The sun rises over Mattawoman Creek at Naval Support Facility South Potomac - Indian Head in Maryland. This photo was selected as the winner of the 2018 DoD CBP photo contest.
Introduction

DoD in the Chesapeake Bay Watershed

DoD in the Chesapeake Bay Program

2016-2017 Assessment

2017 Key Accomplishments

Abundant Life

Clean Water

Conserved Lands

Engaged Communities

Looking Ahead

The U.S. Department of Defense (DoD) was one of the first federal departments to be formally involved in the Chesapeake Bay watershed restoration effort.

DoD continues to evaluate areas where its programs align with the Goals of the Chesapeake Bay through collective efforts of numerous installations throughout the watershed. Issues central to improving the Bay’s health include sustaining Abundant Life, restoring Clean Water, Conserving Land and Engaging Communities.

This report highlights those specific efforts to lead by example in supporting the Goals and Outcomes of the 2014 Chesapeake Bay Watershed Agreement and Executive Order 13508 during FY2017.

The Air Force Memorial is visible behind a rain garden at Arlington National Cemetery in Arlington, Virginia.

DoD installations encompass 400,000 acres across the region, making up approximately 1 percent of the Chesapeake Bay Watershed and 20 percent of the total Federal footprint.
The Chesapeake Bay Program Partnership (Partnership), formed in 1983, leads restoration and protection efforts across the Bay watershed. The DoD Chesapeake Bay Program (CBP), managed by the Navy, represents the DoD in the Partnership by leading coordination for the military services on Chesapeake Bay agreements; developing partnerships with other federal and state agencies, local governments, and non-profit organizations; promoting cross-agency information sharing; tracking and reporting progress; and coordinating DoD positions related to Chesapeake Bay policy.

The timeline below provides notable highlights within the Chesapeake Bay watershed’s history, including policy and regulatory actions, DoD CBP initiatives, and important metric accomplishments by DoD and the CBP.

**DoD Leading by Example**

The DoD was one of the first federal departments to be formally involved in the Chesapeake Bay watershed restoration effort and continues to lead by example.

**INTEGRATE**
- Engage all levels of DoD military, civilians, and their families to be environmental stewards of the watershed where they live
- Integrate restoration, pollution prevention, and stewardship initiatives for the Bay into DoD’s daily mission

**ENAGE**
- Partner with federal, state, and local governments and citizen groups to maximize resources and strengthen Bay restoration and protection efforts

**PARTNER**
- DoD staff support ongoing efforts of the Bay TMDL Midpoint Assessment
- DoD CBP establishes programmatic and numeric two-year water quality milestones for 2018-2019

**Progress Through Time 2000-2017**

- **2000**
  - Chesapeake Bay Restoration Act enacted as a part of the Federal Water Pollution Control Act
- **2001**
  - Chesapeake Bay Program Directive No. 01-1 enacted, managing state, federal, and district owned lands and facilities
- **2005**
  - Highest total number of DoD volunteers recorded for annual Clean the Bay Day of 2,270
- **2007**
  - Executive Order 13188 Chesapeake Bay Protection and Restoration established
- **2009**
  - Phase WIPs submitted
- **2010**
  - Bay TMDL issued by EPA
- **2011**
  - DoD begins identifying enhanced stormwater management opportunities
- **2012**
  - Army begins National Defense Center of Excellence and Environment Technology Transfer of Chesapeake Bay TMDL Watershed BMP project
- **2014**
  - Chesapeake Bay Watershed Agreement enacted
- **2015**
  - Partnership reaches agreement on priority issues for the Midpoint Assessment, which are the James River chlorophyll assessment, Conowingo Dam study, review of climate change impacts, and accommodations for BMP Expert Panels
- **2017**
  - Partnership develops schedule and data inputs for the Midpoint Assessment and Phase 6 version of the Chesapeake Bay Watershed Model

**DoD & the Chesapeake Bay Program**

The timeline below provides notable highlights within the Chesapeake Bay watershed’s history, including policy and regulatory actions, DoD CBP initiatives, and important metric accomplishments by DoD and the CBP.
The 2016-2017 Two-Year Programmatic Milestones and Work Plan, developed in 2015, define specific program commitments and short-term actions align with the work of each of the Partnership Goal Implementation Teams (GITs). To measure progress, the DoD CBP conducted an in-depth process of collecting, reviewing, and reporting stormwater management practices and installation projects across the watershed.

