



DoD CHESAPEAKE BAY PROGRAM JOURNAL

PROTECTING THE CHESAPEAKE BAY FOR MILITARY READINESS, FOR OUR COMMUNITY, FOR FUTURE GENERATIONS

Assuring Mission Readiness and Maintaining Wildlife Diversity in the Chesapeake Bay

By Sarah Diebel, DoD Chesapeake Bay Program Coordinator



PHOTO BY STAFF SGT. NATASHA STANNARD

The Chesapeake Bay is home to a diverse spectrum of wildlife in the air, on land, and in the sea. Certain species are considered key indicators of the Bay’s health, form the foundation of their ecosystems in the Bay watershed, and propel the region’s economy through industry, recreation, and tourism. The 2014 Bay Agreement and the Chesapeake Bay Program’s (CBP)

Management Strategies include measures to protect and enhance many of these key species, including blue crab, oysters, black duck, brook trout, and a variety of forage fish in the Chesapeake Bay watershed.

Nationwide, threatened and endangered species are protected through the Endangered Species Act, which empowers the U.S. Fish and Wildlife Service (FWS) or the National Oceanographic and Atmospheric Administration (NOAA) to list and de-list species threatened by loss of habitat, over-utilization, disease, or other factors. In addition, the Sikes Act requires Department of Defense (DoD) installations to develop and maintain integrated natural resources management plans (INRMPs) to protect critical habitat of threatened, endangered, and at-risk species (TE&A-R) and support ongoing training and activities on military land. Through DoD natural resource management programs, DoD personnel manage protection efforts by compiling available data, identifying and prioritizing threats, mapping, communicating the importance of conservation efforts, and evaluating ways to enhance protection.

In this issue, we highlight the importance of some species that may not get as much attention, but provide vital balance,

historical preservation, and cultural significance for the region. From butterflies and ospreys to dolphins and sea turtles, the articles in this issue explore DoD’s diverse natural resource management programs to protect animal species and improve the quantity and quality of biological resources on installations in the Chesapeake Bay.

For more information on DoD natural resource management, please visit <http://www.denix.osd.mil/nr/home>. The DoD CBP would like to thank the installations and individuals that contributed information and content in this journal, including:

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Monitoring Marine Animals in the Chesapeake Bay

By Stephanie Smith, Brown and Caldwell, with Brittany Bartlett, Danielle Jones, Deanna Rees, Gwendolyn Lockhart, and Joel Bell, Naval Facilities Engineering Command Atlantic; Lee Tolliver, Virginian-Pilot

A multitude of fish and animal species inhabit the more than 18 trillion gallons of water of the Chesapeake Bay. The waterways and shorelines of the Bay are also shared with DoD vessels and personnel who are charged with the important mission of protecting our nation. To comply with environmental regulations and protect the diverse species found in the region, Naval Facilities Engineering Command (NAVFAC) Atlantic monitors populations of seals, whales, and sea turtles that live in the waters in and around Navy installations through a variety of projects in the Bay watershed. These projects are funded by U.S. Fleet Forces Command under the Navy's Marine Species Monitoring Program (www.navy-marinespeciesmonitoring.us).

Seal Population Research

Before 2014, harbor and gray seals were found primarily north of New Jersey; however, in recent years, more seals have been observed at the mouth of the Chesapeake Bay near important naval and commercial vessel transit routes. Due to reported increases in seal populations in

the mid-Atlantic region, NAVFAC Atlantic and The Nature Conservancy initiated a series of surveys to document the presence of harbor and gray seals in the lower Chesapeake Bay and better understand the behavior and occurrence of these protected species near Navy installations.

