DoD Chesapeake Bay Program Fiscal Year 2023 Annual Progress Report





Introduction



To Our Readers,

As Commander, Navy Region Mid-Atlantic and Lead Agent for all military services in the Chesapeake Bay Watershed, I am pleased to share this Fiscal Year (FY) 2023 Annual Progress Report for the Department of Defense (DoD) Chesapeake Bay Program (CBP).

One of the foundational values of the DoD CBP mission is partnership. We constantly seek opportunities to collaborate as a force multiplier in meeting mutually beneficial goals. This happens internally through the inter-Service coordination activities of the Chesapeake Bay Action Team and externally through our participation in numerous Chesapeake Bay Program Partnership (Partnership) Goal Implementation Teams, Workgroups, and federal agency committees and through outreach, community stewardship and land conservation. The DoD CBP also seeks collaboration on other projects that both protect military readiness and enhance military resilience while providing benefits for natural resources protection, public access and the sustainment of working lands in our adjacent defense communities. Leveraging our combined assets, the benefits achieved from collaboration demonstrate a wise use of public resources.

Executive Order (EO) 13508, for Chesapeake Bay Protection and Restoration, guides the work that we do. The following are just some of the ways we have collaborated with our partners in FY2023 to make progress toward the EO's goals and outcomes:

Water Quality: The DoD CBP is unique throughout the Partnership in that it produces best management practice (BMP) crediting reports for each applicable Bay jurisdiction. The reports help identify corrective actions each partner can take to maximize progress toward water quality goals.

Land Conservation: The Sentinel Landscapes Partnership is a coalition of federal agencies, state and local governments, and non-governmental organizations that work with willing landowners and managers to advance sustainable land management, preserve natural resources, support agricultural productivity, increase access to recreation, and enhance resilience to climate change while also strengthening military readiness. The DoD CBP has worked with the Commonwealth of Virginia, the Middle Chesapeake Sentinel Landscape, and the Pew Charitable Trust to establish two new Sentinel Landscapes in Virginia, and has used the experience gained to support the designation of a new "Kittatinny Ridge" Sentinel Landscape in Pennsylvania. The DoD CBP has also established partnerships with groups like North Carolina and Virginia Forever that work with leaders in business, environmental, agricultural and conservation organizations to help us in this work to conserve lands and waters.

Stewardship: The DoD CBP has made inroads with the Partnership's Local Government Advisory Committee and the Clean Water Coalition to highlight DoD CBP opportunities to partner to meet mutual goals. Each year, DoD installations in the watershed participate in environmental cleanup activities and their work represents a major contribution to the overall effort reported by the Chesapeake Bay Foundation. In FY2023, 963 volunteers cleaned 11.7 miles of shoreline across 17 sites, removing 11,970 pounds of trash from shorelines and waterways to protect local water quality and wildlife, and enhance the quality of life in our defense communities.

Habitat Conservation: DoD CBP staff worked with partners and provided technical expertise to develop the Coastal Wetlands Plan for the York River, Piankatank River, and Mobjack Bay. The DoD CBP has also been working with the U.S. Army Corps of Engineers' Engineering with Nature initiative and community stakeholders to develop a toolkit and preliminary design for on and off-base natural and nature-based projects to address climate resilience at Langley Air Force Base in Virginia.

As this report demonstrates, partnering with defense communities is at the very core of DoD efforts to protect and restore the Chesapeake Bay and I'm proud of the way our military personnel collaborate to sustain mission assurance while also strengthening local communities and resilient natural resources.

RDML Wesley R. McCall Commander, Navy Region Mid-Atlantic

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COVER PHOTO BY FORT WALKER. FORT WALKER ENVIRONMENTAL DEPARTMENT INSTALLED NEW TRAPEZOIDAL FENCE DESIGN TO PROTECT CULVERT INLETS FOR LONGEVITY OF ARMY INFRASTRUCTURE, PROMOTE PASSAGE OF VIRGINIA WATERS, AND CONSERVE CHESAPEAKE BAY WILDLIFE.

The Year at a Glance



The DoD CBP, in conjunction with military installations, strives to advance the goals and outcomes outlined in the 2014 Chesapeake Bay Watershed Agreement. Simultaneously, it aims to uphold the DoD's capacity for testing weapons systems, training, and operating within the watershed. During FY2023, the DoD allocated approximately \$124 million toward efforts to restore the Chesapeake Bay.