In addition to the milestones developed specifically for and by DoD, the department supported actions developed within the Federal Facilities Workgroup (FFWG). Such actions included coordination with EPA and the jurisdictions to identify and map all federal facility boundaries and ensured a process was in place to provide an accurate and complete record of best management practice (BMP) implementation data annually.

The full list of federal water quality milestones is provided at [http://executiveorder.chesapeakebay.net](http://executiveorder.chesapeakebay.net)

**By the Numbers**

- $40.2M in BMP investment
- 96% of $42M goal
- 9,077 acres protected around DoD installations
- 412 stewardship events held
- 363 progress BMPs
- 38K volunteers participated in DoD stewardship events, such as Earth Day and Clean the Bay Day

Progress has been made over the past two years with many performance targets met or exceeded as demonstrated through completion of programmatic actions and metrics that support key indicators of restoration in the Chesapeake Bay.

The following list provides the final status of DoD’s 2016 - 2017 Two-year Water Quality Programmatic Milestones developed in 2015.

- **Enhance collaboration with FFWG.** DoD co-chaired the FFWG with the Commonwealth of Virginia. Workgroup activities led to greater participation of federal agencies supporting the Midpoint Assessment.
- **Identify approaches to track reductions.** Refined data collection processes improved the success of historical and progress BMP reporting. As a result, BMPs implemented by DoD in 2016 and 2017 treat more than 284 acres of impervious surface.
- **Support jurisdictions and EPA in Watershed Implementation Plan (WIP) development and Phase III WIP expectations.** DoD CBP facilitated routine meetings with installations and developed materials about the WIP development process for DoD Components, Resource Sponsors, and installation staff.
- **Identify opportunities to conserve priority landscapes around installations.** Eleven installations now maintain active partnerships to protect land from incompatible land uses and preserve valuable landscapes.
The overall management of the DoD CBP is guided by the long-term goals of the 2014 Agreement and Executive Order (EO) 13508. While 2017 fiscal uncertainties created multiple challenges, the DoD continued to focus on programmatic actions to build upon the great work completed in years past. Notable successes in FY2017 include:

**Leadership.** Co-chaired the FFWG; maintained active involvement in the Water Quality, Sustainable Fisheries, and Vital Habitats GITs and Stream Health, SAW, Wetlands, and Watershed Technical workgroups; and released four informational fact sheets for installation staff and DoD leadership, including a “Commander’s Guide to the Chesapeake Bay,” which provided an overview of how DoD program and mission requirements align with CBP goals.

**Improved Progress Tracking.** Continued improvements to the data collection and validation methods provided a robust accounting of BMPs, which represent DoD’s overall progress toward Chesapeake Bay Total Maximum Daily Load (TMDL) goals. DoD worked with installations to identify common types of BMPs that were eligible for credit and not previously reported.

**Collaborative Outreach.** Conducted numerous outreach events at local Earth Day celebrations, festivals, and conferences and provided interviews about Earth Day, climate resiliency, and other projects to share information about DoD initiatives with the public through local radio stations and universities. In addition, DoD CBP publications highlighted updates to the Midpoint Assessment and Phase III WIP development, public access and stewardship on DoD installations, and wildlife diversity in the Chesapeake Bay watershed.

**Strengthened Partnerships.** Strengthened existing partnerships with military installations, state agencies, local communities, and other organizations across the Bay watershed by participating in development of several municipal separate storm sewer system (MS4) permits, including those in Virginia and Maryland.

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### DoD and EPA Partnership

In FY2016-2017, Joint Base Langley-Eustis restored more than 3,000 feet of vulnerable Virginia shoreline, with plans to restore 1,100 more in the coming years. The restoration provides natural flood protection and habitat for animals including declining species like the Diamondback Terrapin. For more information, check out EPA’s video about the project, which also includes additional information on how Cheatham Annex is also working to restore their shoreline.

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### BMP Implementation and Reporting

- **$11.9M** BMP investment
- **163** progress BMPs
- **108** acres impervious surface treatment/reduction

### FY2017 Funding $88M

<table>
<thead>
<tr>
<th>Category</th>
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<tr>
<td>Clean Water</td>
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<td>Abundant Life</td>
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"Photo by Will Parson, Chesapeake Bay Program"
The Chesapeake Bay Watershed Agreement aims to support sustainable fish and shellfish populations and restore habitats for native and migratory species. The following activities and project highlights demonstrate how DoD installations supported the living resources of the Chesapeake Bay.

