

DoD Chesapeake Bay Program

Fiscal Year 2016 Annual Progress Report





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Balancing and integrating defense activities to improve Chesapeake Bay living resources, habitat, water quality, sound land use, and community engagement.



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 United States Department of Defense (DoD) was the first federal agency to be formally involved in the Chesapeake Bay Watershed restoration effort.

The Chesapeake Bay Program Partnership (Partnership), formed in 1983, leads restoration and protection efforts across the Bay watershed. The Navy's DoD Chesapeake Bay Program (DoD CBP) represents the DoD throughout the Partnership. The DoD CBP leads coordination for the military services on Chesapeake Bay agreements; develops partnerships with other federal and state agencies, local governments, and non-profit organizations; promotes cross-agency information sharing; tracks and reports progress; and coordinates DoD positions related to Chesapeake Bay policy. The joint program is managed by Commander, Navy Region Mid-Atlantic and lead by the Deputy Assistant Secretary of the Navy for Environment.

The Chesapeake Bay Watershed Agreement and the Executive Order (EO) 13508/EO 13508 Strategy for Protecting and Restoring the Chesapeake Bay Watershed guide the overall management of the DoD CBP. These documents establish long-term Goals for protection and restoration of the Bay, and time-bound, measurable Outcomes that directly contribute to achieving those Goals. Issues central to improving the Bay's health include sustaining Abundant Life, restoring Clean Water, Conserving Land, Engaging Communities, and addressing Climate Change. The DoD is making progress within these shared Goals for the Bay watershed. Key successes in fiscal year (FY) 2016 include:

Leadership.

Routine involvement in several Partnership Goal Implementation Teams (GITs) and workgroups, including Water Quality, Sustainable Fisheries, and Vital Habitats GITs; Stream Health, Fish Passage, Submerged Aquatic Vegetation (SAV), and Wetlands workgroups; and chairing the Federal Facilities Workgroup (FFWG).

The DoD is helping to advance shared Goals for protection and restoration of the Bay watershed.

Improved Progress Tracking.

New data collection processes improved the overall success of historical and progress best management practices (BMP) reporting by Bay jurisdictions. This year's data collection efforts reflect more than \$14M in BMP implementation funding and 184 acres of impervious surface treatment across the watershed.

Collaborative Outreach.

The DoD CBP Office conducted 8 outreach events, which were supported by more than 100 volunteers and provided the opportunity to connect with 5,500 attendees about program efforts.

Strengthened Partnerships.

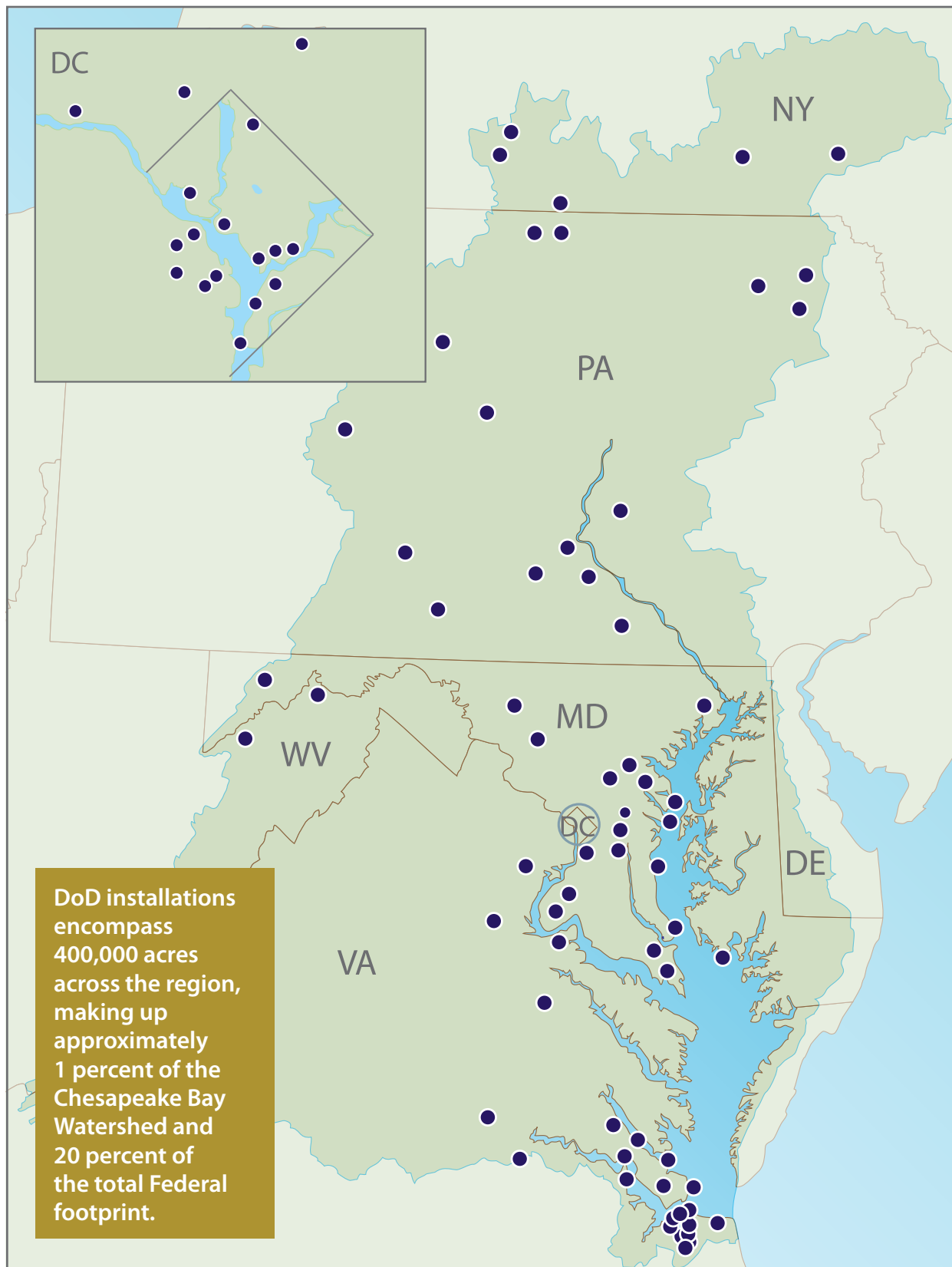
Strengthening existing partnerships with military installations, state agencies, local communities, and other organizations across the Bay watershed, and increased collaboration with Bay jurisdictions to provide progress data for inclusion in the Chesapeake Bay model.