Military installations in Virginia (VA), Maryland (MD), the District of Columbia (DC), West Virginia (WV), Pennsylvania (PA), and New York (NY) continue to prioritize projects that yield co-benefits and achieve multiple Bay goals while fulfilling installation objectives that maintain military readiness. These projects also represent effective usage of federal funds.

Throughout FY2023, installations collaborated with federal, state, and local governments, as well as non-governmental organizations, to optimize available resources. Their collective efforts supported the mutual priorities of installations and the surrounding defense communities. Additionally, DoD military and civilian employees, along with their families, actively participated in 647 citizen stewardship and outreach events, surpassing the previous year's count by 262 events.

This page highlights some outcomes of DoD projects in FY2023 that promote specific targeted benefits.

FY2023 Project Funding \$124.6M | 422 projects



FY2023 by the Numbers:

To Promote Abundant Life:

20,919 additional trees planted



additional linear feet of streambank restored

additional acres protected

by the REPI program

3,31

To Increase Conserved Land:

13 installations have Readiness and Environmental Protection

and Environmental Protection Integration (REPI) partnerships

To Build Engaged Communities:

Installations held

647 citizen stewardship

events

11,970 pounds of trash picked up during DoD cleanup events

To Provide Clean Water:

257 new best management practices (BMPs) built in State Year (SY) 2023



additional impervious acres treated by BMPs built in SY2023 4,70



total BMPs implemented in the Chesapeake Bay watershed since SY1985





DoD Installations in the Chesapeake Bay Watershed

LEGEND

Air Force

- 1. Air National Guard (MD) 175 WG Warfield
- 2. Air National Guard (PA) 193d SOW Harrisburg, PA 3. Air National Guard (WV) - 167th Airlift Wing, Shepherd Field,
- Martinsburg, WV
- 4. Joint Base Andrews
- 5. Joint Base Langley-Eustis (Eustis)
- 6. Joint Base Langley-Eustis (Langley)

Army

- 7. Aberdeen Proving Ground
- 8. Adelphi Laboratory Center
- 9. Arlington National Cemetery
- 10. Army Reserve National Guard (ARNG) (D.C.)
- 11. ARNG (MD)
- 12. ARNG (PA)
- 13. ARNG (VA)
- 14. Carlisle Barracks
- 15. Fort Walker
- 16. Fort Belvoir
- 17. Fort Detrick
- 18. Fort George G. Meade 19. Fort Indiantown Gap
- 20. Fort Gregg-Adams
- 21. Joint Base Myer-Henderson Hall Fort Lesley J. McNair
- 22. Joint Base Myer-Henderson Hall Fort Lesley J. McNail
- 23. Letterkenny Army Depot
- 24. Scranton Army Ammunition Plant

★ Defense Logistics Agency (DLA)

- 25. Susquehanna Distribution Center, PA
- 26. Defense Supply Center Richmond

🖈 Marine Corps

- 27. Marine Barracks Washington
- 28. Marine Corps Base Quantico

🔺 Navy

- 29. Allegany Ballistics Laboratory
- 30. Camp Peary
- 31. Joint Base Anacostia-Bolling
- 32. Joint Expeditionary Base Little Creek-Fort Story
- 33. Naval Air Station (NAS) Oceana
- 34. NAS Patuxent River
- 35. Naval Research Lab (NRL) Headquarters
- 36. NRL Maryland detachments: (CBD, Pomonkey, BPTF)
- 37. NRL Virginia detachment: (MRC on Quantico)
- 38. Naval Support Activity (NSA) Annapolis
- 39. NSA Bethesda
- 40. NSA Hampton Roads
- 41. NSA Mechanicsburg
- 42. Norfolk Naval Shipyard
- 43. NSA South Potomac Naval Support Facility (NSF) Dahlgren
- 44. NSA South Potomac NSF Indian Head
- 45. NSA Washington Naval Observatory
- 46. NSA Washington NSF Arlington
- 47. NSA Washington NSF Carderock
- 48. NSA Washington Suitland
- 49. NSA Washington Washington Navy Yard
- 50. Naval Station Norfolk51. Naval Weapons Station Yorktown
- 51. Navai weapons Station Yorktowi 52. Olney Federal Support Center

▲ Other Installations

- 53. National Security Agency at Fort George G. Meade
- 54. Pentagon
- 55. Raven Rock Mountain Complex