Oysters

PARTNERED with the Maryland Oyster Growers Association, the Oysters Program, Chesapeake Bay Foundation, and local schools to complete spat generation and transfer at four installations.

Fish Habitat & Passage

GUIDED integrated natural resources planning and project implementation by conducting three fish surveys to assess species of interest at two installations.

Wetlands

MINIMIZED construction-related impacts by completing wetland delineations and mapping to improve the accuracy of wetland data.

Urban Tree Canopy

HOSTED Arbor Day and other tree planting events at 25 DoD installations to promote the military community’s awareness and knowledge of UTC.

Submerged Aquatic Vegetation

SUPPORTED the Virginia Institute of Marine Science by providing escorted access to restricted air space above installations to determine SAV coverage around DoD installations.

By the Numbers

$8.4M

invested in Abundant Life projects

43,870

cumulative acres of wetlands protected

12,150

trees planted at 25 installations

3,328

cumulative acres of SAV protected

Sounding out Northern Long-Eared Bats

Aberdeen Proving Ground conducted surveys of Northern Long-Eared Bats (NLEB) across the installation’s 40,000 acres as part of the Integrated Natural Resources Management Plan (INRMP). The NLEB is federally listed as a threatened species under the Endangered Species Act.

Balancing mission readiness and wetland protection

Joint Base Andrews finalized a cooperative agreement to establish a conservation easement as a unique approach for off-base wetland mitigation as a result of development needed to maintain mission readiness. Piscataway Creek Mitigation Site preserved a total of 62 acres of non-tidal wetlands to mitigate unavoidable impacts expected from planned projects on the base.

Restoring oysters in the Chesapeake Bay

Members from NAVFAC Mid Atlantic and NAVFAC LANT assisted PWD NSA HR environmental personnel in removing oysters that the NSA Hampton Roads – Lafayette River Complex has been growing in cages on the pier for delivery to the Chesapeake Bay Foundation. The oysters were placed on established reefs in the Lafayette River and Paradise Creek in support of the DoD partnership in helping restore oysters in the Chesapeake Bay watershed.

Conserving birds and their habitats

As part of the greater MAPS (Monitoring Avian Productivity & Survival) program across all DoD installations, Naval Support Activity (NSA) South Potomac Indian Head monitored bird reproduction and survival rates at two sites on the installation with an emphasis on neo-tropical migratory birds such as the wood thrush shown here. Collected data provides valuable insight into the habitat conditions required to ensure that training and activities do not negatively impact bird species.
Reducing excess nutrients, sediment, and toxic contaminants is critical to creating safe, healthy waters for animals and people. The following activities and project highlights demonstrate how DoD installations supported improving water quality in the Chesapeake Bay specifically related to meeting the goals of the Chesapeake Bay TMDL.

**Water Quality**

**COLLABORATED** with Bay jurisdictions to provide historical, FY2017 BMP progress, and planned FY2018 and FY2019 BMP data.

**UPDATED** Maryland Department of Environment on compliance and upgrade status for DoD-owned wastewater treatment plants.

**CO-CHAIR**d the FFWG and maintained an active membership on the Water Quality GIT, leading to critical decisions for the Midpoint Assessment and Phase III WPs, including finalizing the Phase 6 suite of modeling tools.

**SUPPORTED** implementation of Phase III WIP expectations through routine communication with installation environmental personnel; distribution of quarterly newsletters; and development of fact sheets on stream restoration, urban tree canopy expansion, and roadside ditch retrofit opportunities.

**By the Numbers**

- **$3,700** feet of shoreline and streambank restored
- **108** acres of impervious surface treated by progress BMPs
- **$14.8M** funded for BMPs
- **$66.8M** invested in Clean Water projects

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**Project Highlights**

**Stormwater BMP located at Naval Support Activity Annapolis along Carr Creek. To the left is the stormwater discharge point and to the right is an automatic sampler used to collect samples for compliance monitoring.**

**Coming together to restore critical shoreline**

Volunteers at Joint Expeditionary Base Little Creek-Fort Story dedicated 368 hours of volunteer time on National Public Lands Day to plant 15,900 American beachgrass sprigs to help stabilize the installation’s sand dunes. The dunes play an important role in protecting inland areas from coastal water intrusion and intense storms.

**Planting trees for clean water**

Letterkenny Army Depot planted 2,500 trees in an area damaged by Hurricane Sandy. Several thousand acres of trees were knocked down during the storm, which left the area vulnerable to wildfire and erosion, were removed through a timber harvest. The plantings will help reduce erosion, improve water quality, and increase thermal cover for wildlife.