This report highlights DoD's efforts in FY2016 to lead by example in supporting the Goals and Outcomes of the Chesapeake Bay Watershed Agreement and EO 13508.





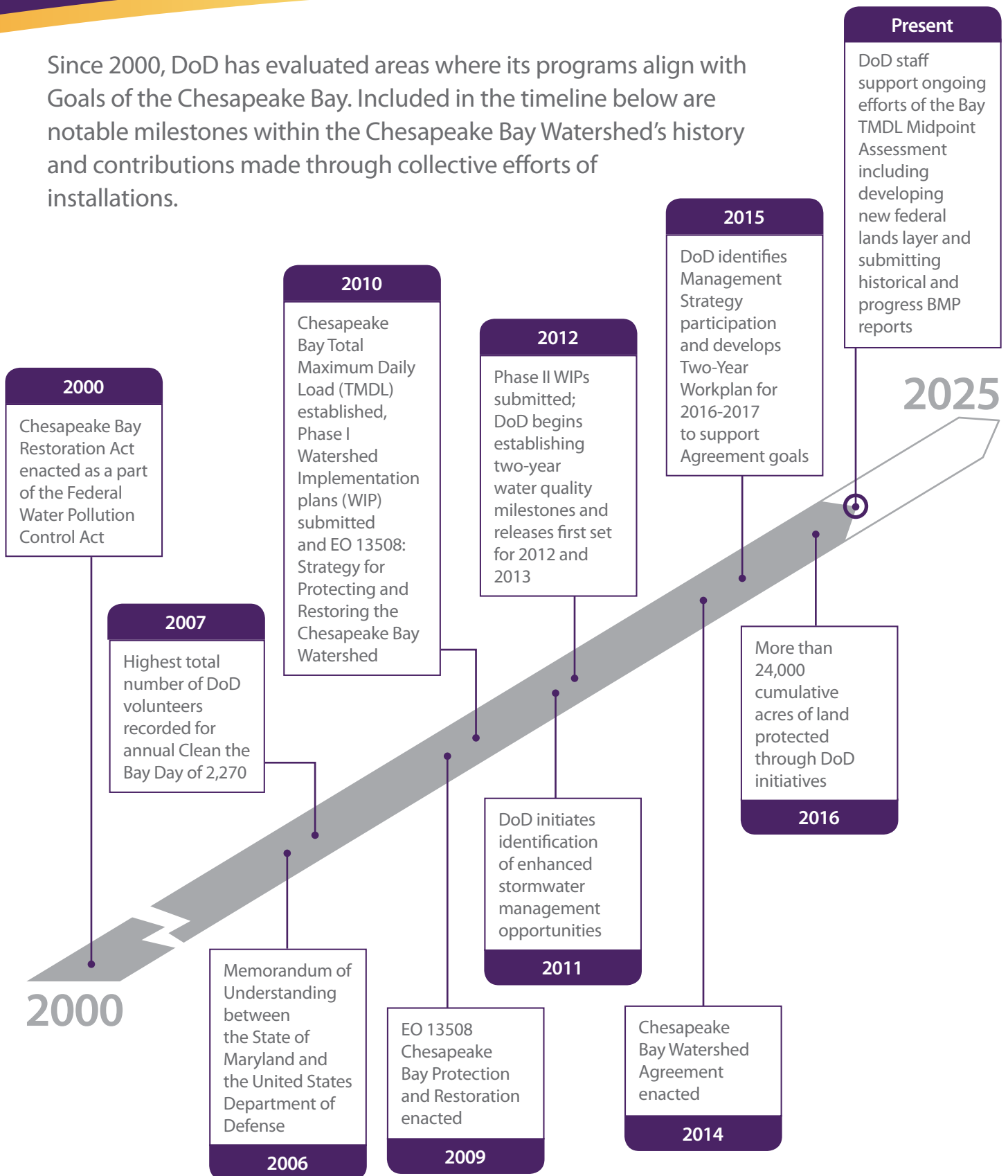
DoD in the Chesapeake Bay Watershed



Program History



Since 2000, DoD has evaluated areas where its programs align with Goals of the Chesapeake Bay. Included in the timeline below are notable milestones within the Chesapeake Bay Watershed's history and contributions made through collective efforts of installations.





Measuring & Tracking Progress

The DoD CBP has the responsibility to report progress for all DoD Service Components, which includes 130 installations and annexes in six states across 400,000 acres. To measure progress, the DoD CBP requested information from installations to develop a detailed report of FY2016 projects, programs, and key metrics.

The DoD CBP also improved processes for collecting project and program information to assess how installations supported restoration and protection Goals and that support reporting required by the Chesapeake Bay Accountability and Recovery Act of 2014.

These efforts directly contributed to providing Bay jurisdictions with a robust accounting of DoD progress toward Chesapeake Bay total maximum daily load (TMDL) implementation. DoD CBP staff and Bay jurisdictions worked together to validate the data and maximize credit. In total, over 92 percent of BMPs submitted by installations are anticipated to receive credit.

The diversity of projects and programs demonstrates how compliance and natural resources conservation programs align with mission requirements and Chesapeake Bay Goals.

This year, the DoD CBP executed an in-depth process of collecting, reviewing, and reporting stormwater management practices across the watershed.



Measuring & Tracking Progress



Milestones

Progress in FY2016

FFWG—enhance collaboration



