

# DoD Chesapeake Bay Program

## Fiscal Year 2018 Annual Progress Report





PHOTO PROVIDED BY THE OFFICE OF THE ADMIRAL



### To our readers,

As the lead agent for all military services in the Chesapeake Bay watershed, I am pleased to announce the release of the 2018 Annual Progress Report for the Department of Defense (DoD) Chesapeake Bay Program (CBP).

DoD, and our military installations in Maryland, Pennsylvania, Virginia, New York, West Virginia, and the District of Columbia, play an important role in defending and preserving the Bay.

Throughout 2018, DoD actively worked to utilize new modeling tools which helped us better understand nitrogen, phosphorus, and sediment reductions that installations have made, and what will be needed to meet future goals. Reducing these pollutants continues to be the primary focus on how to improve the Bay's overall health. DoD continues to dedicate resources to track and report stormwater best management practices and ensure the long term operation and maintenance of these features to safeguard our investments and utilize taxpayer dollars wisely.

Installations continue to align the military mission with regulatory obligations and stewardship responsibilities. Numerous hours are dedicated each year to educate active military members, civilians, and the public through voluntary environmental stewardship.

DoD CBP staff engaged with the Environmental Protection Agency (EPA) and our jurisdictional partners in support of the development of their Phase III Watershed Implementation Plans. Through their involvement, staff ensured DoD was represented fairly and equitably with the release of EPA's Expectations for Federal Agencies. Looking ahead, DoD will emphasize the importance of the benefit of funding and implementing projects that support multiple objectives.

The accomplishments highlighted in this report by the DoD CBP and installations within the watershed represent a small snapshot of the exemplary work DoD performs every day to protect the Chesapeake Bay, which is truly a National Treasure.

Rear Admiral Charles W. Rock  
Commander, Navy Region Mid-Atlantic

**"I have myself, full confidence that if all do their duty, if nothing is neglected, and if the best arrangements are made... we shall prove ourselves once again able to defend our home."**

- Winston Churchill



U.S. NAVY PHOTO BY PETTY OFFICER 3RD CLASS JOSHUA M. TOLBERT

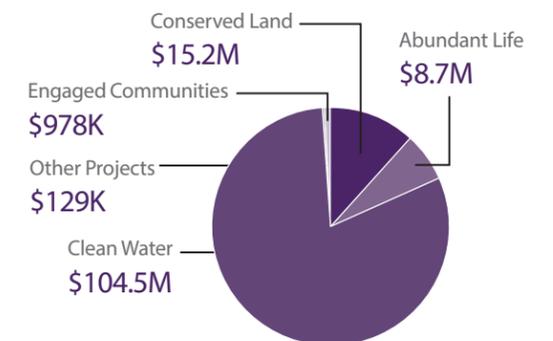
### Table of Contents

- The Year at a Glance..... 2
- DoD in the Chesapeake Bay Watershed ..... 3
- DoD & the Chesapeake Bay Program ..... 4
- FY2018 Key Accomplishments ..... 5
- DoD Projects and Their Co-Benefits ..... 6
- Abundant Life.....7-8
- Conserved Land ..... 9-10
- Engaged Communities.....11-12
- Clean Water .....13-14
- DoD at the Midpoint .....15-16
- Looking Ahead .....17-18

A cleaner Chesapeake Bay means a productive and sustainable environment for the Department of Defense (DoD), our military and civilian members, and their families who call it home. In 2018, installations funded nearly \$130 million (M) in projects that benefit the Bay. For comparison, the total budgeted investment by state and federal agencies toward the Chesapeake Bay for Fiscal Year (FY) 2018 was \$1.9 billion.<sup>1</sup> These efforts advance the goals and outcomes of the 2014 Chesapeake Bay Watershed Agreement and further the ability of DoD to test, train, and operate in the watershed. The following infographic highlights overall accomplishments by DoD in FY2018 that contributed to Abundant Life, Conserved Lands, Engaged Communities, and Clean Water.