29

M

VA

26

20

23

There are 64 major installations throughout the watershed that report to DoD on Chesapeake Bay restoration efforts. This map excludes several military installation annexes and five Army Readiness Division (RD) sites that are included in this number. RD facilities are located at multiple sites in New York, Pennsylvania, Virginia, and Maryland.



ndian Head pservatory



DoD remains committed to Chesapeake Bay restoration and protection through EOs 13508 and 14008, the 2014 Chesapeake Bay Watershed Agreement, its Two-Year programmatic water quality milestones, and local Municipal Separate Storm Sewer System (MS4) permits. These efforts protect the Chesapeake Bay for military readiness, our defense communities, and for future generations.

To achieve these objectives, military installations collaborate with nearby communities and non-DoD organizations by incorporating a wide range of perspectives in the pursuit of common objectives. Notable instances of partnership include the establishment of the Virginia Security Corridor Sentinel Landscape, a joint effort between the DoD and the Commonwealth of Virginia; the collaboration of the DoD, Environmental Protection Agency, and the Maryland Department of the Environment to reach a consensus on meeting MS4 requirements equating to meeting Maryland Federal Planning Goals (FPG); and the continued coordination with jurisdiction staff in DC to reconcile BMP records.

The DoD CBP also continues to focus on progress toward its Chesapeake Bay total maximum daily load (TMDL) FPGs, and contributions to the jurisdictions' Phase III Watershed Implementation Plan (WIP) pollution reduction targets. Together, these actions help DoD accelerate improvement of the Bay's water quality.

In recent years, the Partnership has expanded its primary emphasis from water quality to underscoring the significance of a multi-disciplinary approach. This shift encompasses various natural and living resource objectives. Numerous projects featured in this report, such as naturebased stormwater management solutions, fulfill not only water quality goals but also serve other installation and environmental objectives. The Partnership acknowledges co-benefits relevant to DoD projects, which are conveniently listed alongside project highlights indicated with icons on subsequent pages. The DoD has been a federal leader in the Chesapeake Bay's restoration and has garnered the support of installation leadership that has proven extremely helpful for the CBP.

This annual report features success stories from installations that demonstrate DoD's commitment to the Partnership's management strategy categories of Abundant Life, Conserved Land, Engaged Communities, Clean Water, and Climate Resilience. Projects highlighted on the following pages show how installations and their non-federal partners leverage resources to maximize shared benefits.

Project Co-Benefit Categories



- » Fish Passage
- » Stream Health
- » Submerged Aquatic Vegetation
- » Wetlands

Healthy Watersheds

- » Healthy Watersheds
- » Land Use Methods & Metrics

Sustainable Fisheries

- » Fish Habitat
- » Oysters

Water Quality

- » Bacteria Loads
- » Energy Efficiency
- » Flood Control/ Mitigation
- » Forest Buffers
- » Groundwater Recharge
- » Recreation



Carbon Sequestration



Abundant Life

The Chesapeake Bay watershed thrives with its rich ecosystems. The category "Abundant Life" represents the number and diversity of plant and wildlife communities that exist in a healthy ecosystem.

Within DoD land, military operations coexist with the flora and fauna residing within installation boundaries. The Sikes Act mandates DoD to employ Integrated Natural Resources Management Plans (INRMP) to identify and develop conservation projects that minimize disruption to military activities.

DoD projects deliver positive outcomes to oyster and fish habitat, wetlands, submerged aquatic vegetation (SAV), and urban tree canopy, with many of the Abundant Life projects providing multiple co-benefits. These projects can support INRMP goals and outcomes, promote climate resilience, sequester carbon, and be a source of TMDL credit.

In FY2023, DoD installations also monitored habitat enhancements for wildlife, managed invasive species, and conducted surveys to assess the health of key indicator plant and animal species.

These efforts contribute to the overall health of the Chesapeake Bay watershed, including water quality and stream health. The three projects highlighted on the next page demonstrate their multi-faceted benefits to the mission, to defense communities, and to their shared natural resources.