On track. DoD co-chairs the FFWG with the Commonwealth of Virginia. Workgroup activities concentrated on increasing participation of federal agencies in support of the Mid-Point Assessment.

Identify approaches to track reductions



On track. New data collection processes improved the success of historical and progress BMP reporting. DoD implemented over 184 acres of impervious surface treatment.

Support jurisdictions and EPA in Watershed Implementation Plan (WIP) development and Phase III WIP expectations



On track. DoD CBP facilitated routine meetings with installations to educate and exchange information.



On track. The Fall 2016 DoD CBP Journal included an editorial focus on Phase III WIPs. The Journal is distributed internally and externally to DoD.



On track. DoD continues to participate in development of several municipal separate storm sewer system (MS4) permits, including those in Virginia and Maryland.

Identify opportunities to conserve priority landscapes around installations



On track. 10 installations maintain active partnerships to protect land from incompatible land uses.

The full list of Federal water quality milestones are included at <http://executiveorder.chesapeakebay.net>.



FY2016 Focus

The 2016-2017 DoD CBP Workplan and two-year programmatic milestones focus on Water Quality, Land Conservation, Engaged Communities and Vital Habitats.



Abundant Life

DoD supports abundant life through its commitment to the protection of fish passage and habitat, oyster restoration, wetlands, submerged aquatic vegetation, riparian forest buffers and urban tree canopy.



Clean Water

DoD supports clean water through its commitment to support Jurisdictions' WIPs, continued BMP planning and implementation, and wastewater and stormwater system improvements.



Conserved Lands

DoD supports conservation of priority landscapes around installations through programs including Readiness Environmental Protection Integration (REPI), Legacy Resource Management, Joint Land Use Studies, and Cultural and Natural Resources.