### FY2018 Project Funding

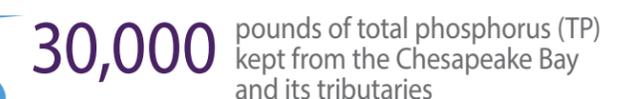
**\$129.5M**



### To Promote Abundant Life:



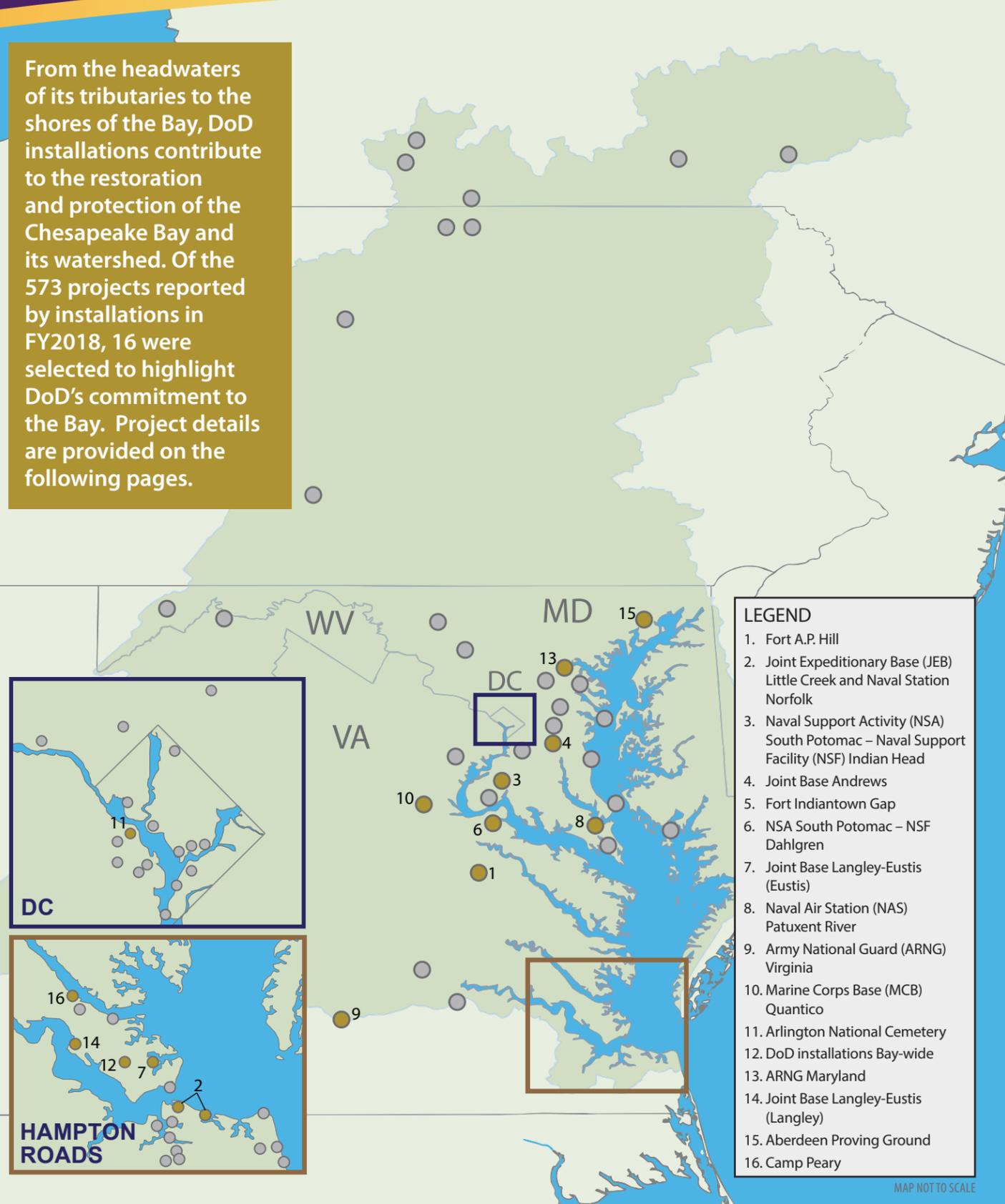
### To Build Engaged Communities:



<sup>1</sup> Data Source: Chesapeake Progress.



From the headwaters of its tributaries to the shores of the Bay, DoD installations contribute to the restoration and protection of the Chesapeake Bay and its watershed. Of the 573 projects reported by installations in FY2018, 16 were selected to highlight DoD's commitment to the Bay. Project details are provided on the following pages.

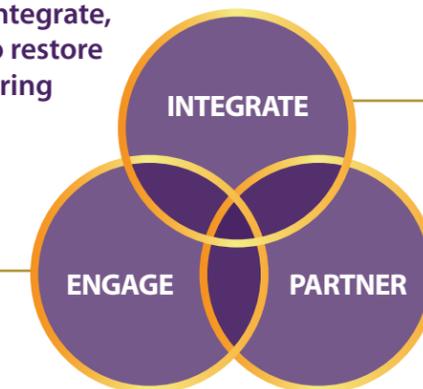


## DoD Leading by Example

The Chesapeake Bay Program Partnership (Partnership) was formed in 1983 with a commitment to reverse the negative impacts of development within the Chesapeake Bay watershed. In 1984, DoD became one of the first federal departments to formally join the watershed restoration effort. Since the Chesapeake Bay total maximum daily load (TMDL) was established in 2010, the DoD Chesapeake Bay Program (CBP) has directed the exchange of information between DoD and the Partnership on Chesapeake Bay-related policy and provided leadership among federal agencies located within the Bay as the co-chair of the Partnership's Federal Facilities Work Group (FFWG).

DoD continues to demonstrate leadership toward the common goal of a cleaner Bay, while fulfilling our primary mission to provide the military forces needed to deter war and protect the security of the United States. The DoD is a leader through our efforts to Integrate, Engage, and Partner.

**At the heart of the DoD CBP mission are the essential principles to Integrate, Partner, and Engage in order to restore and protect the Bay while ensuring military readiness.**



The DoD CBP coordinates with installations to report BMP implementation, assess their progress, and provide the tools and resources to reach water quality goals.

The DoD CBP is instrumental to the Partnership in tracking and reporting annual progress to jurisdictions on behalf of DoD. DoD's datacall collection template is now a model for other federal agencies.