**Implementing innovative ways to reduce stormwater pollution**

Fort Lee converted 3.25 acres of existing grass on the installation’s two golf courses to a species of grass that requires less water, fertilizer, and pesticide. Annual herbicide and pesticide applications have been reduced from 20 to 7 per year, and overall water use has been reduced by 25 percent.

**Restoring streambanks at Arlington National Cemetery**

At Arlington National Cemetery, more than 1,900 linear feet of degraded streambank were restored to ease streambank erosion, reconnected the stream to its original floodplain, and restore the balance of flow and sediment in the stream.
Conserved Lands

Conserving lands with ecological, historical, and community value is integral to maintaining a healthy ecosystem and vibrant culture. The following activities and project highlights demonstrate how DoD installations supported conserving priority landscapes.

Protected Lands

Conserved over 3,200 acres in FY2017, making a cumulative total of over 27,000 acres conserved by DoD in the Chesapeake Bay watershed since program inception in 2002.

Maintained active REPI partnerships at eleven installations to combat incompatible land uses, conserve landscapes, and protect mission readiness. Installations with active REPI partnerships include:

- Naval Support Facility Indian Head, Maryland
- Naval Weapons Station Yorktown, Virginia
- Naval Support Facility Dahlgren, Virginia
- Naval Air Station Patuxent River and the Atlantic Test Range, Maryland
- Joint Base Andrews, Maryland
- Naval Air Station Oceana, Virginia
- Marine Corps Base Quantico, Virginia
- Fort A.P. Hill, Virginia
- Aberdeen Proving Ground, Maryland
- Fort Indiantown Gap, Pennsylvania
- Joint Base Langley-Eustis, Virginia

Conserved lands, such as the forest shown here at Joint Base Langley-Eustis, can provide a location for training, protect the installation from encroachment or incompatible land use, and preserve wildlife habitat and natural environments.

By the Numbers

$11.9M
invested in Conserved Lands projects

27,478 acres protected around DoD installations
8 installations worked to conserve new areas of land

Project Highlights

Preserving treasured Virginia landscape
Permanent protection was secured for more than 780 acres of Virginia land as a result of Fort A.P. Hill’s continued efforts through the REPI and Army Compatible Use Buffer (ACUB) programs. The protected areas include the 525-acre Davis Farm, a working farm with wetland resources and 2 miles of shoreline along Rappahannock River, some of which includes 200 acres of mature forested wetlands.

Fort A.P. Hill was also awarded the 2017 Governor’s Environmental Excellence Gold Award for land conservation.

Protecting waterfront along St. Mary’s River
NAS Patuxent River partnered with the Maryland Department of Natural Resources and St. Mary’s County to protect 163 acres of prized waterfront along the Patuxent River. The property was purchased using County and REPI funds. While the County now owns and manages the property, the Navy was granted a sole easement to limit future development. With its 1,700 feet of shoreline, protected cove, and 500 feet of beach on the Patuxent River, Snow Hill Park provides the community with water access and a multitude of recreational opportunities.

Conserving land around Joint Base Langley-Eustis
Joint Base Langley-Eustis purchased nearly 24 acres of property near the installation to prevent incompatible land use and protect the area’s wildlife habitat.

Reclaiming natural lands
Defense Supply Center Richmond converted five acres of impervious surface at a former open shed area to turf grass, restoring the area to its natural condition and increasing habitat for area species including the Blue Grosbeak and the Blackpoll warbler.
Engaged Communities

Long-term success of the Chesapeake Bay restoration depends on active engagement at the local scale among citizens, students, and leaders. The following activities and project highlights demonstrate how DoD installations supported education and stewardship, local leadership, and public access in the Chesapeake Bay.

- **Citizen Stewardship**
  - **PROMOTED** and hosted many volunteer-based events on military installations, such as Clean the Bay Day, Clean the Base Day, Arbor Day, Earth Day, and Public Lands Day. In 2017, 38 installations participated in a volunteer program.

- **Local Leadership**
  - **EDUCATED** and exchanged information with installation environmental directors, water program managers, and natural resource managers through routine meetings and publications, including the quarterly Journal and fact sheets, such as the “Commander’s Guide to the Chesapeake Bay.”

- **Public Access**
  - **MAINTAINED** and upgraded public access sites at installations throughout the watershed, which provided those authorized with access to marinas, trails, hunting and fishing programs, and other recreational opportunities.

