

# DoD Chesapeake Bay Program

## Fiscal Year 2022 Annual Progress Report





# Introduction



## To Our Readers,

As Commander, Navy Region Mid-Atlantic (CNRMA) and the Lead Agent for all military services in the Chesapeake Bay watershed, it is my pleasure to present the Fiscal Year (FY) 2022 Annual Progress Report for the Department of Defense (DoD)

Chesapeake Bay Program (CBP).

At the core of the DoD CBP mission are the principles of integration, partnership, and engagement. In FY2022, the DoD continued to incorporate these principles into its daily work and activities. We **integrate** climate resilience by prioritizing projects with co-benefits, particularly those that enhance natural resources, water quality, and carbon sequestration. Projects like the Naval Support Activity Annapolis Military Installation Resilience Study highlight DoD’s efforts to prepare for the effects of climate change. Other major installations within the Chesapeake Bay watershed also addressed climate impacts with updates to their Integrated Natural Resource Management Plans to identify projects that enhance climate resilience. More broadly, DoD’s 2022-2023 Two-Year Water Quality Programmatic Milestones include initiatives aligned with the DoD Climate Action Plan to address and mitigate climate impacts across the Chesapeake Bay watershed.

In my role as CNRMA, I served as the DoD’s representative to the Chesapeake Bay Commission as a **partner** with other key Chesapeake Bay stakeholders. I also hosted the 2022 Chesapeake Bay Commanders’ Conference where commanding officers and environmental staff were given the opportunity to collaborate with jurisdiction and non-governmental partners on shared topics of interest, such as cooperative community planning efforts and the REPI and Sentinel Landscapes programs. These collaborative efforts exemplify the importance of partnerships to protect natural landscapes and maintain military readiness.

In FY2022, the DoD CBP continued to use the Chesapeake Bay Action Team, quarterly Journals, fact sheets, and this Annual Progress Report to **engage** DoD staff and facilitate cross-Service communication on Total Maximum Daily Load progress, new technical guidance to further environmental and climate literacy goals, and installation success stories. DoD staff also continue to participate in and hold leadership positions in CBP Partnership workgroups and committees.

As the contents of this report will demonstrate, DoD takes its responsibilities to Chesapeake Bay restoration seriously and recognizes the key role of relationships in attaining these goals efficiently at the installation and watershed level.

Rear Admiral Christopher Gray

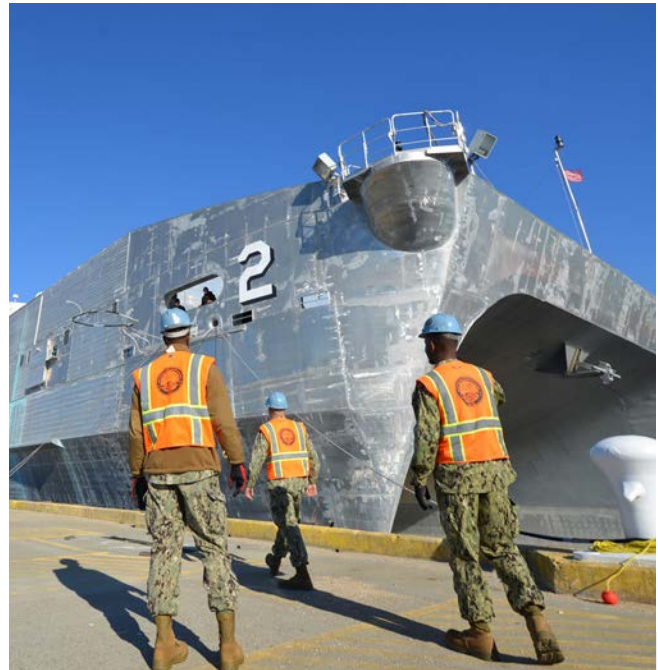


PHOTO BY EDWARD KESSLER

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COVER PHOTO BY JOINT BASE ANACOSTIA BOLLING. WING COMMANDER COL CATHERINE LOGAN RELEASES A FRESHWATER MUSSEL INTO THE ANACOSTIA RIVER TO IMPROVE WATER QUALITY.