FY2023 by the Numbers:



invested in Abundant Life projects, almost triple the FY2022 investment

7 installations have updated their INRMPs to incorporate climate resilience





additional trees planted on DoD installations

3 DoD installations implemented pollinator projects





Benefiting the Bay Ecosystem through Oyster Restoration Naval Research Laboratory (NRL) – Chesapeake Bay

Detachment (MD) deployed buoyant oyster cultivation (BOC) systems as part of the Maryland Grows Oysters program. The installation receives oysters from the University of Maryland's Horn Point Laboratory. Each summer, nearly 4,000 juvenile oysters are placed in BOC cages and lowered onto the reef in the Chesapeake Bay. Grown oysters help filter water, create habitat for smaller fish species, and generate a hard surface for reef reproduction and expansion. NRL, Washington Navy Yard, Joint Base Anacostia-Bolling, and Joint Base Andrews participated in this initiative in 2023 demonstrating DoD's stewardship of the watershed's resources and helping restore the Bay ecosystem.



Management of Invasive Species

Fort Indiantown Gap's (PA) conservation unit controlled and treated invasive species, such as mile-a-minute weed, Ailanthus, Japanese barberry, and Japanese stiltgrass, which displaces native species and decrease the ability of their habitat to support fauna. With thorough research, the unit has identified chemicals (herbicide mix) that effectively treat these species. It maintains a database that is used to track their occurrences and treatments over time with the following treatment factors in consideration: sensitivity of the area, specific training needs, fauna of concern, and species threat level. A near-term recommended management action is to have an invasive species removal/eradication best management practice put in place. Invasive species management helps create a durable, safe, and realistic training environment for Army personnel and maintains resilient native ecosystems and wildlife habitat.





PHOTO BY JON-DIMITRI LAMBRINOS, FOREST PROGRAM MANAGER, DEPARTMENT OF MILITARY AND VETERAN AFFAIRS, FORT INDIANTOWN GAP (PA)

Preserving Shoreline Vegetation and Habitat

Marine Corps Base (MCB) Quantico (VA) installed two new wave attenuation structures (WAS) through the Navy Environmental Restoration Program at two Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) remediation sites that discharge into the Potomac River. The sediment and vegetation along the shorelines were slowly eroding and causing a loss of habitat. The WAS now provide enhancements in shoreline structures and wetland plants that prevent erosion and restore valuable aquatic habitat. Additionally, this work included shoreline trash collection, sand replenishment, and the planting of 130 common three-square (Schoenoplectus pungens) and 130 soft-stem bulrush (Schoenoplectus tabernaemontani) on 2-foot centers over approximately 1,040 square feet. This benefits the Chesapeake Bay by preventing the migration of pollution into the Potomac River.







Supporting Biodiversity through Pollinator Garden Installation

99th Readiness Division (RD) Maryland (MD) planted two pollinator gardens at the entrance of the 1SG Adam S. Brandt United States Army Reserve Center, which is less than 1 mile from Curtis Creek (feeding into the Chesapeake Bay). This area was previously covered with a monoculture of lawn grass. In the gardens, a diverse wildflower seed mix (e.g., black-eyed Susans and sweet alyssum) was planted to maximize pollinator habitat diversity. Several months later, a variety of flowers in different shapes, sizes, and colors were blooming and attracting monarch butterflies. The gardens also provide shelter and food resources for other native pollinators, such as bees, moths, wasps, and beetles, which all play important roles in the larger Chesapeake Bay ecosystem.





COURTESY OF MARINE CORPS BASE QUANTICO



COURTESY OF 99TH READINESS DIVISION



Conserved Land

Land conservation ensures the protection of natural and rural landscapes, along with the vital ecosystem services they provide. These services include wildlife habitat, groundwater recharge, carbon sequestration, and reduction of nutrient and sediment pollution. Additionally, preserving open spaces helps mitigate the negative impacts of encroaching development on DoD installations.

In the Chesapeake Bay watershed, 13 installations have active **Readiness and Environmental Protection Integration Program** (REPI) partnerships to prevent incompatible land uses, protect training and testing areas for military readiness, and preserve wildlife habitat and natural environments through land conservation. Additionally, the Army Compatible Use Buffer (ACUB) program facilitates agreements between Army garrisons and other non-DoD federal agencies, state and local governments, and private partners to preserve the capability, availability, and accessibility of DoD lands.

In response to climate change, conserved lands also provide space for wetland migration, along with forest and wildlife habitat adaptation. These natural areas can also absorb the impacts of storms and shield coastal installations from floodwaters and erosion.

Installations partner with municipal, state, non-DoD, and federal entities to purchase easements and conserve parcels of ecological, agricultural, or cultural significance. In FY2023, they leveraged more than \$14.7M in non-DoD funds to conserve more than 3,300 acres through the REPI Program, some within the Middle Chesapeake Sentinel Landscape.