The DoD CBP is actively involved in stewardship, information-sharing, and outreach activities across DoD and within the surrounding communities in the watershed.

**“DoD is a true leader in Chesapeake Bay restoration. DoD has remained at the forefront of understanding the latest tools and information available from the Chesapeake Bay Program. Through the Federal Facilities Work Group, the DoD has shared lessons and resources with other federal agencies to enhance the ability of all partners to achieve the restoration goals of the Chesapeake Bay Program.”**

- Cosmo Servidio, Region 3 Environmental Protection Agency (EPA) Administrator



US NAVY PHOTO BY PATRICK GORDON



# FY2018 Key Accomplishments

Of all federal agencies, DoD owns the largest area of developed land in the watershed. Therefore, the DoD CBP plays a pivotal role in coordinating DoD's response and actions related to the Chesapeake Bay TMDL. In 2018, DoD made significant strides to reach the 2025 nutrient and sediment reduction goals. Through strategic engagement, DoD partnered with local, state, and federal agencies and integrated the goals in planning and operations at DoD installations. These efforts included three new initiatives developed by the DoD CBP that are the first of their kind among federal agencies. These initiatives required extensive state and federal coordination and used Partnership modeling tools to calculate pollutant reductions achieved by military installations through 2017. The DoD CBP also estimated the BMPs needed to attain 2025 pollutant reduction goals. These and other program accomplishments are described below:



US NAVY PHOTO BY THEODORE GREEN

## Integrate

**Integrated Federal Facility Goals and Installation Project Planning** to strategically prioritize future actions by:

- Analyzing the crediting status of BMPs in the Chesapeake Bay Watershed Model (Bay Model)
- Assessing pollutant reductions by DoD through 2017
- Estimating the level of effort necessary to reach the federal pollutant reduction goals by 2025

## Engage

### Targeted Outreach and Information-Sharing

among the DoD community through quarterly DoD CBP Journals, Chesapeake Bay Action Team meetings, and program related fact sheets.

### Ensured Equitability for DoD Installations

during the development of EPA Phase III Watershed Implementation Plan (WIP) Expectations for Federal Lands and Facilities and jurisdiction planning targets.

### Served as Award-Winning Stewards in Our Communities

by participating in outreach and citizen stewardship events and organizing DoD participation in Clean the Bay Day.

## Partner

### Reinitiated State Partnerships in Maryland and Pennsylvania

between DoD, state, and federal staff that address shared compliance, Chesapeake Bay, and legislative interests.

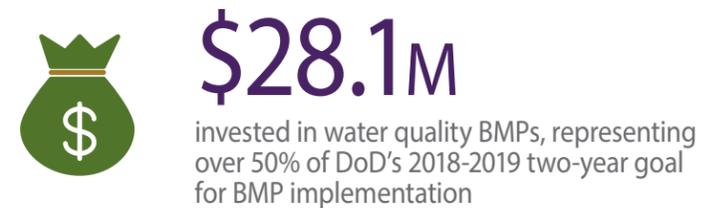
### Partnered to Reach Shared Objectives

with other organizations, including the Virginia Institute of Marine Science, the Virginia Interagency Oyster Team, Maryland Grows Oysters, and the Chesapeake Bay Foundation. DoD installations are recognized annually by the Elizabeth River Project and Hampton Roads Sanitation District for their efforts toward pollution prevention and habitat restoration.

# DoD Projects & Their Co-Benefits



Each year, the DoD CBP compiles project and program information and key metrics for 130 installations and annexes in the five states and the District of Columbia across 400,000 acres of the watershed. From the 2018 data collection effort, installations reported the following accomplishments and investments:



Based on the results of recent Partnership reports and a review of the projects reported by installations, DoD recognizes that one project can often support multiple outcomes of the 2014 Chesapeake Bay Watershed Agreement. For example, projects implemented by natural resource programs, such as stream or shoreline restoration, have secondary benefits that support habitat and fisheries and improve water quality.

Considering fiscal uncertainties and the need for greater efficiency, the DoD CBP encouraged reporting of natural resource projects from Integrated Natural Resource Management Plans to account for water quality co-benefits. With this approach, DoD can track and report on the accumulated benefits provided by installation projects.

Acknowledging that environmental projects have multiple benefits, each project highlighted in this report includes a series of icons to indicate the co-benefits. These co-benefits were selected from a list of recognized co-benefits developed by the Partnership that are listed to the right.

## 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
- » Climate Adaptation
- » Energy Efficiency
- » Flood Control/Mitigation
- » Forest Buffers
- » Groundwater Recharge
- » Recreation



### Citizen Stewardship



### Protected Lands



Ecosystems rich with abundant life are the cornerstone of the Chesapeake Bay watershed. They support diverse flora and fauna and increase the joy we take from the places we live and work. In FY2018, installations created and restored habitat for wildlife, promoted the preservation and restoration of wetlands and submerged aquatic vegetation (SAV), and conducted surveys to assess the health of key plant and animal species.

Specifically, staff at DoD installations provided access and assistance to support the annual survey of SAV in the Chesapeake Bay watershed. These efforts, along with tracking wetlands and riparian forest buffers at DoD installations, provide valuable information regarding ecosystem and habitat health.