The Department of Defense CBP and military installations focus on advancing the goals and outcomes of the 2014 Chesapeake Bay Watershed Agreement while preserving the DoD's ability to test weapon systems, train, and operate in the watershed. In FY2022, DoD invested approximately \$62.3 million (M) in 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 provide co-benefits to achieve multiple Bay goals, meet installation objectives that maintain military readiness, and are an effective use of federal funds.

In FY2022, installations leveraged partnerships with federal, state, and local governments and non-governmental organizations to optimize use of all available resources to support the mutual priorities of installations and their surrounding defense communities. Additionally, DoD military and civilian employees and their families took a hands-on approach to Bay restoration, volunteering their time to participate in 385 citizen stewardship and outreach events, 51 more than in FY2021.

This page highlights some outcomes of DoD projects in FY2022 that promote specific targeted benefits.

## FY2022 by the Numbers:

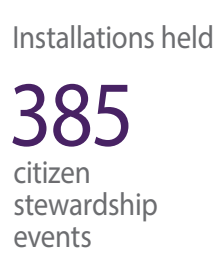
To Promote Abundant Life:



To Increase Conserved Land:



To Build Engaged Communities:

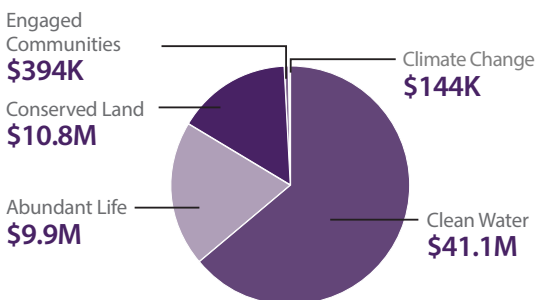


To Provide Clean Water:



## FY2022 Project Funding

**\$62.3M | 285 projects**





# DoD Footprint 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 A.P. Hill
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 McNair
22. Joint Base Myer-Henderson Hall - Fort Myer / Henderson Hall
23. Letterkenny Army Depot
24. Scranton Army Ammunition Plant

### Defense Logistics Agency (DLA)

25. Defense Depot Susquehanna Pennsylvania
26. Defense Supply Center Richmond

### Marine Corps

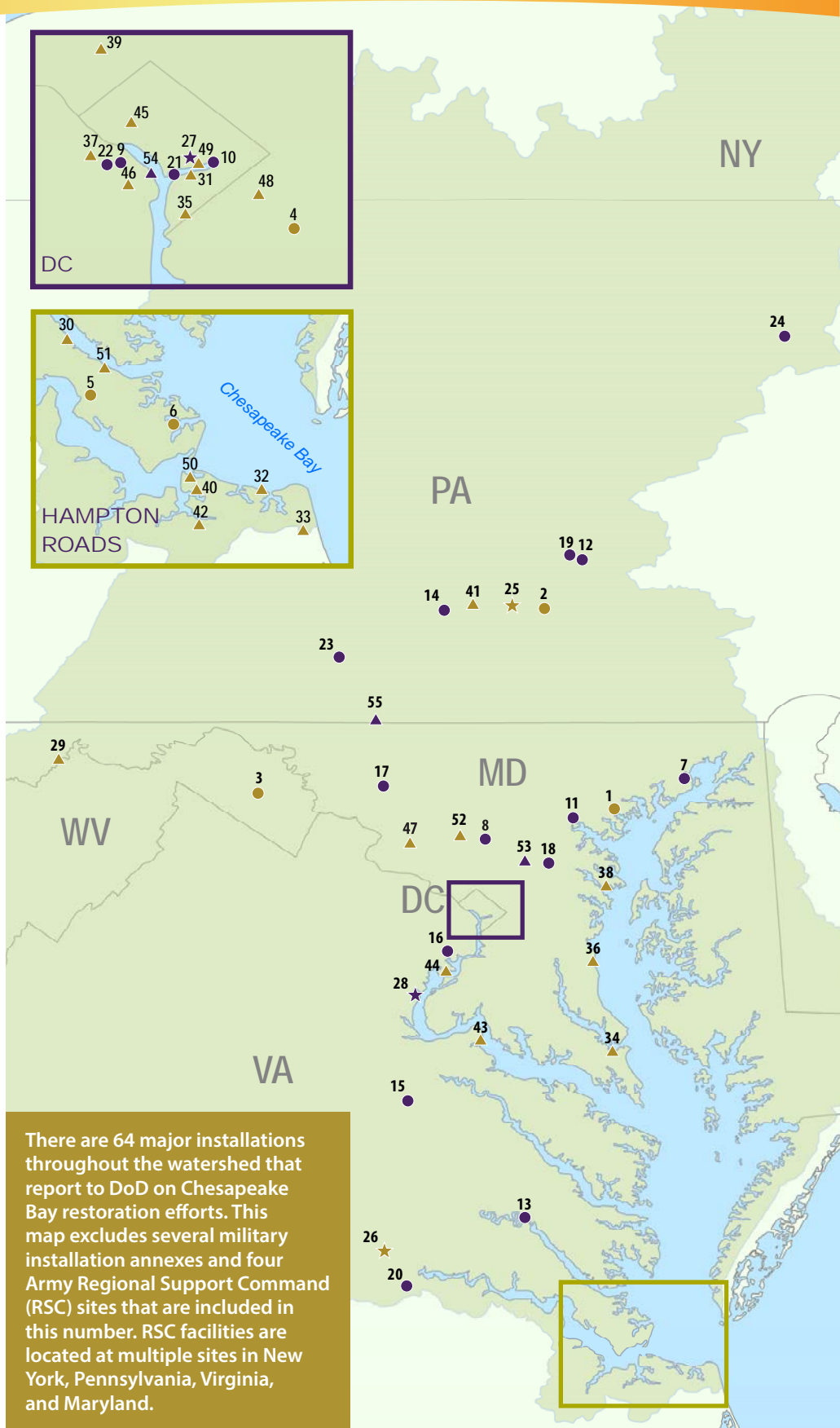
27. Marine Barracks Washington
28. U.S. Marine Corps Base Quantico