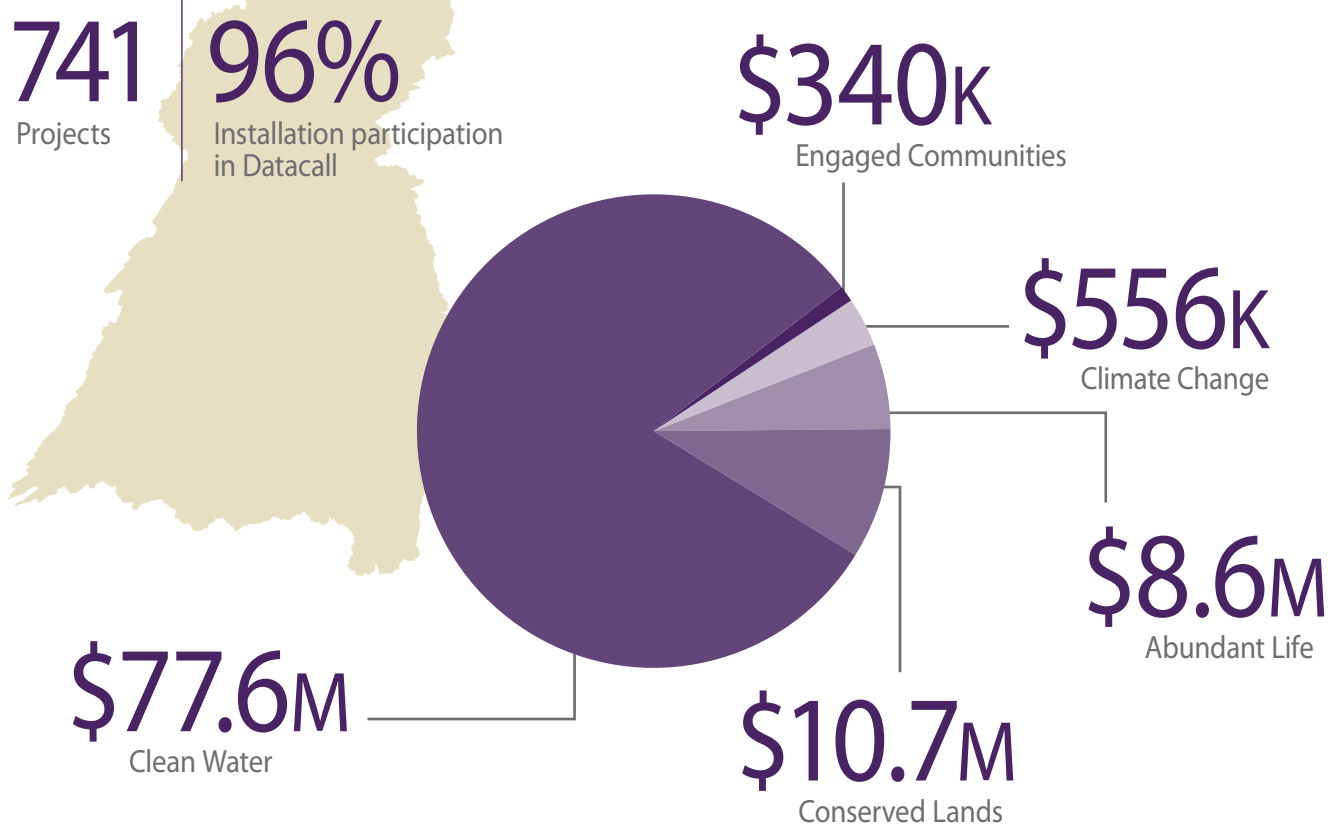
Engaged Communities

DoD supports community engagement through its commitment to coordinate stewardship activities for military and civilian personnel and their families and opportunities to connect with the outdoors through nature trails, wildlife viewing areas, and areas open to hunting, fishing, and boating.