Between 2014 and 2017, from fall through spring, crews visited four haul-out sites along the Chesapeake Bay Bridge-Tunnel in coastal Virginia to survey the seals found at each location. During each survey event, researchers documented environmental conditions, the number and species of seals present, and their observed behavior. Over three field seasons, the average number of seals observed per survey day (on days when seals were observed) increased from 10 seals in 2014-2015 to 13 seals in 2015-2016 and then to 16 seals in 2016-2017; the maximum counts for a single survey were 33, 39, and 40, respectively. The majority of seals observed in the three field seasons were harbor seals. One gray seal was observed in each of the 2014-2015 and 2015-2016 field seasons.

Researchers made initial correlations between seal sightings and environmental variables, including air temperature, tidal height, and water temperature. They noted that increased air and water temperatures and higher tidal height were associated with lower seal sightings. NAVFAC Atlantic will continue to coordinate counts with The Nature Conservancy for the 2017-2018 field season to further understand changing patterns of habitat utilization, residency, and animal conditions near Navy installations in the Chesapeake Bay. For more information about the project's efforts to date, visit the project profile at the US Navy Marine Species Monitoring website: <https://www.navy-marinespeciesmonitoring.us/reading-room/project-profiles/haul-out-counts-virginia/Monitoring Whale Activity>

Monitoring Humpback Whale Activity

Each year, thousands of commercial and military ships navigate through the mouth of the Chesapeake Bay. Beneath the surface, they are accompanied by a mostly unseen traveler—humpback whales. Humpback whales, which are typically



PHOTO BY DEANNA REES

A group of harbor seals hauled out at one of the Chesapeake Bay Bridge Tunnel Island sites. Harbor and gray seals are protected under the Marine Mammal Protection Act.



PHOTO BY BRIAN LOCKWOOD

Researchers take photos to document North Atlantic humpback whale occurrence near the mouth of the Chesapeake Bay.

present in the Bay area from November through March every year, appear to favor the deeper waters found in the shipping channels, potentially because of more plentiful food resources; unfortunately, this places the whales in the path of massive ships, posing a risk to these protected species. According to a recent study conducted by HDR, Inc. and funded by U.S. Fleet Forces Command, about 10 percent of the humpback whales observed in the waters off Virginia show signs of impact with ships.

Each year, the Navy spends between \$3.5 and \$4 million to monitor protected marine species in the Atlantic. Researchers from HDR Inc. and NAVFAC have spent the past three winters documenting the occurrence and movements of humpbacks in the area using photo identification and satellite-linked tracking tags as part of the U.S. Navy's Marine Species Monitoring Program. With more whales arriving in the Chesapeake Bay each year, and the mid-Atlantic remaining a key port for commerce and defense, monitoring efforts like these are key to protecting marine species like the humpback whale. More information is available online at: <https://www.navymarinespeciesmonitoring.us/reading-room/project-profiles/mid-atlantic-humpback-whale-monitoring/>

Sea Turtle Tagging and Tracking in the Chesapeake Bay

The lower Chesapeake Bay and nearshore areas surrounding the mouth of the Bay represent one of the busiest centers of naval activity on the East Coast, hosting numerous pier-side facilities, bases, vessels, shipyards, and in-water training ranges. Monitoring the populations and behaviors of animals in the vicinity of these activities is vital to mitigating potentially harmful interactions.

To date, the Virginia Aquarium & Marine Science Foundation (VAQF), in partnership with NAVFAC Atlantic and U.S. Fleet Forces Command, has deployed 43 satellite transmitters and 72 acoustic tags on sea turtles released in Virginia waters. The project, which is funded by U.S. Fleet Forces Command, tracks juvenile loggerhead, Kemp's ridley, and green sea turtles—all listed as threatened or endangered under the Endangered Species Act—to understand the movement of the animals in the Chesapeake Bay and in areas where the Navy operates.