### Navy

29. Allegany Ballistics Laboratory
30. Camp Peary
31. Joint Base Anacostia-Bolling
32. Joint 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 Norfolk
51. Naval Weapons Station Yorktown
52. Olney Federal Support Center

### Other Installations

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



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 four Army Regional Support Command (RSC) sites that are included in this number. RSC facilities are located at multiple sites in New York, Pennsylvania, Virginia, and Maryland.



**DoD remains committed to Chesapeake Bay restoration and protection through Executive Orders (EO) 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 Bay for military readiness, our defense communities, and for future generations.**

To accomplish these objectives, installations collaborate with neighboring communities and non-DoD entities, engaging diverse perspectives to pursue shared goals. Key examples of partnership include DoD's ongoing work with the Commonwealth of Virginia to create the Virginia Security Corridor Sentinel Landscape. Additionally, Joint Base Langley-Eustis (JBLE) Langley and Aberdeen Proving Grounds (APG) have partnered with the U.S. Army Corps of Engineers (USACE) through its Engineering with Nature (EWN<sup>®</sup>) initiative to plan for projects that can deliver multiple benefits through shoreline protection and natural resource enhancement.

The DoD CBP also continues to focus on progress toward its Chesapeake Bay Total Maximum Daily Load (TMDL) Federal Planning Goals (FPGs), and contributions to the jurisdictions' Phase III Watershed Implementation Plan (WIP) pollution reduction targets. Together, these actions help DoD accelerate the Bay's water quality improvement. In recent years, the Chesapeake Bay Program Partnership (Partnership) has broadened its primary focus on water quality to re-emphasize the value of a multi-disciplined approach including a range of natural and living resource objectives. Many of the projects highlighted in this report, including nature-based stormwater management solutions, meet multiple installation and environmental objectives in addition to water quality. Co-benefits recognized by the Partnership and applicable to DoD projects are listed to the right and indicated with icons attached to the project highlights on the following pages.

This annual report features success stories from installations that demonstrate DoD's commitment to the Partnership's management strategy categories: 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



### Habitat

- » Biodiversity & Habitat
- » 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



### Climate Resilience



### Citizen Stewardship



### Protected Lands



# Abundant Life

Ecosystems rich with abundant life are the cornerstone of the Chesapeake Bay watershed. The phrase “Abundant Life” represents the number and diversity of plant and wildlife communities that exist in a healthy ecosystem.

