

Please welcome Joe Rieger to the Regional Environmental Coordination team as the Navy's new Environmental Resilience Program Manager for NAVFAC Mid-Atlantic. He is currently stationed at Naval Station Norfolk.

Joe grew up in Ohio and while attending Ohio University worked two summers tagging diamondback terrapins on the Patuxent River in Maryland. These early experiences molded his heightened interest in the Chesapeake Bay and love for the water.



Joe Rieger

In 2000, Joe graduated from Ohio University with an undergraduate degree in Biology and then worked for two years at Ohio State's Aquatic Ecology Lab radio-tracking saugeye fish and studying freshwater mussels. Continuing his formal education, Joe enrolled in the master's

degree program at Old Dominion University (ODU) in Virginia and worked at Naval Support Activity Hampton Roads – Northwest Annex to research tree frog reproductive behavior and how tree frogs can detect waters with predatory fish and avoid laying their eggs in those habitats. Joe received his master's degree in 2002 and then joined the environmental not-for-profit Elizabeth River Project in Norfolk, VA, where he managed the organization's restoration program and oversaw numerous on-the-ground projects. He managed the nation's first sediment remediation project lead by a nonprofit and played a pivotal role in Norfolk's Lafayette River becoming the first river in the Chesapeake Bay to be considered as fully restored for oyster habitat. After 22 years of service at the Elizabeth River Project, Joe decided to bring his environmental restoration training and expertise to the Navy.

Starting in May 2024, Joe became NAVFAC Mid-Atlantic's first dedicated position focused solely on climate resilience project implementation using natural and nature-based projects both on and off installations. He is looking forward to working with local partners and developing new and strengthening existing relationships to make Navy installations more resilient with changing climate and assure current and future Navy missions and readiness.

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# Commander's Corner: DoD CBP Gets New Leadership in Rear Admiral Carl A. Lahti

### By Kevin Du Bois, DoD CBP

Rear Admiral Wesley McCall served as Commander of Navy Region Mid-Atlantic and designated lead of the DoD Chesapeake Bay Program since May 19, 2023. We are grateful for his leadership as a member of the Chesapeake Bay Commission, for his steadfast support of the CBP, and for spearheading installation and environmental clean-ups through the Commanders' Clean-Up Challenge. Admiral McCall was succeeded by Rear Admiral Carl Lahti as the new Commander, Navy Region Mid-Atlantic on July 3rd, 2024.

Admiral Lahti is a native of Buffalo, New York. He is a 1989 graduate of the United States Naval Academy, where he received a Bachelor of Science in Systems Engineering. He holds a Master of Science in Electrical Engineering from the Naval Postgraduate School in Monterey, California and a Master of Arts in National Security and Strategic Studies from the Naval War College in Newport, Rhode Island. From 2005 to 2006, Admiral Lahti served as an associate fellow with the Chief of Naval Operations where he studied alternative energy strategies for the Navy.

His operational tours include division officer on the USS Stonewall Jackson, navigator on the USS Miami, and executive officer on the USS Dallas. He commanded the USS Nebraska in Bangor, Washington.

His shore and staff assignments include operations officer on the staff of Commander, Submarine Squadron 4; deputy commander, Submarine Development Squadron 12; and chief, Strategic Effects Division; in the Strategic Plans and Policy Directorate of the Joint Staff. Admiral Lahti also served as the 50th commanding officer of Naval Submarine Base New London; chief of staff at Navy Installations Command; director, Energy and Environmental Readiness Division, N45 OPNAV; and the 91st commandant, Naval District Washington. Admiral Lahti assumed duties as the 44th commander of Naval Forces Japan and Navy Region Japan, July 14, 2021.

His awards include the Defense Superior Service Medal, Legion of Merit, Meritorious Service Medal, Navy and Marine Corps Commendation Medal, and Navy and Marine Corps Achievement Medal, among other unit and campaign commendations.

At the DoD CBP, we look forward to working with Admiral Lahti in the strong tradition that demonstrates DoD leadership among federal agencies involved in the larger Chesapeake Bay Program Partnership.