After they are attached, the satellite tags transmit the turtles' locations to a satellite, which returns thousands of coordinate points to a database managed by VAQF. Navy and VAQF



PHOTO BY VAQF

The Virginia Aquarium Foundation releases a loggerhead sea turtle with a Navy-funded satellite tag from the aquarium research vessel in the waters offshore of Virginia Beach, Virginia.

scientists then compile and analyze the data jointly. The resulting habitat models are used to promote sea turtle conservation. Increased knowledge of the movements, habitat utilization, and seasonality of sea turtles found in this region will allow the Navy to limit interactions with these protected species and design better mitigation measures where interactions are unavoidable. More information can be found from the project profile at the following website: <https://www.navymarinespeciesmonitoring.us/reading-room/project-profiles/lower-chesapeake-bay-sea-turtle-tagging-and-tracking/>



Sharing the Skies Above the Chesapeake Bay

By Thomas Olexa, WPNSTA Yorktown & NAVSTA Norfolk; Tih-Fen Ting, University of Illinois at Springfield; and Lynda Hartzell, Aberdeen Proving Ground



PHOTO BY STAFF SGT. JARAD A. DENTON

IDNR's osprey recovery program contributes to achieving multiple milestones of the DoD CBP and Sikes Act implementation under installation INRMPS.

Conservation of forested shorelines, rivers, marshes, and an abundance of fish allow many birds of prey populations to recover and thrive in the Chesapeake Bay, making it one of the country's most productive aquatic ecosystems. Two at-risk species—the osprey and bald eagle—have experienced recent population growth in Chesapeake Bay watershed in part as a result of DoD installation habitat protection and breeding programs.

Recovering Osprey Populations

The Chesapeake Bay region is believed to host the world's largest breeding population of osprey (*Pandion haliaetus*), but this was not always the case. The osprey population made a significant recovery in the Bay region and nationwide after the ban of DDT in 1972 and the enactment of the Chesapeake Bay Preservation Act of 1988. Environmental protection and

natural resource conservation initiatives have had a profound effect on the osprey's survival through a wildlife management strategy called translocation and hacking. Translocation is the capture, transport, and release of a species to another location. Hacking is the placement of immature birds in artificial nest boxes, where the birds are isolated from human contact until they are capable of flight.

In 2013, the Illinois Department of Natural Resources (IDNR) began an osprey recovery program by translocation and partnered with University of Illinois at Springfield (UIS), Joint Base Langley-Eustis (JBLE), Armed Forces Experimental Training Activity Camp Peary, and Naval Weapons Station Yorktown (WPNSTA Yorktown). Since that time, 49 nestling osprey have been relocated from Virginia military installations to wildlife management areas in central Illinois. Each year, the translocation

effort begins with support from installation natural resources managers, which includes locating active inland and near-shore osprey nests, collecting DNA samples, and finally, collecting male nestling osprey for hacking.

Upon arrival in central Illinois, the nestlings are separated and taken to one of two hacking sites. Through a webcam inside the hack box, the field crew observe the flight development of the nestlings to determine when to open the door of the hack box and allow the osprey to leave the nest or fledge. Each year, researchers tag two or three nestlings with satellite-GPS transmitters to track the survival and migration of the hacked osprey. The fledglings continue to be monitored and tracked until the osprey leave and embark on their first migration journey. It is an intense three to four months from the nest surveys to the eventual migration of the juvenile ospreys.



The Illinois Osprey hacking project receives additional support from various organizations, including the Illinois Raptor Center, University of Illinois, Army Corps of Engineers, field offices of IDNR, and private citizens.

Protecting Bald Eagle Breeding Grounds

The American Bald Eagle, our nation's emblem since 1782, has found a sustainable home in the northern Chesapeake Bay, thanks in part to the conservation efforts of the U.S. Army. The bald eagle was once endangered and on the verge of extinction. Today, the bald eagle is thriving, especially on Aberdeen Proving Ground (APG).

APG is the Army's oldest active proving ground. Since its establishment in 1917, APG has evolved from the "Home of the Ordnance" to a major DoD installation. APG

consists of over 72,000 acres and over 100 miles of shoreline and much of it remains forested. Combined with restricted access for public safety, the installation provides some of the highest quality habitat for bald eagles in the Chesapeake Bay. The Army's occupation of these lands and waters has prevented widespread development and preserved native ecosystems. Many DoD installations are some of the last remaining habitat for wildlife due to increasing development outside the fence line.