On DoD land, military operations coexist with the flora and fauna found within the installation fenceline. The Sikes Act requires that DoD utilize Integrated Natural Resources Management Plans (INRMPs) to identify and develop projects for the conservation of natural resources with limited disruption of military activities. Projects focused on tracking and monitoring submerged aquatic vegetation (SAV) and restoring forests, riparian buffers, and wetlands support the goals and outcomes of INRMPs, promote climate resilience, sequester carbon, and provide TMDL credit. In FY2022, 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.

## FY2022 by the Numbers:



**\$9.9M**

invested in Abundant Life projects, almost double the FY2021 investment

**18**

installations updated INRMPs to incorporate climate resilience



**6,999**

additional trees planted at DoD installations

**4**

new oyster projects for reef restoration in waters at and around installations



PHOTO BY US NAVY

### 2022 REPI Challenge Award Supports Shoreline Restoration

Each year, REPI Challenge funds are awarded to innovative projects that preserve or enhance military readiness and key mission capabilities of the DoD. In FY2022, **NAS Patuxent River (MD)** received a REPI Challenge award of \$2.7M to install a living shoreline to restore 2,000 linear feet of eroding shoreline to mitigate climate impacts to strategic Navy testing and training operations while also protecting northern diamondback terrapin nesting habitat. An additional \$644K in REPI funds extended this effort to protect an additional 1,070 linear feet of adjacent shoreline. REPI Challenge funds were leveraged by \$14.8M in partner and other military Service contributions.



## Monitoring Bluebird, Duck, and Osprey Nesting Sites

**Naval Support Facility (NSF) Dahlgren (VA)** staff monitored and maintained a network of over 120 bird boxes and nests to determine nesting success and identify high-quality nesting habitats for eastern bluebirds, wood ducks, and ospreys. The network includes 45 bluebird boxes installed in 1988, 25 wood duck boxes installed in 2015, and approximately 51 osprey nests, many of which are located on platforms constructed in the 1990s. This monitoring effort supports the health and success of these important bird species, as well as other local species that also utilize the boxes. The results of migratory bird nesting efforts on Dahlgren are shared with Cornell Lab of Ornithology's NestWatch, Maryland Wood Duck Initiative, and the Center for Conservation Biology's Project OspreyWatch.



Biodiversity & Habitat



Healthy Watersheds



PHOTO BY ANDREW REVELOS, NSF DAHLGREN

## Surveying Invasive Reed Grasses

**Joint Base Andrews (JBA) (MD)** oversaw a project to survey newly emergent phragmites stems as part of a multi-year effort to manage this fast-growing invasive plant that can overwhelm natural wetland areas. Location information will be used to perform ground-based and aerial applications of herbicides to proactively treat newly emergent phragmites stems in spring 2023. The project is designed to improve natural biodiversity and ecosystem functions, reduce Bird Aircraft Strike Hazards (BASH), and prevent phragmites spread to the airfield and offsite which would negatively impact tributaries of the Chesapeake Bay.



Biodiversity & Habitat



Wetlands



Healthy Watersheds



PHOTO BY STEPHEN MALLETT, RESOURCE MANAGEMENT ASSOCIATES

## Updating the Invasive Species Management Plan (ISMP)

**99th Readiness Division (RD) West Virginia (WV)** updated the ISMPs for Martinsburg US Army Reserve Center (USARC) and Romney USARC in FY2022. Overgrown invasive species can negatively impact soldiers' ability to train at 99th RD facilities and encroach upon the habitats of native plant and animals that support pollinators and filter stormwater runoff. The ISMP identifies sites where a more focused grounds maintenance approach is required. The plan documents invasive species found and likely to be found at the facility and management methods and actions to control each species. At Martinsburg USARC, the most common invasive species are the Multiflora Rose and Tree of Heaven. At Romney USARC, Autumn Olive and Tree of Heaven are most prevalent. The picture on the right shows the invasive Porcelain Berry Tree found at Martinsburg USARC.



Biodiversity & Habitat



Healthy Watersheds



PHOTO BY US ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT



# Conserved Land

Land conservation preserves natural and rural landscapes and the ecosystem services they provide, such as wildlife habitat, groundwater recharge, and nutrient/sediment pollution reduction. Conserving open space also reduces the negative impacts of encroaching development on DoD installations.

Thirteen installations in the Chesapeake Bay watershed have active 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, shielding coastal installations from floodwaters and erosion.