# DoD Chesapeake Bay Spring Clean-ups and Commanding Officer Clean-up Challenge Winners

### By Angela Jones, DoD CBP

Between April 2024 and June 2024, the DoD Chesapeake Bay Program collected clean-up information from installations in the watershed. Installations in Virginia, Maryland, and the District of Columbia – including 780 volunteers from across all Services – collectively cleaned approximately 24.4 miles of land and water. They removed 17,064 pounds of trash and debris, keeping it from polluting the Bay and harming its abundant fish and wildlife.



The Fort Gregg-Adams Team is the winner of the "Commanding Officer Clean-up Challenge" for collecting the most trash (4,332 pounds) at a DoD installation in the Chesapeake Bay Watershed.



The Joint Expeditionary Base Little Creek – Fort Story Environmental Team is the winner of the "Commanding Officer Clean-up Challenge" for collecting the most pounds of trash per participant. The team collected 1,520 pounds of trash and debris for an average of 138 pounds per participant.

Efforts by both teams exemplify superior teamwork and commitment to the protection of the Chesapeake Bay at their installations. The magnitude of these efforts highlights DoD's role as a leader within the Chesapeake Bay Program Partnership and demonstrates its strong stewardship ethic in keeping with the goals and objectives of Executive Order 13508 for Protection and Restoration of the Chesapeake Bay.



# Success Story: An Ecosystem Approach to Pollution Reduction at Fort Meade Achieves Multiple Installation Goals and Saves Money!

### By Mitchell Keiler, Fort Meade, Maryland

Fort Meade has achieved cost effective MS4 permit compliance by partnering with the U.S. Fish and Wildlife Service and using a whole watershed approach to restore stream beds and banks, in-stream wetlands, and connections to adjacent floodplains. Their collaborative designs have addressed water quality requirements but have also achieved goals for the protection of natural resources while improving installation resilience by protecting mission critical assets.

### Background

Fort Meade has eight miles of streams on the installation, most of which have been channelized, armored, or modified to prioritize stormwater conveyance. As a consequence, all of its streams are listed as impaired by the Maryland Department of the Environment (MDE) and previous studies documented that the streams were suboptimal for supporting aquatic organisms. Perhaps unsurprisingly then, a 2014 U.S. Army Corps of Engineers (USACE) MS4 permit action plan for Fort Meade did not even consider stream restoration as a potential alternative for achieving pollution load reductions.

However, many local governments in Maryland had started to move toward stream restoration as a cost-effective means to achieve Total Maximum Daily Load (TMDL) nutrient and sediment credits and so, beginning in 2015, Fort Meade embarked on a new watershed approach to managing its runoff by considering stream restoration along with placing stormwater controls in headwaters. In 2018, the USACE helped Fort Meade to determine which installation stream reaches could be restored to meet TMDL criteria and this effort helped to identify restorable stream channels that had been entrenched with little opportunity to access their natural floodplains or were otherwise impaired.

Next, Fort Meade staff began to look at avenues to fund stream restoration projects and found that other installations were developing cooperative agreements with the U.S. Fish and Wildlife Service (USFWS) to provide stream restoration. Following suit in 2019, Fort Meade developed a long-term agreement with the USFWS Chesapeake Bay Ecological



Inspecting the eroded stream bed and banks prior to repair, Site UT-6



Looking upstream after restoration, Site 2



Services Field Office to prioritize stream restoration reaches and assist in conducting projects to meet multiple installation goals for ecological enhancement and MS4 stormwater permit compliance. Another important benefit of this approach was saving hundreds of thousands of dollars per MS4 impervious acre credit as compared to typical BMPs like bioretention.

### **Restoring Severn Run**

As Maryland's natural areas were converted to farms, industry, and urban development, its streams were impacted by increased pollution and habitat alteration. Erosion of stream beds and Stream channel erosion was estimated to be 400 tons per year, equivalent to 119 impervious acre treatment credits.

banks were dislodging approximately 400 tons of sediment per year and active head cuts were moving upstream threatening transportation routes critical for the Fort's mission operations.