### Abundant Life Co-Benefits

**In total, installations completed 136 projects to promote abundant life in FY2018.**

Projects led to healthier ecosystems, cleaner waters, and expanded citizen knowledge on the importance of environmental stewardship of key resources within the Chesapeake Bay watershed.

The four projects highlighted on the following page also support other beneficial outcomes like water quality, stream health, and flood control, which align with the following co-benefit categories:



Habitat



Sustainable Fisheries



Water Quality

### By the Numbers:



# \$8.7M

invested in Abundant Life projects

# 6

completed fish surveys



Over 5,000 feet of stream re-opened for fish passage



# 6,324

trees planted at 22 installations

# 6

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



### Promoting Healthy Habitat in Virginia

DoD installations in Hampton Roads, Virginia, are committed partners in the restoration of wildlife habitat and oyster populations in local rivers. Their efforts have contributed to the Lafayette River being recognized as the first river in Virginia to be fully restored with regard to oyster populations. Two DoD installations, Norfolk Naval Shipyard and NSA Hampton Roads Portsmouth Annex, were inducted into the Elizabeth River Project Hall of Fame in 2017 and 2018, respectively, for their work to create and conserve wildlife habitat, reduce pollution, and recycle waste.



PHOTO BY NICOLE IUTZI-KUBISTA



### Promoting Fish Passage

In 2016, the Ewell Road culvert at **Mount Creek on Fort A.P. Hill (VA)** collapsed after several major storm events, causing upstream ponding, major downstream erosion, and obstruction of passage for anadromous fish species, such as alewife and blue back herring. In 2018, the failed culvert was replaced with three 48-inch concrete pipes, which re-opened 0.94 miles of stream for passage of these important fish species. The upstream and downstream culvert banks were also armored to prevent future erosion and water quality degradation.



Fish Passage



Fish Habitat



Flood Control

### Surveying and Tracking Protected Seals in the Chesapeake Bay

NAVFAC Atlantic biologists, in collaboration with local organizations, have completed seasonal surveys around the Chesapeake Bay Bridge Tunnel and on the Eastern Shore since 2014. For the 2017-2018 season, 537 seal sightings were recorded, and 7 seals were tagged. This data will provide a better understanding of seal presence and movements near important Navy installations (**JEB Little Creek-Fort Story and Naval Station Norfolk (VA)**), and their migrations to/from Virginia.



Biodiversity

### Setting Priorities Based on Surveys

**NSA South Potomac- NSF Indian Head (MD)** conducts an annual survey to assess the quality of perennial streams at 12 sites through collection and analysis of chemical data and macroinvertebrate and fish identification. The data is compiled in a stream assessment report that is used to guide planning and project implementation. The resulting projects stabilize stream banks, create habitat, and remove blockages for fish passage.



Stream Health



Fish Habitat



Multiple Benefits

### Balancing Mission Readiness and Wetlands Protection

**Joint Base Andrews (MD)** created 72 acres of wetland near Mattawoman Creek to offset impacts to wetlands caused by mission-related activities at the installation. The project is part of a larger effort by Joint Base Andrews to ensure that the necessary operations to maintain our nation's warfighting capabilities do not lead to a detrimental effect for the overall watershed and ecosystem.



Wetlands



Fish Habitat



Groundwater



PHOTO BY JOHN PARKER, FORT A.P. HILL



PHOTO BY DANIELLE JONES, NAVFAC LANT, PERMIT NO. NMFS GA 19826



PHOTO BY SETH BERRY, NSF INDIAN HEAD

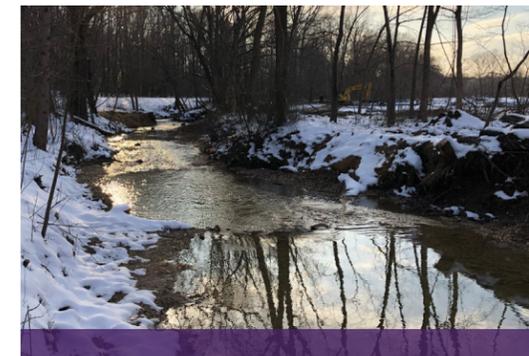


PHOTO BY GREENVEST, LLC



# Conserved Land

Conserving land with ecological, historical, and community value is integral to maintaining a healthy ecosystem and vibrant culture. In FY2018, installations in the Chesapeake Bay watershed conserved over 8,000 additional acres through the REPI program. Twelve installations with active REPI partnerships continue to combat incompatible land uses and encroachment, protect mission readiness, and preserve wildlife habitat and natural environments.

## Conserved Land Co-Benefits

Protecting lands from development can provide value to the installation and surrounding ecosystem, including wildlife habitat, recreation opportunities, climate adaptation, energy efficiency, and groundwater recharge.

Land conservation is often a shared priority for DoD installations and the communities around them. Therefore, land conservation is also an opportunity for collaboration and partnering with municipal, state, and non-profit partners.