Over the last 40 years, APG witnessed a dramatic recovery of bald eagles on the installation, from only one known breeding pair in 1977 to 65 pairs today. Currently, APG supports the highest number of bald eagle nests of any DoD installation or property. This year alone, APG's eagles produced and fledged a total of 88 chicks. APG biologists estimate

there are at least 300 to 350 resident eagles on the proving ground at any one time. For comparison, APG counted only 39 bald eagles in 1983 on its first annual survey.

APG implements numerous measures to ensure the Army's operations and activities minimally impact bald eagles. Examples include adaptively managing buffers around nests and roosts, placing time of year restrictions on certain activities, and real-time monitoring of mission activities. Additionally, APG buried overhead power lines and retrofitted remaining overhead electrical infrastructure to reduce avian line strikes and electrocutions. APG is proud of its bald eagles, and the installation will undoubtedly remain an area of significant importance to the local and regional bald eagle populations. APG is among a growing list of DoD facilities that have proven a rigorous military mission can successfully co-exist with a protected species.

Constructing Rain Gardens to Attract Butterflies

By Kelly Wilson and Stacey Rosenquist, Arlington National Cemetery



PHOTO BY KELLY WILSON

*Monarch butterflies are attracted to swamp milkweed, or *Asclepias incarnata*, at ANC's thriving gardens.*

Arlington National Cemetery (ANC) is famously characterized by its perfect rows of marble headstones, curving roads, and graceful trees. In recent years, rain gardens have been installed, adding ecological richness and diversity to the beautiful grounds. In fact, ANC became an accredited Level II Arboretum in 2015 by achieving particular standards of professional practices deemed important for arboreta and botanic gardens. Visitors, families of the fallen, and various

dignitaries may pass by these beautifully landscaped features, located near the Columbia Pike entrance, and catch a glimpse of a gold finch or numerous colorful insects.

Installed as stormwater features in 2011, the rain gardens allow ANC to protect the Chesapeake Bay and comply with stormwater regulations. During rain events, these gardens minimize nutrients, silt, and trash from entering the stormwater system.

ANC's gardens contain thriving perennials, attracting pollinators to the area. Swamp milkweed, a key wetland plant, attracts hungry monarch butterflies eager to fill up on nectar. Other species of milkweed and Echinacea also grow successfully and are strategically planted to encourage pollinators to utilize the garden at certain times during the season. Both purple and white coneflowers dominate early in the summer, providing food for pollinators while gold finches benefit from the coneflower's nutritious seeds later in the season. 'Iron Butterfly' ironweed blooms later in the summer, tolerates wet and dry periods, and often is seen covered with small bees when other flowers have gone to seed.

ANC is proud to be a committed partner to the preservation and protection of the Chesapeake Bay watershed. Horticultural and environmental staff who care for the beautiful raingardens and perennials that enhance our hallowed grounds invite everyone to visit and tour the cemetery. For more information about ANC's tours and special events, visit www.arlingtoncemetery.mil.



Installations Offer Unique Opportunities for Declining Species

By Stephanie Smith, Brown and Caldwell, with Jackie Smith, Naval Air Station Patuxent River, and Staff Sgt. Natasha Stennard, JBLE



PHOTO BY CBP

Although female terrapins may nest up to three times per season, egg and hatchling survival rate is extremely low.

DoD installations consist of over 400,000 acres in the Chesapeake Bay region, including many areas of protected land and undisturbed natural habitat. Military operations are DoD's first priority, but installations are also uniquely positioned to protect declining species on DoD-owned land while advancing the core mission of national security.

The Northern Diamondback Terrapin is America's only estuarine turtle. Each year, female terrapins build nests along the many miles of coastline in the Chesapeake Bay, including those controlled by military installations. The terrapins, particularly those newly emerged from the nest, are vulnerable



PHOTO PROVIDED BY ALICIA GARCIA

During a recent survey of reptiles, amphibians, and turtles, contractors at JBLE found the young diamondback terrapin shown here on the JBLE-Langley golf course.