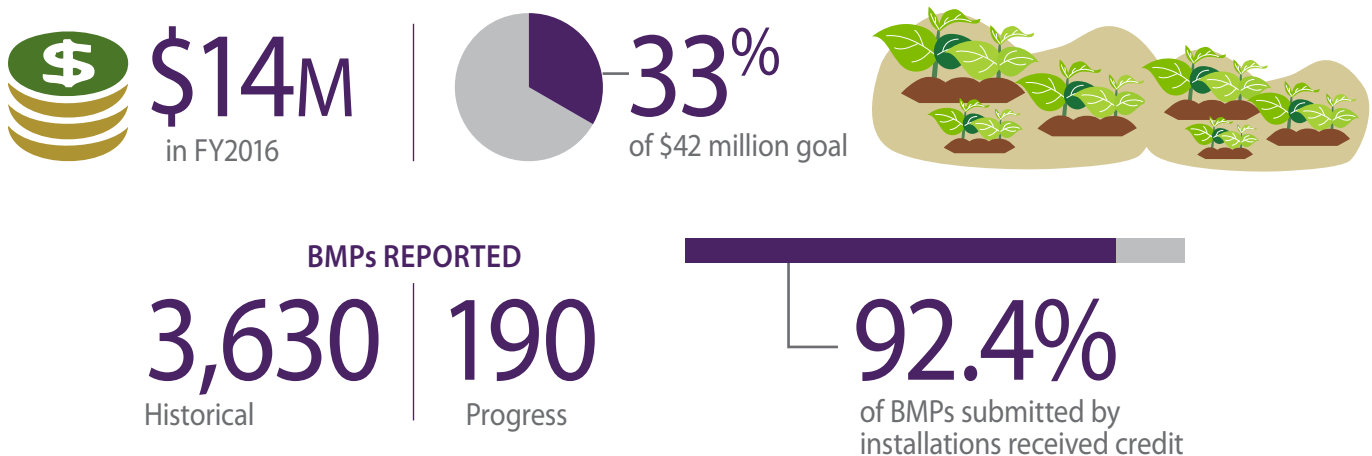
FY2016 Accomplishments



FY2016 Actual Funding \$98M



BMP Implementation and Reporting Accomplishments





Abundant Life

The Chesapeake Bay Watershed Agreement aims to support sustainable fish and shellfish populations and restore habitats for native and migratory species. The DoD focused on multiple actions in their 2016-2017 Workplan to support Agreement outcomes related to Abundant Life.

→ Oysters

PARTNERED with the Maryland Grows Oyster Program and Chesapeake Bay Foundation and completed oyster related projects involving spat generation and transfer.

→ Wetlands

MINIMIZED construction related impacts by completing wetland delineations and mapping.

→ Urban Tree Canopy

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

→ Fish Passage and Habitat

GUIDED planning and project implementation by conducting fish surveys to assess species of interest.

→ 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.

→ Riparian Forest Buffers


TRACKED projects at installations that create, protect, and enhance riparian forest buffers in accordance with the installations' Integrated Natural Resources Management Plans.

By the Numbers



\$8.7M
invested in Abundant Life projects

43,650
cumulative acres of wetlands protected



3,256
cumulative miles of forest buffer protected

3,328
cumulative acres of SAV protected



Project Highlights



Preserving Virginia shoreline

Joint Base Langley Eustis funded a project that will stabilize 1,100 linear feet of shoreline to safeguard a historically valuable facility at risk from erosion, protect other base infrastructure from flooding, and enhance habitat for wildlife including the threatened diamondback terrapin.



Protecting forests in Pennsylvania

Controlled burns conducted on 3,380 acres at **Fort Indiantown Gap** minimized the potential of wildfires caused by training munitions, protecting the forest buffer throughout the installation that provides habitat to native species and vegetation which protects streams discharging to Bay tributaries.



Restoring oyster populations throughout the watershed

Navy installations including the **Naval Research Laboratory, NSA Annapolis, NSA Hampton Roads, and Norfolk Naval Shipyard** helped sustain the Bay's oyster population by growing oyster spat that are transplanted onto nearby reefs and grown into clusters of adult oysters. Oysters filter water and are a key native species in the Bay's ecosystem.



Increasing tree canopy at Quantico

Marines planted 4,500 trees on **USMC Base Quantico**—one for every civilian family member of active-duty personnel at Quantico—to expand the base's forested area to nearly 90 percent of its total acreage, increasing the amount of stormwater runoff naturally filtered, and adding habitat area for native species.



Clean Water

Reducing excess nutrients, sediment and toxic contaminants is critical to creating safe, healthy waters for animals and people. To support the Water Quality Goal of the Chesapeake Bay Watershed Agreement, the DoD focused on the Outcome related to the Chesapeake Bay TMDL.

→ Water Quality

COLLABORATED with Bay Jurisdictions to provide historical and FY2016 BMP progress data and maximize stormwater best management practice crediting within the Bay model.

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

CO-CHAIRED the FFWG and maintained an active membership on the Water Quality GIT.

FACILITATED meetings with installations and distributed quarterly journals.



▲ “DoD is leading the way among Federal Agencies with facilities in the Watershed, holding prominent roles on the WQGIT and as chair of the Federal Facilities Workgroup. Their active involvement in the Partnership has resulted in improved communications between federal agencies and the Bay jurisdictions and is also being realized in accelerated water quality improvements on federal lands.”