### By the Numbers

- **$7,177k** invested in Engaged Communities projects
- **147** citizen stewardship events held
- **12k** volunteers participated in DoD stewardship events
- **4.4k** volunteers participated in DoD stewardship events
- **69%** of installations with active volunteer programs

### Project Highlights

- **Citizen Stewardship**:
  - **Coming together for a cleaner Bay**
    - Camp Peary partnered with their 4-H Club to celebrate Clean the Bay Day. During the event, 40 adult and children volunteers collected litter and debris from three miles of shoreline along the York River. Together, the group removed approximately 750 pounds of litter and debris.

- **Local Leadership**:
  - **Working together to reduce stormwater pollution impacts**
    - On National Public Lands Day, Fort George G. Meade engaged volunteers to provide needed maintenance for stormwater BMPs and educate event attendees about stormwater pollution. Volunteers also replaced plants that had died due to weed proliferation with new Black-eyed Susan and switchgrass.

- **Public Access**:
  - **Protecting the Potomac waterfront**
    - Joint Base Anacostia-Bolling hosted an Earth Day event, during which volunteers collected 84 bags of recyclable material, 86 bags of trash, and approximately 45 pounds of bulk trash from six different zones along the Potomac waterfront. Sponsors included the Anacostia Watershed Society and DCwater.com.

- **Engaging the public through recreation**
  - U.S. Army Garrison Adelphi Laboratory Center Blossom Point Research Facility hosted a Becoming an Outdoor Woman (BOW) White-tailed Deer Hunting Workshop. This two-day event gives women introductory experiences and instruction on deer biology, tracking, and tree stand and fire arms safety, helping to increase the connection between the surrounding land and the event’s attendees.
The past year marked the halfway point of the Bay TMDL. Significant progress was realized in several key efforts that will lay the foundation for DoD to continue to support Agreement goals and build on prior commitments and activities. With the availability of new decision-making tools and the establishment of additional partnerships with local and state entities, DoD is well-positioned to actively support the Partnership through 2025.

Priorities over the next two years include:

- **Report BMP implementation progress** with the goal of investing $45M in BMP implementation at DoD facilities throughout the Bay watershed in the 2018 and 2019 progress years.

- **Implement natural resource BMPs**, including constructed wetlands, stream restoration, urban shoreline management, and urban forest buffers, which provide additional benefits beyond water quality, such as enhanced wildlife habitat and healthier watersheds.

- **Develop BMP Crediting Reports** and conduct a DoD Chesapeake Bay TMDL Progress Evaluation to assess credit and progress achieved through past implementation toward planning targets and regulatory requirements.

- **Continue to support the development of Phase III WIPs at the local level** through established workgroups and new partnerships. DoD will disseminate information from each jurisdiction to installations to support effective implementation of future Phase III WIP expectations.

- **Participate in the development of new and revised stormwater regulations** in the Bay watershed, including the reissuance of Virginia’s and Maryland’s Small (Phase II) MS4 permits.

- **Develop draft 2025 Implementation Plans** to evaluate DoD’s progress towards 2025 goals and the additional implementation needed to meet 2025 federal facilities targets and reductions required by National Pollutant Discharge Elimination System (NPDES) permits.

### By the Numbers

**FY2018 and FY2019 Planned Funding**

**$94.4M**

- **$14.9M** Conserved Lands
- **$73.3M** Clean Water
- **$343k** Climate Change
- **$99k** Engaged Communities

**$26.7M**

- **$1.9M** Abundant Life
- **$6.7M** Conserved Lands
- **$88k** Engaged Communities
- **$179M** Clean Water

In 2018 and 2019, DoD has planned key initiatives in support of the Partnership and the development of the Phase III WIP. The timeline below highlights some of these efforts.

- **2018**
  - Development of Red/Yellow/Green Light BMP crediting reports
  - Continued support of the Midpoint Assessment and development of the Phase III WIPs
  - Development of 2016-2019 Work Plan commitments
  - DoD Progress Evaluation

- **2019**
  - Release of jurisdictions’ Phase III WIPs

- **2025**
  - 100% of practices in place to meet 2025 Planning Targets
DoD Chesapeake Bay Program
Fiscal Year 2017 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 Department of Defense Chesapeake Bay Installations. The activities that take place at the various Department of Defense installations are generally not visible to the public. This report is intended to highlight some of the accomplishments by Department of Defense personnel and provide context to the activities that are 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.