In collaboration with the USFWS, the Severn Run watershed was identified for ecosystem restoration, in part, because it is the southernmost coastal plain stream in Maryland known to support native brook trout. The restoration concept included implementing upstream stormwater controls first, in conjunction with local high school and Maryland State Highway Administration partners.

Downstream reaches had eroded so deeply that they were no longer providing many of a stream's natural ecosystem services nor functioning properly with access to its adjoining floodplain. The project focused on stream credit Protocols 1 and 3 and called for repairing 2,800 linear feet of stream channel, filling eroded head cut areas, elevating the water table, and restoring a seepage wetland system where pools would function like in-stream vernal pools and channels would once again support water-loving vegetation.

The Fort Meade design team selected regenerative stormwater conveyance (RSC) as the preferred restoration method, filling the channel and using stone cobble weirs to function as grade controls to elevate the channel to reconnect to the



Project team, with Former Garrison Commander Col. Sapp (center)

historic floodplain. Because the public has become skeptical about tree losses as part of stream restoration projects in Maryland, the selected contractor was held to strict requirements to minimize these impacts. This project was also required to consider time-of-year restrictions to protect bat species of concern and take precautions to minimize in-water impacts to cold water fish species.

The project was built under a compressed construction schedule which was only made possible by hiring the project designer to inspect the job weekly and make any necessary real-time design adjustments to keep the project moving while protecting species of concern. All project adjustments were recorded and will be presented to MDE with final as-built plans for regulatory approval.

### **Lessons Learned**

The project was only completed recently, but even before a full assessment of success criteria, lessons learned have been documented, including:

- In developing a stream restoration plan, take the whole watershed approach, and make sure you have addressed upstream stormwater issues first before you head downstream.
- Survey your drainageways, including soil sampling, to determine and prioritize TMDL restoration opportunities.
- Understand what functional uplift your project will provide to better communicate multiple benefits, including climate resiliency, with internal management and public partners and stakeholders.
- Plan for delays; stream projects take 2–3 years to complete funding, assessment surveys, engineering, permitting, and construction.
- The client, agent, contractor, and designer should all be equal partners in quality assurance for a successful project.
- Hire local contractors with a proven work history and skilled employees.

Fort Meade has benefitted from working with its Defense community partners and USFWS design collaborators to meet multiple installation goals. The installation has embraced a whole ecosystem approach to stream restoration and has additional similar projects planned as it continues to restore the Severn Run while improving installation resilience.

### FOR MORE INFORMATION

Mitchell Keiler, Stormwater/Water Resources Program Directorate of Public Works, Fort Meade, Maryland mitchell.a.keiler2.civ@army.mil | 301-741-1324



# **Conducting BMP Inspection and Maintenance for Protection of Water Quality and Installation Readiness**

### By Janet Goldbach Ehmer, Jacobs

For stormwater professionals, managing an inventory of best management practice (BMPs) can be a daunting prospect, but it is necessary to protect water quality and prevent flooding to maintain military readiness. Executive Order 13508 calls on federal agencies to be a leader in Chesapeake Bay protection and restoration. The DoD Chesapeake Bay Program (CBP) is unique in that it annually publishes jurisdiction-specific BMP credit reports and provides them to installation, jurisdiction, and U.S. Environmental Protection Agency (EPA) staff for help in assessing BMP inventories to maximize water quality benefits.

This article provides guidance on how to use the information in the reports to determine if action is needed to maintain or regain credit, describes the different state requirements for BMP inspection and maintenance, addresses common BMP maintenance issues and how in-house resources may be used, and describes the benefits of establishing a BMP preventative maintenance program that tracks and monitors inspections and maintenance.