Installations frequently partner with municipal, state, non-DoD, and other federal organizations to purchase and conserve parcels of ecological, agricultural, or cultural significance. In FY2022, installations in the Chesapeake Bay watershed leveraged over \$15.4M in non-DoD funds to conserve over 2,900 acres through the REPI Program, some within the Middle Chesapeake Sentinel Landscape.

## FY2022 by the Numbers:



# \$10.8M

invested in Conserved Land projects

# 2,922

additional acres protected around DoD installations through the REPI program



# 4

installations funded REPI projects with climate co-benefits



# 48,017

cumulative acres protected through the REPI program

## Ongoing Efforts to Create the Virginia Security Corridor Sentinel Landscape

DoD has partnered with the Commonwealth of Virginia to create a Sentinel Landscape in the eastern half of the state. Based on comments received when the Sentinel Landscape was first proposed in 2021, the Commonwealth has revised the boundary of the proposed landscape area and plans to resubmit for designation in FY2023.

A Virginia Security Corridor Sentinel Landscape would serve as an important bridge between the Eastern North Carolina and Middle Chesapeake Sentinel Landscapes. The designation would also leverage federal and state funding and technical resources to assist private landowners to implement projects that conserve working lands, protect threatened and endangered species, provide public access, and support military readiness.



PHOTO BY LANDON WEBB, FORT A.P. HILL





## Preserving Land to Protect Water Resources

**Defense Supply Center Richmond (DSCR) (VA)** preserved a 29-acre parcel in FY2022. The site is located near the southeastern boundary of DSCR and north of Kingsland Creek, a tributary of James River. A portion of the area was recognized as an emerging wetland following a Surface Water Delineation Report in 2021. Additionally, a base-wide stormwater infrastructure project prompted the installation to evaluate the quality and quantity of stormwater discharged from the site. The parcel also contains a Superfund site and DSCR continues to treat and monitor pollutant levels to mitigate contamination effects in the area. This land conservation project helps DSCR protect Virginia's critical water resources and provides habitat for a range of flora and fauna.



PHOTO BY ADAM BERRY, DLA

## Supporting the Mission through Land Conservation

Leveraging REPI, Navy, and non-DoD funds, **NAS Patuxent River (MD)** partnered with local land trusts (the Eastern Shore Land Conservancy, Patuxent Tidewater Land Trust, Southern Maryland Resource Conservation and Development and The Conservation Fund) and other partners to protect 1,075 acres beneath the Navy's special use airspace in the Middle Chesapeake Sentinel Landscape. The purchase of nine parcel easements will prevent incompatible development that could interfere with installation operations and preserves a landscape significant to the life of the American abolitionist, Harriet Tubman. With the addition of this land, NAS Patuxent River and the Atlantic Test Ranges have protected a total of 13,119 acres through the REPI program. The \$1.9M in REPI funds was used to purchase easements on the nine parcels, with an additional \$1.5M allocated in FY2022 for future conservation projects in Virginia, for a total of \$3.4M.



PHOTO BY BRITTANY MARSHALL, NAS PATUXENT RIVER

## Acquiring Easements on Historic Properties

**Naval Weapons Station Yorktown (VA)** partnered with the American Battlefield Trust (ABT) to acquire 245 acres of land and associated easements to preserve land with historic ties to the Civil and Revolutionary Wars. ABT owns the purchased parcels and the Navy recorded easements to sustain Navy and Marine training requirements by preventing incompatible development adjacent to the installation. Grant funding for the purchase was provided by a National Park Service American Battlefield Protection Program Grant for \$4.6M, the largest awarded to date. An additional \$2.8M from the REPI Program and grant funds from the Virginia Battlefield Preservation Fund and the Virginia Land Conservancy Foundation also contributed to the purchase.



PHOTO BY ABT



# Engaged Communities

Environmental education and outreach activities improve environmental literacy and inspire a solidarity of purpose and action to restore the Chesapeake Bay watershed. By engaging citizens, students, active-duty personnel, DoD employees, their families, and the extended military community, installations promote active stewardship of its natural resources. Their activities support the citizen stewardship goals of EO 13508, climate literacy goals of EO 14008, and MS4 permit requirements.