“Military missions come first, but oftentimes missions are compatible with wildlife, forestry, and natural resource management.”

- Karen Terwilliger

to attack from predators, hunting, and injury from ships and debris. In Virginia, Naval Air Station (NAS) Patuxent River and JBLE demonstrate that supporting DoD’s mission and protecting this key and declining species are not mutually exclusive goals.

NAS Patuxent River is home to Naval Air Systems Command and the Naval Air Warfare Center Aircraft Division headquarters. Pilots from the U.S. Naval

Test Pilot School and NAS Patuxent River’s Search and Rescue Team also train along the installation’s isolated coastline, which provides ideal conditions for confined area landing zones for helicopters. A series of nest surveys beginning in 2013, conducted by the installation’s Natural Resource Program, also found that the same conditions that make these sites suitable as landing areas, also provide good conditions for nesting

terrapins. The installation is therefore faced with the challenge of learning to share this critical habitat for training and nesting.

Since it is not a federally or state-listed threatened or endangered species, the installation is not required to monitor or survey the turtle populations. However, the U.S. Fish and Wildlife Service and the Maryland Department of Natural Resources acknowledge the value of the



PHOTO PROVIDED BY STAFF SGT. NATASHA STANNARD

Karen Terwilliger, a local environmental expert, looks out to brackish waters, ideal for diamond terrapin turtles, at JBLE in Virginia.



installation's survey data for ongoing and future research and conservation efforts. The results of the surveys yield immediate benefits for terrapins at NAS Patuxent River.

During typical nest surveys, volunteers place a crate over a terrapin's nest to ward off potential predators. However, when helicopters land nearby, the crates fly away, creating a hazard for the helicopter crew and leaving the nest exposed. To resolve the issue, personnel cleared brush and debris from two alternative landing sites and enlisted farmers from the installation's agricultural out-leases to

level the terrain and prepare the sites for use in advance of the next nesting season.

An exclusion fence was also constructed to prevent the turtles from nesting at the new landing zones. As a result, the nests at the original site were protected and produced over 700 successful hatchlings between 2013 and 2015. By working with volunteers and Navy personnel, NAS Patuxent River achieved two important objectives: its mission and the protection of a valuable, local species.

In the Chesapeake Bay, major storms and the resulting flooding are expected.

JBLE's environmental team discovered a strategy to create and preserve habitat for diamondback terrapins and create a natural barrier to prevent flooding. Shoreline restoration projects, which mimic natural systems including the brackish marshes favored by the terrapin, provide flood protection and increase the resiliency of the installation's facilities to major storms. In 2017, JBLE plans to restore a total of 3,329 linear feet of shoreline, protecting the base's military operations and the terrapins that use those shorelines as habitat and call the base home.

Amphibian Diversity at JBLE-Langley

Photos provided by Alicia Garcia, JBLE-Langley

Earlier this year, contractors with Joint Base Langley Eustis-Langley conducted a threatened & endangered species survey for reptiles, turtles, and amphibians across the installation. They found a colorful assortment of amphibians living nearby. The photos below show only a few of the specimens they encountered.