—James Davis-Martin,
Virginia Department of Environmental Quality

By the Numbers

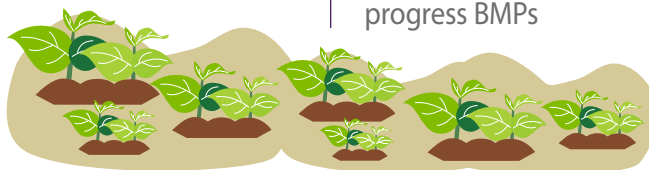


\$78M

invested in Clean Water projects

\$14M

invested in BMP implementation



184

acres of impervious surface treated by progress BMPs



3 installations implemented enhanced nutrient removal at DoD wastewater treatment plants



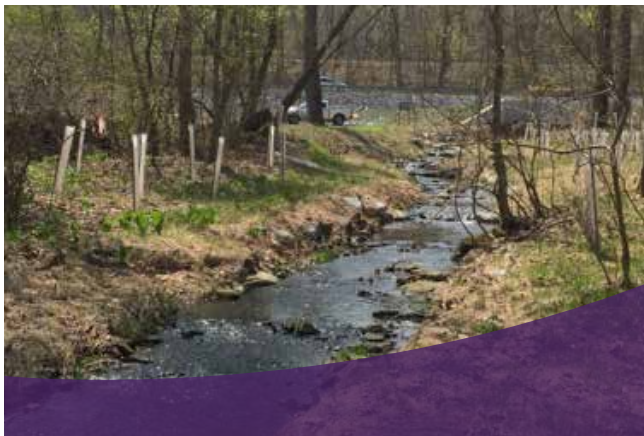
Joint Base Andrews

Joint Base Andrews redesigned more than 50,000 linear feet of airfield drainage to halt erosion, established a 12-acre off-installation wetland mitigation bank with a third party, restored two impaired urban waterways, and partnered with NAVFAC and USACE to award more than \$4 million in stormwater BMP repairs.



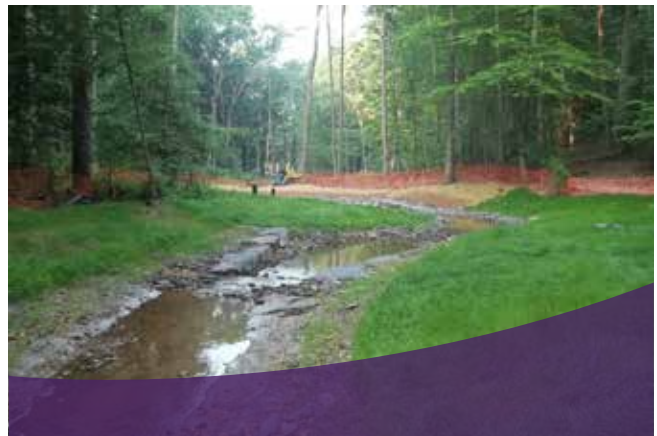
Conserving water through reuse

A new sludge dewatering and recycling system constructed at the **NSA Annapolis** water treatment plant allows the plant to recycle large quantities of water, reducing water withdrawals from nearby wells by 30 to 40 percent.



Restoring streambanks near the Susquehanna River

At the **Defense Distribution Depot Susquehanna**, 800 linear feet of eroded streambank was restored with native materials and vegetation to slow down stormwater flow and reduce the amount of pollutants flowing to Bay tributaries.



Naturally filtering pollutants

Fort Belvoir implemented three stream stabilization projects at sanitary sewer and water line crossings, which restored more than 1,000 linear feet of riparian buffer to help trap and filter sediment before flowing into Bay tributaries.



Conserved Lands

Conserving lands with ecological, historical, and community value is integral to maintaining a healthy ecosystem and vibrant culture. DoD focused on tracking protected acreage around installations and new partnerships formed with land trusts and local governments in their 2016-2017 Workplan.

→ Protected Lands

CONSERVED nearly 6,000 acres in FY2016 making a cumulative total of over 24,000 acres in the Chesapeake Bay watershed since program inception in 2002.

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

Navy

- Naval Support Facility Indian Head, Maryland
- Naval Air Station Oceana, Virginia
- Naval Weapons Station Yorktown, Virginia
- Naval Support Facility Dahlgren, Virginia
- Naval Air Station Patuxent River and the Atlantic Test Range, Maryland

Marine Corps

- Marine Corps Base Quantico, Virginia

Army

- Fort A.P. Hill, Virginia
- Aberdeen Proving Ground, Maryland
- Fort Indiantown Gap, Pennsylvania

Air Force

- Joint Base Langley-Eustis, Virginia

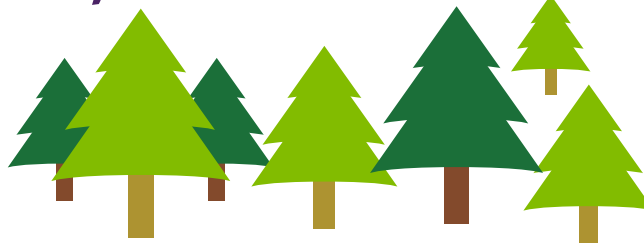
New partners added in 2016 include Southern Maryland Resource Conservation & Development Boards, Inc., Lower Shore Land Trust, Eastern Shore Land Conservancy, and the State of Delaware.