Each year, DoD installations promote outreach, participation in stewardship events, and maintenance of public access sites. In FY2022, most installations have returned to in-person activities, but many maintain the capability to facilitate virtual events to engage more collaboratively with diverse stakeholders from the DoD workforce and other partners.

In addition to environmental education and beautification events, many installations provide opportunities for outdoor recreation like hunting, fishing, birdwatching, biking, and hiking. In the Chesapeake Bay watershed, 21 installations have public access sites open to DoD service members, employees, their families, and guests. Of those, nine installations have sites open to the general public. These areas allow visitors to connect with DoD's abundant natural resources and, in some cases, learn about the local environment and DoD's stewardship efforts.

The next page highlights examples of how DoD promotes environmental stewardship and climate literacy.

## FY2022 by the Numbers:



**\$394k** invested in Engaged Communities projects

**385**

new citizen stewardship events



**2,381**

volunteers at citizen stewardship events

**205**

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



PHOTO BY JBAB PUBLIC AFFAIRS

### MCB Quantico Educates the Next Generation at Kids' Fest

**US Marine Corps Base (MCB) Quantico (VA)** hosted a Kids' Fest as part of the base's FY2022 Spring Fest activities; children of service members participated in educational crafts with an environmental focus and field games. Natural Resources and Environmental Affairs personnel staffed displays and informational tables to share information about pollution prevention and stormwater awareness with children, parents, and MCB Quantico personnel.



## Educating the Public About DoD's Environmental Mission

**Fort Gregg-Adams (formerly Fort Lee) (VA)** hosted its first “Meet Your Army” event on 27 August 2022 to share information about the activities at Fort Gregg-Adams with the public and others in the non-DoD community. Exhibits featured tactical vehicles, helicopters, weapon systems, culinary equipment, and other field essentials. Personnel from the Environmental Management Division staffed a table to highlight how their work supports the Fort Gregg-Adams mission. Two representatives discussed wildlife management, stormwater compliance, petroleum spill response, and recycling activities with attendees. In total, several hundred people attended what Major General Mark Simerly summarized as a day to help the attendees, “understand who we are, what we do, and what the Army means to our nation.”



PHOTO BY ALEX ALVARDO, FORT GREGG-ADAMS

## Highlighting Sustainability Initiatives at Earth Day

In FY2022, the Environmental Office at the **Pentagon (VA)** held an in-person Earth Day event on 21 April 2022 with over 750 attendees. The goal of the event was to teach tenants about sustainability initiatives at the Pentagon and how to be more eco-friendly at home. Exhibitors distributed across 11 displays engaged attendees in a range of environmental subjects including stormwater practices, recycling and composting, energy conservation, and the government transition to electric vehicles (EV) and solar EV charging stations. About 15 staff members from DoD's Washington Headquarters Services Environmental, Sustainability, and Energy Branch staffed tables and handed out brochures, fliers, and other materials for participants to take home.



PHOTO BY PENTAGON'S ENVIRONMENTAL OFFICE STAFF

## Working Together to Keep DoD Installations Clean

Volunteers from **NSA Hampton Roads Portsmouth Annex (VA)** participated in two Clean the Base Day events in FY2022. The events, which were held in April and June, required significant coordination between Naval Facilities Engineering Systems Command (NAVFAC) personnel and DoD contractors so civilian and DoD volunteers could cover as much ground as possible. In total, volunteers collected a total of 2,540 pounds of trash and debris along 1.1 miles of shoreline. Interesting items collected included metal bracing and insulation. These efforts prevent trash from entering stormwater systems and tidal waterbodies, protecting local marine water quality and wildlife.



PHOTO BY AMY HARDY, NSA HAMPTON ROADS



# Clean Water

The Partnership has traditionally prioritized water quality improvement to achieve the overall goal of aquatic species restoration. Accordingly, the reduction of nutrient, sediment, and contaminant loads is essential to the health of the Chesapeake Bay and its tributaries. To meet the goals of EO 13508, DoD sets goals and tracks progress toward pollutant load reductions milestones for stormwater sources. Installations implement stormwater BMPs to remove nutrient and sediment loads from nonpoint sources, such as buildings, roadways, and managed turf. DoD also owns and operates eight significant wastewater treatment plants (WWTPs), which have been designed and improved to significantly reduce pollutant loads.