PHOTO PROVIDED BY ALICIA GARCIA

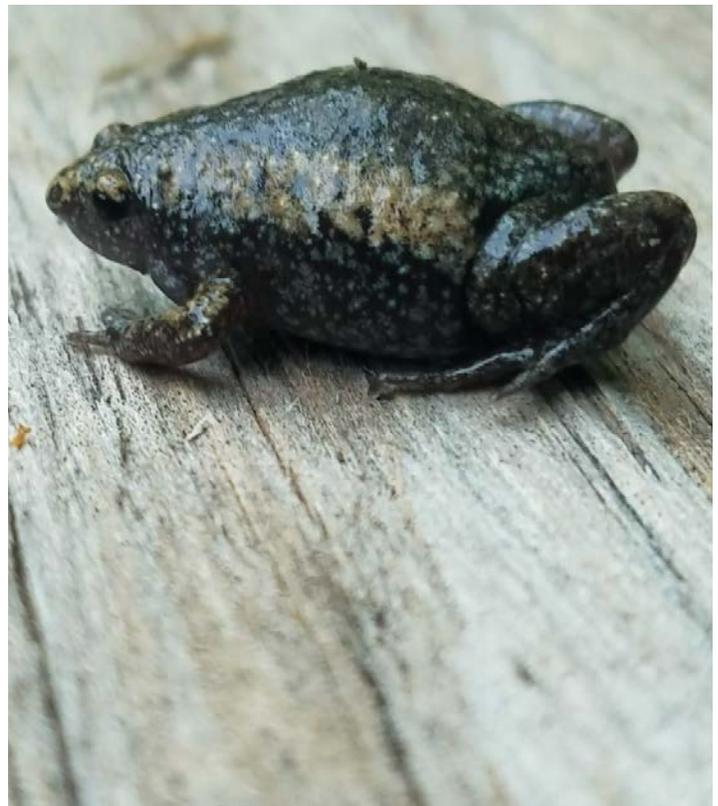


PHOTO PROVIDED BY ALICIA GARCIA

Like all amphibians, the green tree frog and squirrel tree frogs shown here are good indicators of water quality. Unlike the squirrel tree frog, including the pair hugging in the photo above, the green tree frog has black lines above and below the white line along its side.

Toads do not need to live near water to survive and have rough, dry, or bumpy skin compared to the smooth, moist skin of frogs. Shown at right is a narrow mouth toad found by contractors at JBLE-Langley.



Dolphins Shedding New Light on Water Quality Impacts to Human Health

By Sarah Shay, Brown and Caldwell



PHOTO BY CBP

Studies of sentinel species, like the bottlenose dolphin, can help scientists and public health officials assess the risk of certain pollutants to human populations based on the response within the animal populations.

To better understand how pollutants in our waterways affect human health, scientists are gaining insight by studying the bottlenose dolphin. The effects of contaminated environments on bottlenose dolphins can serve as early indicators of potential human health risks to those who work and live in affected areas, including DoD personnel.

Researchers from the Harbor Branch Oceanographic Institute at Florida Atlantic University released several studies in 2014 that explored connections between marine mammals and human health. These studies examined diseases experienced by bottlenose dolphins in the Indian River Lagoon, along the eastern shore of Florida, in an attempt to identify environments and dolphin populations with a high risk of disease; characterize changes in the environment and how those changes affect the dolphin's health; and identify pollutants and contaminants harmful to dolphins.

Bottlenose dolphins, characterized by their long life-spans and position as an apex predator, are found in the Atlantic, Pacific, and Indian oceans, making the results from the studies applicable to global human health concerns—and to residents of the Chesapeake Bay. As the population of bottlenose dolphins grows in the lower Chesapeake Bay area and surrounding tributaries, the dolphins' natural habitat has expanded to locations near DoD installations.

Defining the Connection

Using epidemiological techniques, researchers found correlations between the health impacts of water quality on humans and bottlenose dolphins and studied these commonalities to shed light on how specific pollutants in waterbodies can cause illness or disease.

Mercury, as methylmercury (MeHg), is a universally recognized pollutant with adverse human health effects. Exposure to MeHg can harm the

human nervous, digestive, and immune systems. Researchers concluded that the high concentrations of mercury found in the blood and skin of bottlenose dolphins in the Indian River Lagoon could cause similar health problems for humans living near polluted waters. Dolphins with higher levels of MeHg experienced changes in liver, kidney, and thyroid function, and immune system deficiencies. Prey species of the bottlenose dolphins in the northern Indian River Lagoon were also shown to have elevated concentrations of mercury. Saltwater impoundments and organic sulfate-rich sediment components in the Indian River Lagoon served as prime environments for MeHg to accumulate.