Habitat



Water Quality



Healthy Watersheds



Protected Lands

## By the Numbers:



\$15.2M

invested in Conserved Land projects

9

installations worked to conserve new areas of land



8,671

acres protected around DoD installations in FY2018

36,147

cumulative acres protected through the REPI program



## Protecting the Bay and the Mission

The REPI program protects military operations by helping to remove or avoid land use conflicts near the installation. Installations in the Chesapeake Bay watershed with active REPI partnerships and conserved lands include:

Installation Name	Acres Protected Through FY2018
NSF Indian Head	294
Naval Weapons Station Yorktown	403
NSF Dahlgren	1,171
NAS Patuxent River & the Atlantic Test Ranges	8,123
Joint Base Andrews	142
NAS Oceana	2,563
MCB Quantico	885
Fort A.P. Hill	13,151
Aberdeen Proving Ground	319
Fort Indiantown Gap	8,332
Joint Base Langley-Eustis (JBLE)	82
NSA Hampton Roads Northwest Annex	682



# Conserved Land

## Army Compatible Use Buffer (ACUB) Program

**Fort Indiantown Gap (PA)** protected 7,975 acres of unbroken forested habitat through a conservation easement under its ACUB program. Through a partnership with the Nature Conservancy and Capital Region Water, the DeHart Reservoir project preserves habitat for multiple state and federal threatened and endangered species, a globally important bird habitat, and high-quality streams and wetlands that serve as a drinking water source for surrounding communities.



Multiple Benefits



Forest Buffers



Healthy Watersheds



Protected Lands



PHOTO BY DARYL R. VALLEY, PA DEPARTMENT OF MILITARY AND VETERAN AFFAIRS

## Conserving Forest Around NSA South Potomac – NSF Dahlgren

Through the REPI program and in partnership with the Maryland Department of Natural Resources and the Trust for Public Lands, **NSF Dahlgren (VA)** created a 653-acre conservation easement that includes over 70 acres of forested land. The protected area provides important scenic conservation value for travelers through the area, along with habitat for various types of flora and fauna.



Biodiversity



Protected Lands



PHOTO BY BRITTANY MARSHALL, REALTY SPECIALIST, NAVFAC

## Protecting Flora and Fauna at Langley Air Field

**JBLE-Langley (VA)**, in cooperation with the City of Hampton and the Federal Action Contingency Trust Fund of Virginia, conserved 58.4 acres of land through the REPI program. The conserved land includes almost 20 acres of non-tidal emergent and 22 acres of tidal wetlands. The conserved land protects a variety of wildlife and likely contains habitat for state-endangered bat species. In addition to preventing the encroachment of incompatible uses, the site provides room for retreat in the event of future sea level rise.



Multiple Benefits



Climate Adaptation



Protected Lands



PHOTO BY ALICIA GARCIA, JBLE-LANGLEY

## Finding Multiple Benefits Through Conservation

In 2018, **NAS Patuxent River (MD)** conserved 12 parcels, totaling 1,677 acres. The parcels will connect existing public lands to create conservation corridors and protect the area's agricultural lands and rural character within Maryland's Rural Legacy Areas and the Middle Chesapeake Sentinel Landscape. The conservation easements support the REPI program and DoD goals by ensuring development is compatible with the Navy's mission while protecting wetlands, forests, endangered species, and water quality.



Multiple Benefits



Multiple Benefits



Healthy Watersheds



Protected Lands

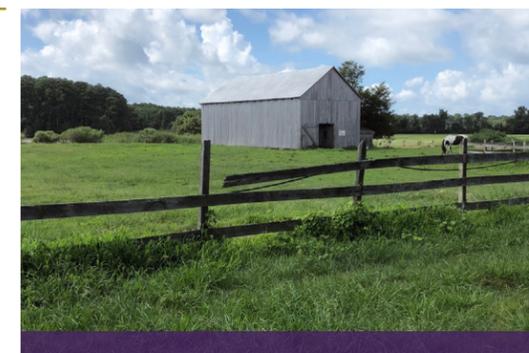


PHOTO BY BRITTANY MARSHALL, REALTY SPECIALIST, NAVFAC



# Engaged Communities

Environmental education and outreach activities improve environmental literacy, build awareness of the benefits of a healthy Bay, and inspire solidarity of purpose and action to restore the Bay watershed. By engaging citizens, students, warfighters, and the extended military community, DoD installations promote active stewardship of natural resources and provide access and recreational activities that strengthen appreciation for a healthy Chesapeake Bay.

In FY2018, DoD installations hosted many volunteer-based events, such as Clean the Bay Day, Clean the Base Day, Arbor Day, Earth Day, and Public Lands Day. Through these events, installations provided opportunities to engage in stewardship activities that contribute to the physical restoration of the Bay.

## Engaged Communities Co-Benefits

When united to a common cause, engaged communities can effect significant change. The projects completed by installations in FY2018 provided opportunities for recreation, education, and direct contribution to the Bay's restoration.

These efforts by installations led to valuable secondary benefits, like improved water quality and energy efficiency, enhanced stream health, and support of habitat for fish, oysters, and other wildlife.