In addition to pollutant removal, some stormwater BMPs provide climate resilience and carbon sequestration co-benefits. For example, natural and nature-based features, like constructed wetlands, living shorelines and tree plantings can create or restore habitat, mitigate coastal flood events, process nutrients, and reduce pollutant loads to improve water quality. For DoD, BMPs that provide multiple benefits represent the best use of limited land, staff, or fiscal resources to meet multiple military objectives.

Together, DoD's built and natural BMPs and WWTPs reduce pollutants and contribute to DoD's MS4 permit compliance and Chesapeake Bay TMDL targets that also support Bay jurisdictions' goals outlined in their Phase III Watershed Implementation Plans.

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

## FY2022 by the Numbers:



# \$41.1M

invested in Clean Water projects



# 5,182

LF of new shoreline and streambank restored

# 368

 acres of new impervious surface treated by BMPs built in SY2022

# 123

new BMPs constructed in SY2022



PHOTOS BY JOHN PARKER, FORT A.P. HILL

### Infrastructure Improvements Benefit Downstream Wetlands

**Fort A.P. Hill**, an installation with more than 6,000 acres of wetland, demonstrates the importance of infrastructure maintenance and improvements through its repair and replacement of low-water crossings and culverts. By replacing two existing gravel crossings with new articulated cable concrete mats, the installation will prevent significant downstream wetland impacts by eliminating the discharge of sediment that routinely occurred with gravel crossing.



## Providing Multiple Benefits Through Tree Planting

In FY2022, **Letterkenny Army Depot (LEAD) (PA)** planted 3,500 trees and shrubs within the installation's Bobwhite Quail Focus Area to add vegetation and restore habitats for northern bobwhite quail. LEAD Natural Resources personnel, two volunteers, and a Pheasants Forever Habitat Specialist planted species like fragrant sumac and silky dogwood to promote biodiversity to LEAD's native grassland and supply nectar and pollen to pollinator species. Removal of invasive species occurred before native trees and shrubs were planted. Overall, this project supports multiple objectives including pollutant load control, invasive species management, and habitat restoration.



Biodiversity & Habitat



Citizen Stewardship



Climate Resilience



Flood Control/Mitigation



Forest Buffers



Bacteria Loads



PHOTO BY MATT MILLER, LEAD

## Promoting Water Quality Improvement with Freshwater Mussels

**Joint Base Anacostia-Bolling (JBAB) (DC)** partnered with the Anacostia Watershed Society (AWS) to grow and later release alewife floater and eastern floater mussels at JBAB's Capital Cove Marina on the Potomac River. In total, 725 freshwater mussels were released at an official deployment event in the presence of second graders from the LEARN Charter School. Following the deployment, JBAB and AWS staff monitored and collected data on mussel growth, mortality, and water quality conditions, including dissolved oxygen, turbidity, temperature, and nutrient loads. Additional mussels were released into the Potomac River in April 2023 where they continue to provide natural water quality filtration and removal of bacteria, algae, and other pollutants from the river.



Sustainable Fisheries



Bacteria Loads



Citizen Stewardship



Climate Resilience



Biodiversity & Habitat

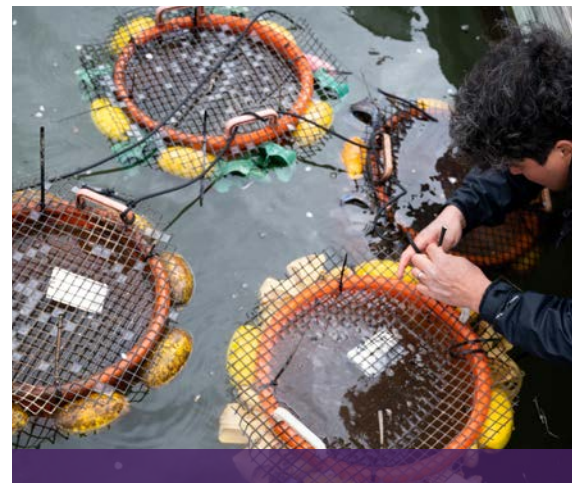


PHOTO BY JBAB PUBLIC AFFAIRS

## Street Sweeping for Sediment and Nutrient Pollution Removal

At **Joint Base Andrews (MD)**, all impervious roads and parking lots, totaling 729 acres, as well as 413 acres of the airfield, are swept at least weekly, all year round. The installation uses a regenerative air/vacuum sweeper, which more effectively removes pollutants compared to traditional mechanical broom sweepers. Therefore, this project maintains the cleanliness of the airfield, which is essential to its mission, and removes pollutants that otherwise might reach the Chesapeake Bay.