### BMP Credit Reports – A Useful Resource in Managing BMP Inventories

A review of credit report information should be a stormwater manager's first step in annual strategic planning to manage BMP inventories to meet Municipal Separate Storm Sewer System (MS4) permit requirements or Total Maximum Daily Load (TMDL) Federal Planning Goals. The DoD CBP creates these reports to document the status of Chesapeake Bay watershed BMPs in the jurisdictions of Maryland, Pennsylvania, Virginia, and Washington DC, where the vast majority are found. The reports summarize installation-wide metrics and provide BMPspecific information based on the Chesapeake Assessment Scenario Tool. They provide details on the status of BMPs that have received full or partial credit or have lost credit. Importantly, the reports also document the reasons for lost credit and indicate whether installation or jurisdiction corrective action is needed. Rather than implementing new BMPs. restoration of lost credit is often more cost-effective and prevents the unnecessary use of valuable land resources. Installation personnel with questions regarding use of the jurisdictionspecific BMP credit reports should contact DoD CBP staff. For more information on specific BMP requirements, installations can review summarized profiles of CBP approved BMPs in this BMP reference guide https://d18lev1ok5leia.cloudfront.net/ chesapeakebay/documents/BMP-Guide\_Full.pdf.

### **Inspection and Maintenance Requirements**

Installations may develop specific BMP inspection and maintenance plans to help maintain and/or regain credit. BMPs are required to be inspected and maintained in timeframes according to the site development stormwater management plan. While the DoD CBP does not develop credit reports for New York or West Virginia, general BMP inspection and maintenance guidance references are provided for each jurisdiction in the Chesapeake Bay watershed as follows:

Virginia: Information on stormwater management inspector training can be found at: <u>https://www.deq.virginia.gov/</u> <u>our-programs/training-certification</u>. BMP maintenance guidance is available on the Virginia Department of Environmental Quality (VDEQ) website in the Virginia Stormwater Management Handbook at <u>https://www.deq.virginia.gov/</u> <u>our-programs/water/stormwater/stormwater-construction/</u> <u>handbooks</u>. If an installation has an MS4 permit, its BMPs are required to be inspected annually unless an alternate BMP inspection schedule has been submitted as part of the installation's MS4 program plan.

Description	# of BMPs	Description	# of BMP
BMP fully credited - credit at risk in SY2024 if not inspected & reported in next year's datacall		No credit received - BMP not reported to the VADEQ BMP Warehouse	
BMP fully credited - credit not attributed to DoD		No credit received - ineligible BMP type	
BMP fully credited in error - VADEQ BMP Warehouse does not reflect a failed inspection reported in datacall		No credit received - BMP credit expired due to inspection/maintenance date	
Additional information in yellow-highlighted fields could lead to increased credit in CAST		No credit received - entry error to NEIEN	
	<u> </u>	No credit received - entry error to CAST	
		No credit received - required data missing for the state	
		No credit received - SWCGP must be closed out by	
		installation prior to import by installation to VADEQ BMP	
		Warehouse	
		No credit received - Unknown if BMP has been transferred from SWCGP database to Warehouse	

Sample table depicting BMPs at risk for losing credit or receiving no credit from a BMP Crediting Report



Maryland: The Maryland Department of the Environment (MDE) Technical Memorandum #9 for state and federal projects provides guidance on stormwater BMP inspection and maintenance schedules; see <u>https://mde.maryland.gov/</u> programs/Water/StormwaterManagementProgram/Documents/ <u>Technical%20Memorandum%20No.%209%20-%20</u> <u>Maintenance%20Schedules.pdf</u>. Installations can also reference the Maryland Stormwater Design Manual, Volume I, Chapters 3 and 5 for BMP maintenance information.

Washington D.C.: Information on conducting BMP inspections can be found at: <u>https://doee.dc.gov/sites/default/files/dc/sites/ ddoe/publication/attachments/BMP%20Construction.%20</u> <u>Inspection%20Training.pdf</u>. BMP maintenance guidance is available in the Washington D.C. Department of Energy and the Environment (DOEE)'s Stormwater Management Guide for detailed BMP maintenance and inspection information available at <u>https://doee.dc.gov/swguidebook</u>.