Researchers also measured the level of mercury exposure to humans living near the dolphins' habitat and found that over half of those tested who consumed locally caught fish experienced mercury exposure over the recommended EPA



limit. These elevated concentrations of mercury pose health risks to vulnerable populations, such as pregnant women. Buildup of mercury in marine sediment poses risks to the entire ecosystem, in and out of the water.

Lacazia, a cutaneous fungal disease, is caused by a fungus commonly found on the skin of dolphins. In humans, Lacazia is characterized by numerous yeast-like, round, thick-walled cells located on the surface of human skin, which can produce skin lesions around the ears, arms, and legs, burning sensations, and scarring. This disease was observed on bottlenose dolphins in the southern section of the Indian River Lagoon and caused an altered immune system response. The cause of this disease is currently unknown. Generally, it is believed that there is a low risk of humans contracting the infection due to an interaction with a diseased animal. However, because the species that causes the disease, *Lacazia loboi*, cannot be grown in culture, much is still unknown about the fungus and related diseases.

Antibiotic resistance has become one of the most significant challenges to public health in recent decades. Through the collection of blowhole cells, gastric fluid, and fecal samples, bottlenose dolphins exhibited slightly increased resistance to various human pathogens, including *S. aureus*, *E. coli*, *P. shigelloides*, *P. aeruginosa*, *A. hydrophila*, and *A. baumannii*, which may cause meningitis, methicillin-resistant *Staphylococcus aureus*, pneumonia, gastroenteritis, and other diseases in humans. There are multiple pathways to greater resistance—one significant pathway noted by the researchers is the introduction to the bottlenose dolphins' habitat of resistant bacteria and antibiotics not typically broken down by sewage treatment plants. This increased resistance to human diseases observed in the bottlenose dolphin population may signal a potential risk for swimmers, divers, and others who contact or ingest infected waters.

Closing the Loop

By continuing to study diseases in marine mammals, scientists and public health professionals can assess possible

repercussions for high-risk ecosystems and human populations. The results of Florida Atlantic University's study indicate that the bottlenose dolphin can serve as a sentinel species to identify human health risks from pollutants and events in the marine environment, including infectious agents, chemical pollutants, climate change, harmful algal blooms, and oil spills. Open-water contaminants can harm DoD personnel: outside the Chesapeake Bay, Navy divers and SEALs have reported rashes and illness after swimming in polluted waters. By understanding the warning signs exhibited by indicator species, DoD can help protect the health of personnel working in or around the natural habitat of sentinel species and continue to work toward the DoD's mission of creating safe and healthy waters for animals and people. For more information or to view the original webinar on which this article is based, visit the Harbor Branch Oceanographic Institute website and the Ocean Science Lecture Series page at www.fau.edu/hboi/community/osls.php.



PHOTO BY DOD CRP

Military personnel can be directly impacted by the quality of the water bodies in which they train and operate.

Chesapeake Bay Action Team Updates

By Hee Jea Hall, Brown and Caldwell

Members of the Chesapeake Bay Action Team (CBAT) convened for their quarterly meeting on July 27, 2017, to review progress on restoration and protection efforts around the watershed.

FY2017 DoD CBP Datacall

As in FY2016, the annual datacall is separated into two phases: the Best Management Practices (BMP) datacall and the Indicators and Projects (I&P) datacall. The BMP datacall's purpose is to document DoD's progress toward the Chesapeake Bay Total Maximum Daily Load (TMDL) by collecting data on progress to date and planned BMPs to reduce pollutant loads. The purpose of the I&P datacall is to collect data about projects and initiatives at installations that support the CBP's non-TMDL goals and facilitate reporting of required metrics. Information collected from both datacalls will be used to inform DoD's Annual Progress Report, quarterly journal, and other outreach efforts.