 **Water Quality**

 **Citizen Stewardship**

 **Sustainable Fisheries**

### By the Numbers:

 **\$978k** invested in Engaged Communities projects

**5,595** volunteers at citizen stewardship events  **37** installations with volunteer programs

**197** citizen stewardship events in FY2018   
**Over 28,000** pounds or 14 tons of trash removed by DoD volunteers during Clean the Bay Day 



U.S. NAVY PHOTO BY PETTY OFFICER 3RD CLASS DAKOTA RAYBURN

The 14 tons of trash removed by DoD during Clean the Bay Day is almost equal to the weight of the anchor of the Navy's newest aircraft carrier, the USS Gerald R. Ford, which weighs a massive 30,000 pounds. It is also the equivalent of almost four fully-loaded Humvees or 1,273 cases of Meals Ready-to-Eat.



# Engaged Communities

## Learning about Agriculture

In April 2018, the **ARNG** in VA participated in the 3rd Grade Agriculture Awareness Days at the Virginia Tech Southern Piedmont Agricultural Research and Extension Center in Blackstone, Virginia. More than 400 students, teachers, and parents visited during the two-day event. The event included 15 learning stations and covered topics like soil erosion and the water cycle. ARNG had a station that demonstrated the importance of worms to enhance soil health and composition.

 Citizen Stewardship



PHOTO BY P.J. SHEPHERD, VT SPAREC

## Keeping our Nation's Capital Clean

In 2018, **Arlington National Cemetery (VA)** along with the National Park Service held its second annual clean-up of Memorial Avenue in Arlington, Virginia. In total, eight volunteers removed 17 pounds of trash and debris from the road and nearby greenspaces. The event successfully reduced the chance for pollutants to enter storm drains and subsequently, the Potomac River.

 Bacteria Loads  Citizen Stewardship



PHOTO BY STACEY ROSENQUIST, ARLINGTON NATIONAL CEMETERY

## Providing Recreation at MCB Quantico

**MCB Quantico (VA)** expanded public access by extending the Breckenridge Bike Trail in FY2018. The Quantico Mountain Bike Club volunteered 1,000 hours to build 15 miles of dirt trails for bicyclists and pedestrians. In August 2018, the trail opened to the public, creating new opportunities to experience and enjoy the extensive natural areas found at the installation.

 Citizen Stewardship



PHOTO BY QUANTICO MOUNTAIN BIKE CLUB

## DoD Installations Cleaning the Bay

For the 30th anniversary of Clean the Bay Day, 1,291 military service members and their families at **DoD installations Bay-wide** joined with local communities to show their commitment to a cleaner and healthier Bay. They cleaned 33 miles of shoreline and removed 28,035 pounds of trash and debris from waterways.

 Bacteria Loads  Citizen Stewardship



PHOTO BY NSA HAMPTON ROADS - LAFAYETTE RIVER ANNEX



# Clean Water

Reducing excess nutrients, sediment, and toxic contaminants is critical to creating safe and healthy waters for all life, wild and domestic. Through Executive Order 13508, DoD is required to establish both programmatic and numeric two-year water quality milestones that lead to the reduction of nutrient and sediment loads. Because DoD is the largest owner of developed land in the watershed and operates several significant wastewater treatment plants, most reductions come from those load sources. Through implementation of stormwater pollution control practices and enhanced nutrient removal, DoD is making significant headway to reduce nutrient and sediment loads.

The DoD continues to support the development of jurisdiction Phase III WIPs through active engagement in the FFWG, Water Quality Goal Implementation Team, and other Partnership work groups. Furthermore, the DoD CBP continues to facilitate an internal DoD working group called the Chesapeake Bay Action Team to share new information and updates about the Partnership, BMP opportunities, and Phase III WIP development.

### Clean Water Co-Benefits

The projects highlighted in Clean Water primarily improve water quality. However, DoD installations implemented many BMPs that also benefit wildlife and aquatic habitat and stream health and provide opportunities for climate adaptation and recreation.



Habitat



Sustainable Fisheries



Water Quality

### By the Numbers:

**\$104.5M** invested in Clean Water projects

**2,669** feet of streambank restored **1,951** feet of shoreline restored

**237** acres of impervious surfaces treated by new BMPs

**32** installations have completed BMP opportunity assessments to date



PHOTO BY AMS-RHEA JV

DoD incorporates functional and aesthetic stormwater management in and around operational areas and facilities, such as this BMP located at NAS Patuxent River Webster Field Annex, shown above.



# Clean Water

### Improving Wastewater Processing

In 2012, **Camp Fretterd Readiness Center (MD ARNG)** was issued a new wastewater permit with stricter ammonia limits. The existing septic system could not meet the new requirements. As a result, the installation constructed the Camp Fretterd Wastewater Treatment Plant. The completed plant now receives and treats wastewater to the required standards before the treated effluent is discharged to groundwater.

Stream Health Groundwater



PHOTO BY MEREDITH ANDRASIK, MD MILITARY DEPARTMENT

### Verifying BMPs to Maintain Performance and Credit

**JBLE-Eustis (VA)** inventoried and inspected 94 existing structural BMPs to determine if the BMPs are functioning as intended. The inspections were performed by qualified inspectors, and the results were compiled in a formal management plan with proposed recommendations. The process improved JBLE-Eustis' ability to prioritize the necessary maintenance, leverage maintenance funding, and advocate for future funding.