Bacteria Loads



Healthy Watersheds



PHOTO BY 11TH WING PUBLIC AFFAIRS



# Integrating Climate in DoD Climate Efforts

DoD personnel must be ready to respond under changing conditions; therefore, climate resilience is an important part of our nation's military readiness. In response to EO 14008, DoD and the various Services have developed climate action plans that describe how climate considerations will be incorporated in DoD actions and policies. The Partnership has also recognized the potential impacts of climate change on the Bay's restoration effort. In October 2021, the Chesapeake Executive Council signed Directive No. 21-1 Collective Action for Climate, which commits the Partnership to a range of actions to address the threats of climate change in the Bay watershed.

The DoD CBP's Two-Year Programmatic Water Quality Milestones for 2022-2023 include climate-related goals, which were developed to align with the DoD Climate Action Plan lines of effort and the objectives of the Partnership's Climate Directive. These goals are intended to leverage the co-benefits provided by DoD's work to date and to encourage future projects that include climate resilience co-benefits, such as carbon sequestration and flood protection. They are also intended to provide meaningful metrics of the DoD's contribution to Partnership, Service, and DoD climate goals. A selection of these metrics is included below.

## FY2022 by the Numbers:

# 3,976

total implemented BMPs with climate resilience co-benefits since 1985



# 82

progress BMPs implemented with climate resilience co-benefits in SY2022



# \$14M

invested in BMPs with climate resilience co-benefits implemented in SY2022



# \$6.6M

invested in BMPs with climate co-benefits in FY2022, to be built in the future



# 359

additional BMPs planned to be implemented before December 31, 2025



PHOTOS BY JBAB PUBLIC AFFAIRS

## What is a Climate Resilience Co-Benefit?

In general, stormwater BMPs are considered to have a climate resilience co-benefit if they:

- Provide storage for floodwaters where the accumulated stormwater is allowed to infiltrate into the ground
- Enhance or restore natural systems, such as wetlands, riparian forest buffers, streams, or vegetated shorelines that already provide climate resilience and carbon sequestration
- Create constructed or hybrid systems that mimic natural wetlands, forest buffers, or shorelines



**DoD remains focused on the endpoint of the Chesapeake Bay TMDL in 2025 but also looks beyond to continue its work to comply with MS4 permit requirements, Executive Orders, etc. that will contribute to Chesapeake Bay protection and restoration. In FY2023, the DoD CBP will build on the work described in this Annual Report with the following actions:**

- Coordinate and strengthen relationships with non-DoD, jurisdictional, and regulatory partners to achieve the goals and outcomes of the 2014 Chesapeake Bay Watershed Agreement and installation mission and operational needs.
- Continue to implement projects with our defense community partners and with support from DoD programs (REPI, Sentinel Landscapes, Defense Community Infrastructure Program, etc.) that result in water quality, natural resources, and climate resilience co-benefits.
- Understand the impacts of jurisdictional allocations of additional pollution reductions to address the negative effects of climate on stormwater BMP effectiveness and resulting impacts to the DoD's FPGs to meet the Chesapeake Bay TMDL.
- Continue to understand and characterize the climate resilience and carbon sequestration benefits provided by installation projects and work toward completion of DoD's 2022-2023 Two-Year Programmatic Water Quality Milestones.
- Continue to support installation efforts to fund BMP maintenance and multi-benefit projects and update planning documents that help determine priority projects for implementation.
- Promote a holistic perspective that recognizes the interrelated benefits of water quality, natural resource, and climate-related projects for the health of the Chesapeake Bay and DoD's operational efficiency.



Earth Day cleanup at Fort Belvoir, VA

PHOTO BY THOMAS NOCERA, FORT BELVOIR



# DoD Chesapeake Bay Program

## Fiscal Year 2022 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 Commander, Navy Region Mid-Atlantic within the Regional Environmental Coordination office and led by the Deputy Assistant Secretary of the Navy for Environment.