FY2023 by the Numbers:



invested in Conserved Land projects, more than double the FY2022 investment

3,316 additional acres protected around DoD installations through the REPI program



installations funded REPI projects with climate co-benefits

49,680

cumulative acres protected through the REPI program since 2002



MAP BY THE PEWCHARITABLE TRUSTS; U.S. DEPARTMENT OF DEFENSE'S READINESS AND ENVIRONMENTAL PROTECTION INTEGRATION PROGRAM, MIDDLE CHESAPEAKE AND EASTERN NORTH CAROLINA SENTINEL LANDSCAPES

The Sentinel Landscapes (SL) in and adjacent to the Chesapeake Bay Watershed

The Middle Chesapeake SL, anchored by Naval Air Station Patuxent River, safeguards more than 5,336 acres of working lands. The Virginia Security Corridor encompasses both Potomac and Tidewater SLs. It supports 10 military installations, preventing encroachment and conserving critical habitats. Together, the four SLs, including the adjacent Eastern North Carolina SL, maintain a crucial balance between military readiness, conservation, and community well-being.





Land Preservation through Conservation Easements

Fort Walker (VA) partnered with The Conservation Fund and Virginia Outdoors Foundation to acquire conservation easements and conserve 373 acres of land on the Gouldin Farm property. The land is located approximately 2 miles from the northeastern boundary of Fort Walker and falls within Fort Walker's ACUB highest priority zone. This property is located approximately 1 mile south of a growing high density residential area and these conservation easements will greatly limit any additional encroachment in the future and protect the on-going military training mission at the installation. The acquisition also maintains undeveloped lands along the scenic Rappahannock River and directly contributes to the restoration goals of the Chesapeake Bay.



Stream

Health



Protected Lands



COURTESY OF FORT WALKER ENVIRONMENTAL STAFF

Living Shoreline and Terrapin Habitat Restoration

Recreation

The Southern Maryland Resource Conservation & Development (RC&D) Board, Inc., is constructing 4,870 linear feet of living shoreline at **NAS Patuxent River** (**MD**) to safeguard two key Navy helicopter landing zones and the habitat for the at-risk Northern Diamondback Terrapin along the Patuxent River. The construction is expected to be complete by summer 2025. The areas neighboring the installation are vulnerable to sea level rise and strong wave energy that have exposed the shoreline and accelerated erosion. In fact, about 31.5 acres have already been lost to erosion, and sea level rise is predicted to be about 18 inches within the next 30 years. This 2023 project funds naturebased solutions along 1,200 feet of shoreline and includes creating offshore breakwaters, restoring inland marsh habitat, and regrading steep cliff banks. REPI funds of \$2.4M and partner contributions of \$2.7M are being used to implement this project.



Acquiring Easements to Protect Key Parcels of Land

NSA South Potomac – Dahlgren (VA) partnered with the Virginia Outdoors Foundation and the Trust for Public Land to purchase conservation easements to preserve key parcels of land totaling 442.9 acres. The parcels located along the Potomac River corridor are critical to the long-term viability of the Potomac River Test Range. The range is a one-of-a-kind testing environment that extends more than 50 miles southeast from Dahlgren to the mouth of the river at the Chesapeake Bay. This project limits incompatible development and preserves the existing mosaic of agricultural fields, forest, and waterbodies that make up the property. It also creates buffers and green belts around installations and their ranges to slow urban sprawl while aligning with state and local land conservation goals.









PHOTO BY BRITTANY MARSHALL, NAS PATUXENT RIVER



COURTESY OF NAVFAC WASHINGTON REAL ESTATE DIVISION



Engaged Communities

Environmental education and outreach initiatives enhance understanding of environmental concerns and foster a shared commitment to revitalizing the Chesapeake Bay watershed. By involving citizens, students, active duty personnel, DoD employees and their families, and the broader military community, DoD installations encourage responsible care of their abundant natural assets. These efforts align with the citizen stewardship objectives outlined in EO 13508, the climate literacy goals of EO 14008, and relevant MS4 permit requirements.

DoD actions promote outreach, participation in citizen stewardship events, and maintenance of public access sites. Installation staff continue to encourage in-person events, but many maintain the capability to incorporate virtual events that more broadly engage and educate adjoining defense communities on environmental initiatives occurring at the base.