Bacteria Loads



PHOTO BY AECOM TECHNICAL SERVICES

### Treating Urban Stormwater with Innovative BMPs

In April 2018, **Aberdeen Proving Ground (MD)** completed construction of a submerged gravel wetland that treats almost 35 acres of urban land. The BMP was retrofitted from an existing dry pond to a submerged gravel wetland. The practice was selected based on site characteristics and the need for increased nutrient removal. Since the wetland was completed, inspectors have noted wildlife, including deer, blue herons and frogs, congregating around the pond.

Biodiversity Multiple Benefits



PHOTO BY TERESA BARTLEY, DPW ENVIRONMENTAL

### Protecting Camp Peary's Shoreline for the Future

In 2016, **Camp Peary** updated its Shoreline Management Plan. Based on its recommendations, Camp Peary installed benchmarks along four reaches of shoreline in 2018. The data from the benchmarks will allow the installation to track the rate of erosion/recession in these valuable wetland habitats and guide future improvements and repairs to the Camp Peary shoreline.

Biodiversity Multiple Benefits Multiple Benefits



PHOTO BY CAMP PEARY FACILITIES STAFF



## DoD at the Midpoint

To evaluate if the jurisdictions were on target to meet their nutrient and sediment reduction requirements, EPA conducted a Midpoint Assessment. The analysis measured the collective progress in the Chesapeake Bay toward 60 percent of the target load reductions for total nitrogen (TN), TP, and total suspended solids (TSS) through 2017.

As part of the Midpoint Assessment, the Partnership also agreed to update the modeling tools used to measure progress. Because of limitations in prior versions of the Bay Model, the assessment could not examine the progress of other partners or individual federal agencies, like DoD. With the improvements to the Phase 6 Bay Model, also known as the Chesapeake Assessment Scenario Tool (CAST), users are now able to calculate nutrient loads for their own agency.

Leading the initiative, using valuable data submitted by installations and new capabilities in CAST, DoD conducted our own internal Midpoint Assessment that evaluated changes in TN, TP, and TSS loads from 2010 to 2017. Through a collaborative process with jurisdictions and EPA, DoD compiled a significant amount of BMP implementation data in CAST. With this innovative and forward-looking self-evaluation, DoD is better-positioned to plan for 2025, ensure equitability, and demonstrate our leadership.

## BMP Crediting Reports

Included in the DoD Midpoint Assessment was the development of BMP Crediting Reports that analyzed the crediting status of individual BMPs at the end of the 2017 progress year. With the increased level of effort expected from installations in BMP data reporting, the DoD CBP wanted to document if BMP implementation was properly reflected in the Bay Model and appropriately assigned to DoD.

The analysis identified if BMPs received full (green), partial (yellow), or no credit (red). In total, 2,327 of 3,052 evaluated BMPs are present and at least partially-credited in the Bay Model (yellow or green status). Of those, DoD has received credit for 1,389 BMPs.

## BMP Crediting Report Outcomes

The DoD CBP identified several issues related to whether a BMP was credited and shared the report outcomes with the jurisdictions and EPA. The results also revealed that DoD implementation is under-represented in the current progress year model. In future progress years, the DoD CBP will work with state and federal agency staff to resolve the crediting issues found during development of the BMP Crediting Reports and improve future results within the Partnership's Annual Progress for DoD.

## DoD Midpoint Assessment

Using the BMP data collected from installations, the DoD CBP developed DoD-specific CAST models to calculate pollutant loads at the beginning of 2010, the start of the TMDL, and at the end of 2017, the Midpoint. The difference between 2010 and 2017 represents the reductions achieved by DoD installations within that timeframe.

Those reductions were then compared to the DoD specific federal facility targets, issued by EPA and the jurisdictions in 2015, to determine if DoD met 2017 targets and was on track to meet 2025 goals. Based on the results, installations across the watershed must continue to implement projects in order to achieve the TMDL goals. In general, DoD met interim TN, TP, and TSS targets. However, similar to the jurisdictions and other partners in the watershed, more will be necessary to reduce nutrients and sediment by 2025, in particular TN. As a result, the DoD CBP investigated a strategy to meet 2025 goals using urban nutrient management and runoff reduction BMPs. Using a reasonable level of effort, DoD determined we could achieve the remaining reductions to meet the 2025 goals. When revised federal facility goals are released, DoD will need to evaluate any additional level of effort.



U.S. ARMY PHOTO BY ELIZABETH FRASER

BMP Crediting Reports			
	Total BMPs Reported	Percent with Confirmed Credit in the Bay Model	Percent Credited to DoD in Bay Model
Pennsylvania	257	36%	36%
Maryland	1,455	89%	89%
Virginia	1,213	77%	0%
Washington, D.C.	127	0%	0%

Midpoint Assessment					
	Changes in TN Load, 2010-2017 (lbs/yr)	Changes in TP Load, 2010-2017 (lbs/yr)	Changes in TSS Load, 2010-2017 (lbs/yr)		
	↑ 4,800	↓ 760	↓ 114,700		
	↓ 16,000	↓ 14,100	↓ 2,700,000		
	↓ 1,200	↓ 15,900	↑ 7,500,000		
	↑ 1.6	↓ 24	↓ 21,300		



The mission of DoD is to provide the military forces needed to deter war and protect the security of our country. DoD continues to recognize the value of the Chesapeake Bay as it provides realistic training environments that prepare our military for combat and humanitarian relief. Looking ahead, installations reported that over \$50M in planned projects will support Abundant Life, Clean Water, Conserved Lands, and Engaged Communities in FY2019.