**Pennsylvania:** Information on conducting BMP inspections can be found at: <u>https://www.dep.pa.gov/Business/Water/</u><u>CleanWater/StormwaterMgmt/Stormwater/Pages/Training.</u> <u>aspx.</u> Installations can refer to the Pennsylvania Department of Environmental Protection's (PDEP) Stormwater Best Management Practices Manual, Chapter 6 for detailed BMP inspection and maintenance information at <u>http://www.</u> <u>depgreenport.state.pa.us/elibrary/GetFolder?FolderID=4673</u>.

West Virginia: Installations can refer to the West Virginia Department of Environmental Protection's (WVDEP) Stormwater Management and Design Guidance Manual for detailed BMP inspection and maintenance information available at <u>https://dep.wv.gov/WWE/Programs/stormwater/MS4/</u> Documents/West\_Virginia\_Stormwater\_Management\_and\_ Design\_Guidance\_Manual\_FULL\_November\_2012-v2.pdf. **New York:** Information on conducting BMP inspections can be found at <u>https://dec.ny.gov/environmental-protection/water/</u> <u>water-quality/stormwater/construction-stormwater-toolbox</u>. BMP maintenance guidance is provided in the New York State Department of Environmental Conservation (NYSDEC) Stormwater Design Manual for detailed BMP maintenance and inspection information available at <u>https://extapps.dec.</u> <u>ny.gov/fs/projects/24-25DraftCGPDesignManual/Manual.</u> SW.CGP.2024-07-31.Design\_Manual\_Issued\_2024-07-31.pdf.

According to BMP information submitted by military installations, typical structural stormwater BMPs include wet ponds, dry detention or extended detention facilities, bioretention facilities (rain gardens), filtering practices (sand filters), and infiltration basins. Common maintenance issues for these important facilities include overgrown vegetation, bank and outfall erosion, sedimentation, pipe and structure deficiencies, and trash and debris. Some maintenance issues may be addressed in-house if an installation has adequate staff resources. For example, mowing and vegetation maintenance around wet ponds, dry ponds, and bioretention facilities may be combined with other landscape maintenance occurring at the installation. Removal of obstructions and trash/yard debris at BMPs may be an activity performed by volunteers such as in a "Clean the Base Day" or other similar installation events when there are already large numbers of mobilized volunteers.

Installation staff may conduct BMP inspections in-house to evaluate the functionality and maintenance needs of BMPs. Some common criteria to determine functionality may include checking if individual components work as intended, checking the amount of sediment in the BMP, and checking



Contractor inspecting and cleaning a stormwater pretreatment chamber at Arlington National Cemetery





if any components have broken, been corroded, or weakened. Installations may opt to use support contracts for inspections if they have many BMPs with limited staff to perform the inspections or have BMPs that require specialized equipment for access.

While inspection and maintenance standards for natural and nature-based BMPs is less common, some examples of useful resources include the Virginia Stormwater BMP Clearinghouse (https://swbmp.vwrrc.vt.edu/), and Maryland Vegetation in Stormwater BMP (https://mde.maryland.gov/programs/Water/ StormwaterManagementProgram/Documents/MDE%20 Stormwater%20Vegetation%20Guidance%2011-2019.pdf).

### Planning and Tracking BMP Inspection and Maintenance Activities

Installations are encouraged to identify their BMPs in the Real Property Categorization System with appropriate Facility Analysis Categories<sup>1</sup> and set up a BMP preventative maintenance program to plan and track inspection and maintenance activities. Planning for BMP maintenance and inspection can help the installation anticipate and allot sufficient time and resources to prevent loss of BMP credit. It also helps prevent flooding, erosion, or other impacts to critical mission assets or readiness. Installations should track and record the initial inspections, follow-up maintenance actions, and re-inspection status for all of their BMPs. Installations can utilize the BMP inspection checklists provided in jurisdiction inspection and maintenance guidelines to document the inspections and describe the followup maintenance actions. An Excel spreadsheet or database with the BMP inventory (similar to the credit reports) can be used to document the inspection schedule, date of inspections, maintenance needs, and follow-up activities. An installation can select a subset of BMPs for inspection each year based on the inspection due date and prioritize BMPs that require contracting for maintenance or repairs. The follow-up maintenance requiring contracting should include a cost estimate to help in programming and competing for future sustainment funding. Tracking BMP preventative maintenance and inspection information will also make it easier to respond to future BMP datacall information requests.