Within the Chesapeake Bay watershed, 21 installations provide public access sites for DoD service members, employees, families, and guests. 11 of these installations also welcome the general public. These areas offer opportunities for outdoor activities like hunting, fishing, birdwatching, biking, and hiking. Visitors can engage with abundant natural resources managed by the DoD and learn about conservation efforts.

The following page highlights three examples of how DoD promotes environmental stewardship and climate literacy and meets the goals of EO 13508 and 14008.

FY2023 by the Numbers:

invested in Engaged Communities projects

647



13

installations received environmental awards

volunteers at citizen stewardship events

new citizen stewardship events

404

total public access sites open to DoD service members, employees, their families, and other approved visitors





Student Engagement on DoD Environmental Careers

Naval Support Activity (NSA) Hampton Roads and DoD CBP discussed Navy environmental work and careers with 50 students from Virginia Beach Public Schools in the Environmental Studies Program at the Chesapeake Bay Foundation's Brock Environmental Center. The Environmental Studies Program empowers 11th and 12th grade students with broadening their understanding of sustainability through environmental service projects; use of the natural community; interdisciplinary instruction; and challenge-based, collaborative thinking and learning. The DoD CBP strives to continue meeting the environmental literacy goal of the Chesapeake Bay Watershed Agreement by enabling students to gain knowledge needed to act responsibly to protect and restore their local watershed.

Engaged Communities



Educational Event for Students and Veteran Families

Naval Air Station (NAS) Oceana (VA) along with the DoD CBP, hosted a Science, Technology, Engineering, and Mathematics (STEM) event at the NAS Oceana Air Show in September 2023. More than 6,000 5th-grade students from the cities of Chesapeake and Virginia Beach, along with civilians and veteran families, attended. The event provided static environmental literature and interactive exhibits that highlighted the importance of recycling and proper waste disposal. Also, through a hands-on watershed model called an Enviroscape, students discovered how different land uses, including residential, industrial, and agricultural activities, can contribute to stormwater pollution. The contributing teams look forward to continuing this engagement in 2024.



Keeping DoD Installations Clean

Joint Base Myer – Henderson Hall – Fort Lesley J. McNair (VA) held two base-wide cleanup events in SY2023 (September 2022 and April 2023). The semi-annual cleanup efforts are installation-wide and include the outside areas within 50 feet of buildings, barracks, and commercial spaces to remove unserviceable equipment using recycling locations when possible, and dispose hazardous materials, trash, and debris from around the installation. Each 5-day event engaged enlisted personnel, civilian employees, and residents of the installation who represented all directorates, supporting units, and partners who cleaned up the areas around their buildings and pre-assigned designated areas. In September 2022, 100 pounds of hazardous waste and 50 pounds of non-hazardous waste was removed from the installation. In April 2023, 50 pounds of hazardous waste and 15 pounds of non-hazardous waste was removed.







Fostering Healthier Ecosystems with Pollinator Gardens

Marine Corps Base Quantico (VA) along with the Quantico Gardening Club, Conservation Volunteer Program, Single Marine Program, and Quantico High School JROTC, held an environmental educational event for local students on-base. The students helped install a rain garden with pollinator plants and learned how the garden will help meet the installation's MS4 requirements and create a healthier Chesapeake Bay. Native species such as stonecrop sedum, common black-eyed Susan, and purple coneflower were planted. These gardens create homes for crucial pollinators such as bees and butterflies and demonstrate how practices that support pollinators align with Quantico's environmental objectives by nurturing a healthier and more sustainable ecosystem.











Biodiversity & Habitat



PHOTO BY KEVIN DU BOIS, DOD CBF



PHOTO BY TONY TAYLOR, JOINT BASE MYER-HENDERSON HALL-FORT MCNAIR



PHOTO BY MAJOR TYSON METLEN, NATURAL RESOURCES AND ENVIRONMENTAL AFFAIRS (NREA) BRANCH DEPUTY





The Partnership has consistently emphasized the importance of enhancing water guality to achieve the broader objective of restoring living resources. Consequently, minimizing nutrient, sediment, and contaminant levels is crucial for the well-being of healthy watersheds and Chesapeake Bay ecosystems. In alignment with the goals outlined in EO 13508, DoD establishes targets and monitors progress toward reducing pollutant loads from stormwater and wastewater sources. Various installations implement stormwater BMPs to mitigate nutrient and sediment loads from nonpoint sources like buildings, roadways, and managed turf. Additionally, DoD operates eight significant wastewater treatment plants that have undergone enhancements to substantially decrease pollutant loads.