As part of our two-year milestone established for 2018 and 2019, DoD committed to a goal of investing \$45M in water quality BMP implementation at installations throughout the watershed. In 2018, installations reported \$28.1M in BMP investment. With the addition of 400 water quality BMPs that represent a \$46.9M investment planned for construction in 2019, DoD will achieve 167% of our goal with a total estimated BMP investment of \$75.0M.

In addition to conducting the program's regular activities and meeting Partnership milestones, the following are key focus areas:

- **Advocate for Equity Across the Partnership:** Continue to provide input on Partnership and jurisdictional policies that have the potential to impact DoD.
- **Maximize Project Co-Benefits:** Encourage installations to consider co-benefits during project planning and consider innovative projects that provide multiple benefits.
- **Maintain Existing BMP Credit:** Ensure long term operation and maintenance funding for existing BMPs to verify performance, maintain credit, and protect investments.
- **Monitor Partnership Decisions on Climate Adaptation:** Evaluate changes to pollutant loads and reduction goals.
- **Support SAV Surveys:** Provide support for monitoring of SAV growth and health.
- **Expand Awareness of DoD Efforts to Restore the Bay:** Communicate DoD efforts to a broader audience.



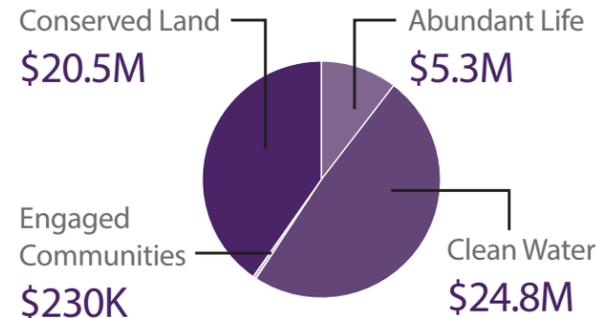
U.S. NAVY PHOTO BY MASS COMMUNICATION SPECIALIST 3RD CLASS JONATHAN B. TREJO

### By the Numbers:

#### FY2019 Planned Project Funding

**\$50.8M**

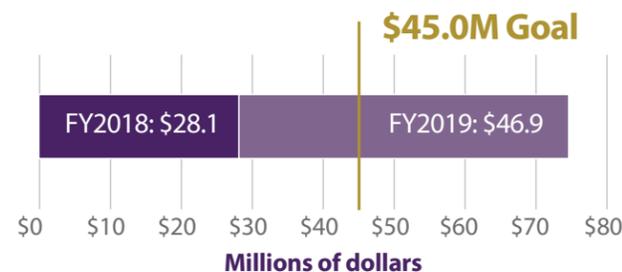
FY2019



#### FY2018-FY2019 Planned BMP Investment

**\$75.0M**

FY2018-2019 Total



Significant developments are forthcoming in 2019 as the jurisdictions continue to implement their requirements under the Chesapeake Bay TMDL through the development of Phase III WIPs. Therefore, a major portion of the DoD CBP focus will be devoted to Clean Water and the 2025 WIP Outcome.

One of the continuing Executive Order 13508 commitments that still remains true today is that DoD will support jurisdiction WIP development. Since 2009, DoD has expanded our relationships with EPA and the jurisdictions through enhanced coordination associated with BMP tracking, reporting, implementation, and planning. We developed new methodologies that allow us to track our progress, understand reductions through two-year water quality milestone development, and establish key strategic objectives to help us fill gaps between compliance and planning goals.

Looking ahead into the second half of Chesapeake Bay TMDL implementation, DoD will:

- **Provide** Phase III WIP information based on EPA defined expectations for federal agency participation in Phase III WIP development.
- **Contribute** to Phase III WIP documents including narrative text and data that describe commitments and strategies to reduce pollutant loads and



planning scenarios that demonstrate the numeric reductions associated with those strategies.

- **Resolve** issues found through the BMP Crediting Reports and the DoD Midpoint Assessment to refine our data collection and reporting methods.
- **Ensure** equity through the assessment of commitments and strategies proposed in Phase III WIPs and federal planning goals.
- **Develop** 2020/2021 programmatic and numeric two-year milestones.

These commitments represent the ongoing efforts of DoD as a leader in the Chesapeake Bay restoration effort. Yet the large network of staff supporting these goals and objectives face multiple challenges associated with funding projects to meet more stringent regulatory requirements and non-regulatory goals, along with securing funds for long-term operations and maintenance. Working towards having more secure and stable funding will allow DoD to meet our obligations and assist other federal agencies through information sharing, technology transfer, and lessons learned—which has the potential to increase the pace of restoration when we achieve cleaner water, abundant fish populations, and resiliency.

DoD installations perform a wide range of projects which benefit the entire Chesapeake Bay watershed. In FY2019 and beyond, installations will continue to support the DoD mission and improve our shared environment.



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# DoD Chesapeake Bay Program

## Fiscal Year 2018 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. This report is intended to highlight some of the accomplishments by DoD personnel and provide context to the 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.