By the Numbers



\$10.7M
Invested in Conserved Lands projects

5,865 Acres protected around DoD installations



24,266
Cumulative acres protected around DoD installations

Project Highlights



Protecting treasured Virginia farmland

Fort A.P. Hill, in partnership with the Conservation Fund and the Virginia Outdoors Foundation, was successful in permanently protecting 400 acres of working farmland from future development. The farm includes 200 acres of wetlands, and lies within the U.S. Fish & Wildlife Service's Rappahannock River Valley National Wildlife Refuge.



PENNSYLVANIA NATIONAL GUARD PHOTO BY STAFF SGT TED NICHOLS/RELEASED

Preserving important bird habitats and farmland in Pennsylvania

More than 4,000 acres of agricultural land, forest, and wetlands surrounding **Fort Indiantown Gap** were protected from incompatible land uses from nearby urban areas. The conserved land is within important bird migration areas of the Kittatinny Ridge ecosystem, preserves critical habitat for protected species, and protects working farmland that benefits the local community.



U.S. NAVY PHOTO BY JOHN F. WILLIAMS/RELEASED

Conserving habitats for threatened species in Virginia

More than 180 acres of agricultural and forested land adjacent to **NSF Dahlgren** were protected through a conservation easement, preserving habitat for threatened, endangered, and at-risk species.



PHOTO BY SGT CHRISTOPHER D. REED

Safeguarding land along the Potomac River

The Navy continued to work to protect land near **NSF Indian Head** along the Potomac River and inland, acquiring two parcels of land totaling nearly 300 acres.

For more information about the REPI program, visit www.repi.mil.



Engaged Communities

Long-term success of the Chesapeake Bay restoration depends on active engagement at the local scale among citizens, students and leaders. DoD focused on education and stewardship, local leadership, and public access with military and civilian personnel in their 2016-2017 Workplan.

→ Citizen Stewardship

PROMOTED and hosted many volunteer-based events on military installations, such as Clean the Bay Day and Clean the Base Day, Arbor Day, and Earth Day. In 2016, 67 percent of DoD installations in the Bay watershed reported participation in a volunteer program.

→ Local Leadership

EDUCATED and exchanged information with installation environmental directors, water program managers, and natural resource managers.

→ 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 facilities, and other recreational opportunities.



“Clean the Bay Day simply would not be the same without our DoD volunteers. The Navy remains one of Chesapeake Bay Foundation’s most important and influential partners in the annual Clean the Bay Day, sending hundreds, sometimes well over one thousand volunteers to installations throughout Hampton Roads, removing many thousands of pounds of debris of litter and debris each year. Our pride in their work is matched only by the enthusiasm and productivity they bring to the program each year.”

—**Tanner Council**, Chesapeake Bay Foundation,
Hampton Roads Grassroots Manager

By the Numbers


\$340k
invested in Engaged
Communities projects

265
citizen stewardship
events held


48k
pounds of trash
collected at DoD
installations
during the Clean
the Bay Day events

34k
volunteers participated in
DoD stewardship events



Brainstorming solutions for tomorrow

The Pentagon hosted an Earth Day event, bringing together more than 75 DoD employees, guests, and speakers from the Office of the Secretary of Defense, the Army, the Air Force, and the Navy. Attendees discussed climate change and its potential impacts on mission accomplishment, including rising sea-levels threatening coastal installations and rising temperatures affecting our troops' safety and ability to perform.



Working together to beautify Virginia's Patton Park

Fort Lee partnered with the City of Petersburg to celebrate Earth Day by beautifying Patton Park along the Appomattox River. Approximately 100 volunteers came together to clean multiple park sites, plant wildlife and pollinator plants, and install two raingardens that capture stormwater runoff and reduce the amount of pollutants discharging to the river.



Celebrating Arbor Day at one of the Nation's most sacred places

On Arbor Day, **Arlington National Cemetery** hosted visitors for a ceremonial tree planting, and a walking tour of trees within the cemetery and the Memorial Arboretum.



Advancing students' environmental awareness

In partnership with Virginia Beach City Public Schools, **NAS Oceana** hosted the first-ever STEM outdoor laboratory for local grade school students from approximately 60 schools. More than 6,500 fifth graders experienced hands-on instruction in STEM subjects and participated in engineering design challenges. The DoD CBP and Naval Fleet Forces Command also supported the event with exhibits on pollution prevention and sustainability.