# **Chesapeake Bay Action Team (CBAT) Updates**

### By Janet Goldbach Ehmer, Jacobs

Members of the Chesapeake Bay Action Team (CBAT) convened for its quarterly meeting on July 25, 2024. Members were provided with an overview and training presentation on the best management practices (BMP) and projects and indicators (P&I) datacalls.

### **Anonymous Mentimeter Poll**

The DoD CBP will use CBAT Mentimeter results to develop topics for future outreach materials and CBAT presentations to support the installations' immediate needs. Questions asked included:

- What is the hardest part about completing the BMP and P&I datacalls?
- Do you have any suggestions on how to improve the datacall process?
- What is the biggest challenge in implementing the Chesapeake Bay Program at your facility?
- What topics are you most interested in for future CBAT meeting presentations?

### **2024 Datacall Overview and Training Presentation**

Installations were provided with an overview of the procedures and expectations for installations in Fiscal Year (FY) 2024 BMP and P&I datacalls, which were released on August 1 and August 30, respectively. The 2023 BMP crediting results for each jurisdiction were shared. One of the main reasons that installations lost credit for existing BMPs was lapsed maintenance and inspections.

### Updates for the FY2024 BMP datacall:

- Submitting the acreage for street sweeping parking lots and other non-impervious acreage with curb and gutter separate from the street acreage with curb and gutter
- Washington D.C. had a template change to include a latitude/ longitude column
- Pennsylvania had a template change to include a locality column

### Updates for the FY2024 P&I datacall:

• A new category for the prevention of toxics discharge. This category includes the inspection and maintenance of aboveground and underground storage tanks.



<sup>&</sup>lt;sup>1</sup> "New Facility Analysis Category Codes Coming to Improve BMP Maintenance" DoD Chesapeake Bay Program Journal. July 09, 2020. https://www.denix.osd.mil/chesapeake/denix-files/sites/30/2020/07/ Summer-Journal\_Final\_S508-compressed.pdf

DoD/DoN Chesapeake Bay Program Office 1510 Gilbert Street Building N-26, Room 3300 Norfolk, VA 23511

# Check it Out

10/9/2024 – Readiness and Environmental Protection Integration (REPI) webinar

Air Installations Compatible Use Zone (AICUZ) and REPI Partnerships for Enhanced Land Protection

https://www.repi.mil/Resources/Webinars/ModuleID/84948/ItemID/4774/mctl/EventDetails/

### 12/11/2024 - REPI webinar

Navigating Military Readiness Through Responsible Project Execution https://www.repi.mil/Resources/Webinars/ModuleID/84948/ItemID/4775/ mctl/EventDetails/

### 9/26/2024 - SERDP-ESTCP webinar

Effects of Multiple Stressors on Marine Mammals and Terrestrial Species on DoD Lands

https://serdp-estcp.mil/events/details/7d51326a-5dc7-405f-8784-6814ee353df8/effects-of-multiple-stressors-on-marine-mammals-and-terrestrial-species-on-dod-lands

### 8/22/2024 – SERDP-ESTCP webinar

Development of Assessment Tools for Downscaled Global Climate Models

https://serdp-estcp.mil/toolsandtraining/details/8333e407-c457-4aed-a61e-8e07aae3d00a/development-of-assessment-tools-for-downscaled-globalclimate-models

### **Helpful Links**

U.S. Fish and Wildlife Service (USFWS)

Eagle Incidental and Nest Take – General Permit Standard Conditions https://www.fws.gov/library/collections/eagle-incidental-and-nest-takegeneral-permit-standard-conditions

U.S. Army Corps of Engineers (USACE) Migratory Bird Treaty Act (MBTA) Policy and Best Management Practices for Civil Works https://cw-environment.erdc.dren.mil/memos. cfm?CoP=&Code=0&Id=1727

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