DoD CBP Updates

- The Phase 6 version of CAST (Chesapeake Assessment Scenario Tool - <http://cast.chesapeakebay.net/>) is now available to run BMP planning scenarios and provides extensive background information on crediting BMPs in the model.
- DoD submitted a comment to the EPA about ensuring DoD BMPs implemented in Pennsylvania are appropriately assigned to DoD. DoD also submitted comments on Pennsylvania's Phase III Watershed Implementation Plans (WIPs) regarding outreach and coordination.
- The CBP Partnership will be deciding in the next several months how to address loads associated with population growth and the Conowingo Dam. The DoD CBP will continue to monitor and determine if there is a potential increase in the level of effort that will be expected for installations.
- Final Phase III WIPs are due April 2019.
- Mr. Tom Olexa, NWS Yorktown-Cheatham Annex, and Ms. Alicia Garcia, JBLE, created a video with EPA on shoreline restoration projects. The video went live on August 1 and can be viewed here: http://www.chesapeakebay.net/news/blog/restoration_spotlight_military_installations_on_the_front_lines_of_coastal

CBP Updates

The Chesapeake Bay Partnership is tasked with making a series of critical decisions this fall related to the Chesapeake Bay TMDL Midpoint Assessment. In September 2017, the CBP will resolve the Phase 6 Fatal Flaw Review comments, revise the Midpoint Assessment Schedule as needed based on the Fatal Flaw Review, and approve final E3 scenarios. The Partnership will then finalize and approve the Phase 6 suite of modeling tools, develop draft Phase III WIP planning targets, and finish

quantifying impacts of the Conowingo Dam infill, climate change, and growth loads. In October, the DoD CBAT will meet on the 26th to discuss results of the September WQGIT meeting.



PHOTO BY CBP

At Naval Weapons Station Yorktown, Cheatham Annex, erosion and concerns about potential contamination near the installation's pier caused the Navy to take action. The new shoreline will be planted with wetland plugs to protect the shoreline from waves and wind



PHOTO BY CBP

The Chesapeake Bay Program recently highlighted shoreline restoration projects at Naval Weapons Station Yorktown, Cheatham Annex, and Joint Base Langley-Eustis



DoD/DoN Chesapeake Bay Program Office
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Check it Out

National Public Lands Day, Saturday, September 30, 2017.

Enhanced Roadside Ditch Management Webcast, Thursday, October 12, 2017, 12:00 to 13:30 pm EDT. For more information: <http://chesapeakestormwater.net/events/categories/webcasts/2017-webcast-series/>

CBAT Quarterly Conference Call, October 26, 2017, 10:00am to 12:30pm EDT. Agenda topics include solutions for new/retrofit BMP construction, shoreline restoration, BMP maintenance and inspection requirements for Chesapeake Bay jurisdictions and DoD CBP updates.

For more information: contact Sarah Diebel at sarah.diebel@navy.mil or 757.341.0383
Attend: Norfolk Naval Station, Building N-26 Room 3303
Call In: 1.866.749.3638 / Passcode: 7362645
Web Connect: <https://conference.apps.mil/webconf/quarterlyCBAT>

Stream Restoration: Where Are We Now? Webcast, November 11, 2017, 13:00 to 14:30pm EDT. Webcast will examine Expert Panel recommendations on methodologies to document stream restoration projects and the role of projects in meeting water quality goals.

For more information: <https://www.fedcenter.gov/Events/index.cfm?id=31655>

EPA Shoreline Restoration Video View at: http://www.chesapeakebay.net/news/blog/restoration_spotlight_military_installations_on_the_front_lines_of_coastal

SAV Article Posted in DoD "Natural Selections" Newsletter, October. The DoD Chesapeake Bay Program's Adam Wright recently submitted an article about DoD's role in the annual Virginia Institute of Marine Science survey of submerged aquatic vegetation (SAV) and its relationship to DoD installations. Once it is available, the newsletter can be found on DENIX at <http://www.denix.osd.mil/nr/home>

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