DoD uses BMPs to support stormwater pollution prevention and the Chesapeake Bay jurisdictions in their Phase **III** Watershed Implementation Plan efforts. These practices utilize nature-based features to achieve dual benefits: promoting climate resilience and carbon sequestration. By mitigating the impact of climate change on BMP effectiveness, these projects safeguard military assets and infrastructure, ensuring mission readiness and fulfilling DoD's obligations to MS4 permits and the Chesapeake Bay TMDL.

The projects highlighted on the next page demonstrate some of the many ways DoD-implemented projects improve water quality in the Chesapeake Bay watershed.

FY2023 by the Numbers:



\$65.7M invested in Clean Water projects



4,565

linear feet of new shoreline and streambank restored

505 acres of new impervious surface treated by BMPs built in SY2023





new BMPs constructed in SY2023



Managing Stormwater Runoff by Reducing Contamination

NSA Washington – Naval Observatory (DC) worked toward improving the quality of installation-produced stormwater runoff by constructing two bioretention facilities that cover a total area of about 7,800 square feet. This project supports Chesapeake Bay restoration by filtering contaminants/nutrients from the stormwater that could directly drain into the Bay. It also ensures that the quantity of stormwater released into the watershed and the stormwater's flow direction are controlled, which helps prevent structural damage to the infrastructure at the installation that could negatively impact military readiness and safety.

Clean Water



Eco-Friendly Transformation with a Dry Detention Pond

Joint Expeditionary Base Little Creek-Fort Story (VA) initiated construction of a dry detention pond in an unutilized open field to treat approximately one acre of impervious land including a combat support facility. The 0.4-acre pond was built in the center of the base and will also treat runoff from the adjacent golf course. Virginia Department of Environmental Quality Stormwater Design Specifications were used to design the pond and provide guidelines for vegetation management. Floating, submerged, and emergent aquatic vegetation will work in concert to remove nutrients and sediment in the base's stormwater runoff. In addition to water quality management, the pond was designed to mitigate the potential for flooding that could impact critical assets or impede mission operations.



Enhancing Water Quality through Innovative Stormwater Treatment Technology

Fort Belvoir (VA), in partnership with Aerospace Data Facility – East (ADF-E), installed three dry detention ponds and three proprietary stormwater treatment devices (jellyfish filter systems), also known as manufactured treatment devices. Together, the efforts of the ADF-E-funded project treated 3.65 acres of impervious land. This system removes floatables, oils, total suspended solids, and particulate-bound pollutants like phosphorous, nitrogen, metals, and hydrocarbons, which in essence pretreats stormwater runoff prior to flowing into the dry detention ponds. The dry detention ponds provide further treatment by allowing particles and pollutants to settle and by reducing peak flow rates. This initiative contributes to the improvement of the Chesapeake Bay's water quality and restoration of its ecosystem.



Ecosystem Enhancement and Improved Stormwater Treatment

Joint Base Langley-Eustis (Eustis) (VA) converted 3.4 acres of turf land to a mixed-use open land consisting of native wildflower/grass blends and fire tolerant long leaf pine and hardwood species. The project included ten locations, 21 sites total, throughout the installation where old infrastructure was removed, fallow land occurred, or training areas were no longer in use. Turf areas were being routinely mowed, were unused, or were not maintained, and invasive species were becoming dominant. After full restoration, these sites now serve as valuable greenspace, and provide erosion/runoff control that improves water quality. The restored sites also include non-water quality benefits such as: realistic military training, bird/ wildlife watching, monarch butterfly conservation, and other outdoor recreational activities.









PHOTO BY DELMETRIA TAYLOR, JOINT BASE LITTLE CREEK - FORT STORY



ILLUSTRATION BY CONTECH ENGINEERED SOLUTIONS



PHOTO BY MATTHEW MOORE, JOINT BASE LANGLEY-EUSTIS (EUSTIS)



DoD's Climate Action Plans, as defined by EO 14008, outline considerations for implementing climate resiliency goals. The considerations include defining climate adaptation strategies and setting numeric goals, such as the Navy's Climate Action 2030 plan. This plan calls for the Navy to drawdown an additional 5 million metric tons of carbon dioxide equivalents per year by 2027. The plan proposes accomplishing this goal through nature-based solutions, while preserving operational capabilities and supporting mission assurance. Some of the practices that improve water quality or habitat through DoD's Chesapeake Bay Program efforts also have potential to sequester carbon, and thus contribute to progress on DoD's climate resiliency goals.