Climate Change

While the DoD CBP 2016-2017 Workplan does not include any specific actions or performance targets on climate change, DoD is preparing to adapt to impacts related to sea level rise and increased frequency of severe weather events.



Proactively addressing extreme weather

At **Aberdeen Proving Ground**, monitors were installed to assess changes in sea-levels in tidal wetlands. At **NSA Annapolis**, more than 140 elevation points were logged as part of an elevation study. The findings of these efforts are being used to prioritize upgrades for base infrastructure most vulnerable to rising water levels.

Planning for resiliency

The **Naval Research Laboratory's Blossom Point Research Facility** surveyed its shoreline condition and long-term shoreline change patterns, and developed a management plan to restore the shoreline and mitigate future impacts from changing wave patterns.

Preparing for coastal flooding

The **Washington Navy Yard** partnered with the U.S. Army Corps of Engineers to conduct a comprehensive study of its flood risk, and developed a management plan to address the increasingly frequent flooding expected during high tide based on the projected rate of sea level rise in the Washington, D.C. area.

By the Numbers

\$556k

invested in Climate Change projects



5

Climate Change projects performed

In 2016, installations completed projects related to assessing the effects of sea level rise on military operations and real property.



The years ahead present opportunities and challenges for the DoD in its role within the Partnership. With fiscal realities and overall uncertainty, there are still opportunities in FY2017 to implement the 2016-2017 Workplan and enhance programmatic actions that will build upon the great work already completed and demonstrated through this report. Examples include:

- **Developing** outreach materials including Executive Summary brochures and Leadership Fact Sheets for existing and incoming installation leadership
- **Identifying** effective mechanisms to assess numerical progress
- **Evaluating** planned BMP implementation with the 2025 WIP Outcome
- **Assist** installations to identify opportunities to receive credit for all existing BMPs
- **Providing** guidance to installations to maximize benefits and minimize cost of proposed water quality and natural resources projects
- **Increasing** partnership opportunities between installations and other federal, state, and private organizations to leverage available funding for projects that benefit all stakeholders

The DoD will also begin evaluating the current workplan to identify revisions and additions using information provided by installations, based on their priorities that will formulate the development of new activities and programmatic milestones for 2018-2019.

With potential regulatory framework changes as a result of new science and Phase 6 model outputs, the DoD will be considering the next phase of implementing stormwater permit requirements.

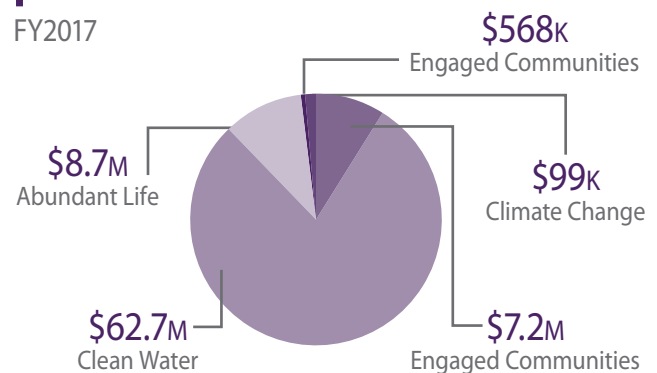
In 2017 and 2018, the DoD will be an active participant in the Partnership as the Midpoint Assessment and Phase III WIP development moves forward. The DoD will coordinate with Bay jurisdictions to review and identify ways to provide input on each Phase III WIP, to assess goals and targets for installations and strive for parity among regional entities.

By the Numbers

FY2017 and FY2018 planned funding

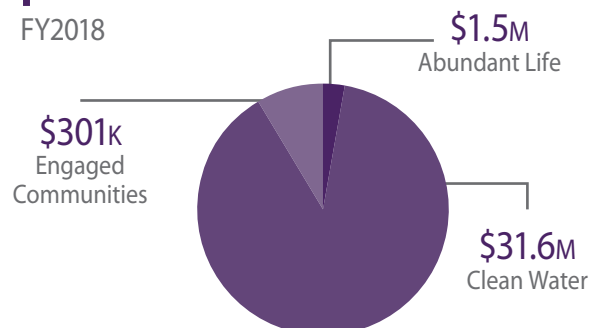
\$79.5M

FY2017



\$33.1M

FY2018





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The DoD CBP is jointly managed by Commander, Navy Region Mid-Atlantic within the Regional Environmental Coordination (REC) office and led by the Deputy Assistant Secretary of the Navy for Environment.

This report is available on the Chesapeake Bay Program page of the DoD Environment, Safety & Occupational Health Network and Information Exchange (DENIX): <http://www.denix.osd.mil/chesapeake>.