As an initiative to track carbon sequestration associated with water quality and conservation projects in the Chesapeake Bay watershed, DoD is developing a carbon sequestration calculator tool. It will use the data provided by installations in the Bay watershed through annual datacalls and estimate their value in meeting the carbon sequestration goals of DoD climate adaptation plans. This effort started with a literature review of carbon sequestration rates associated with various water guality and conservation practices. Next steps include developing a calculation methodology based on the findings of that literature review, followed by development of a tool that will calculate carbon sequestered. An accompanying guidance document is being developed to help DoD facilities make installation-specific calculations of carbon sequestered using past and future reported data in DoD's annual datacalls.

FY2023 by the Numbers:

4,4 total implemented BMPs with climate resilience co-benefits since 1997



169 progress BMPs implemented with climate resilience co-benefits



\$20.5M invested in BMPs with climate resilience co-benefits that were built in SY2023





invested in BMPs with the future



PHOTO BY JACKIE ROBERTS, DLA

Tree planting to sequester carbon

In FY23, Defense Supply Center Richmond (DSCR) planted 50 trees native to Virginia across the installation. Since 2020, DSCR has planted more than 200 trees that remove 1.763 pounds of air contaminants like ozone, carbon dioxide, and particulate matter. One of the tree types at the installation, white oak, provides superior carbon sequestration ability.





DoD remains focused on the endpoint of the Chesapeake Bay TMDL in 2025 and beyond as an active participant in the Partnership and through discussions on the future of Chesapeake Bay restoration. In FY2024, the DoD CBP will build on the work described in this Annual Report with the following actions:

- Attempt to clarify nutrient credit trading protocols following participation authorization in the FY2023 National Defense Authorization Act.
- Advance efforts in the designated Virginia Security Corridor and proposed Kittatinny Ridge Sentinel Landscapes to implement projects with water quality, natural resources, and climate resilience co-benefits.
- Renew commitments to meet Bay-wide water quality Federal Planning Goals. Encourage an acceleration of the number and tempo of BMP implementations, looking towards and beyond the 2025 TMDL deadline.
- Plan for and adapt to load reductions related to the impacts of any jurisdictional climate allocations and the impacts of climate trends on BMP effectiveness.
- Continue to support installation efforts to fund BMP maintenance and implement multi-benefit projects.



The Environmental Division office at Letterkenny Army Depot planted native shrubs to increase wildlife habitat and plant biodiversity consistent with its Integrated Natural Resource Management Plan (INRMP) and Sikes Act responsibilities and support Executive Order 13508 to restore and protect the Chesapeake Bay. The focus was on the reintroduction of the northern bobwhite quail whose population has seen a sharp decline throughout the past half-century and they are an increasingly high priority for conservation. (Left) Early successional stages of vegetation, consisting of tall native grasses, meadows and brush, are prime habitable conditions for the bobwhite. However, advances in agricultural production, including the use of herbicides, stripped the landscape of necessary vegetation for quail to survive. (Right) Col. Donald Santillo, commander, Letterkenny Army Depot, and Lt. Col. Kimberly Deaton, commander, Letterkenny Munitions Center, release a covey of quail in the Bobwhite Quail Focus Area at the installation. Photo Caption Credits: Letterkenny Army Depot, Environmental Division



DoD Chesapeake Bay Program

Fiscal Year 2023 DoD Chesapeake Bay Program Annual Progress Report



Acknowledgments

This report would not have been possible without the concerted efforts of a myriad of dedicated and motivated people who work every day to improve the quality of the environment throughout the Chesapeake Bay and its watershed, particularly the environmental staff of the DoD Chesapeake Bay installations. The activities that take place at the various DoD installations are generally not visible to the public and normally occur without fanfare. This report and its highlights are intended to demonstrate the many great accomplishments by DoD personnel and provide context to the scope and breadth of activities occurring within one of the largest landholders in the watershed.

> The DoD CBP is jointly managed by the Commander, Navy Region Mid-Atlantic, Deputy Assistant Secretary of the Navy for Environment and Mission Readiness, and the Regional Environmental Coordination office.