



DoD CHESAPEAKE BAY PROGRAM JOURNAL

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

A Word from the CBP Coordinator

By: Sarah Diebel

Commander Navy Region Mid-Atlantic (CNRMA) continues to coordinate Chesapeake Bay Program (CBP) efforts for DoD including representing DoD/DoN as the spokesperson for the Chesapeake Bay Program, coordinating with the Services to ensure we fulfill our responsibilities assigned to DoD as outlined in various watershed agreements, participating on Chesapeake Bay Commission meetings, enhancing communications, and reporting information required to document DoD efforts for the protection and restoration of the Chesapeake Bay.

Over the course of this summer, the DoD CBP coordinated with the Services to determine DoD's participation for the 2014 Chesapeake Bay Watershed Agreement and the development of the first set of two-year Management Strategies. The new Agreement reaffirms the Signatories' and partners' protection and restoration goals for the Chesapeake Bay. With more concise goals (10) and measurable outcomes (31), the focus includes incorporating science and ecosystem based management approaches, integrating the Executive Order 13508, and increasing accountability. The DoD CBP provided EPA and Jurisdictions that we would participate in the Water Quality 2017 and 2025 outcomes, Land Conservation Protected Lands Outcome, and Vital Habitats Forest Buffer and Tree Canopy Outcomes.

This fall, we will be wrapping up the 2014 Annual DoD CBP data-call that requested projects awarded in 2014 and those projected in 2015 and 2016 that contribute to program goals and Energy Independence and Security Action (EISA) Section 438 implementation. Also requested, included reporting BMPs implemented from 1 July 2013 to 30 June 2014 for each of the Bay jurisdictions. For installations that continue to identify and fill in data gaps, they will have up until June 2015 to submit BMPs in advance of model calibration and the 2017 mid-point assessment.

In addition, members from Navy Region Mid-Atlantic and Hampton Roads community said farewell to RADM Dixon Smith and welcomed RDML Rick Williamson in a change of command ceremony on 4 September 2014 at Naval Station Norfolk, VA. Welcome aboard, RDML Williamson!

CHECK IT OUT

Retrofitting Existing Stormwater Ponds & Basins

Wednesday, November 12, 2014 (1300–1500)

Many communities seek solutions to improve water quality, green the community, and comply with permit conditions and numerical standards in TMDLs. One of the most efficient means to achieve multiple benefits is to retrofit a community's existing stormwater infrastructure, consisting of older detention basins and ponds, among other practices. This webcast will highlight a systematic and effective way to inventory existing practices, develop concept plans, prioritize retrofits based on pollutant removal, cost, and other factors, and construct the retrofits.

For more information, visit:
<http://www.cwp.org/2014webcast8>

In the upcoming months, we will be working on compiling the installation project information and preparing the EO 13508 FY14 Progress Report. Federal partners are coordinating to determine the best path forward to integrate project reporting, budget reporting, governance and outcome responsibilities and scheduled a meeting with the Federal Leadership Committee Designees on 28 October to discuss recommendations and gain support. We will also be working to complete the Maryland Chesapeake Bay MOU report and participate on the Virginia Chesapeake Bay Stakeholder Advisory Group.

One topic that we will have on the next Chesapeake Bay Action Team (CBAT) scheduled for 20 November is the impacts of the new BMP verification framework. The framework and protocols include a recommended implementation schedule for federal and state partners and process for review and approval of BMP tracking, verification and reporting programs.

More to come on all of these topics, stay tuned!



Defense Grant to Protect 2,259 Acres Along the Nanticoke

First Published in the Bay Journal (29 August 2014)

By: Karl Blankenship

The Nanticoke River is getting a new ally in efforts to protect its shorelines from development — the military.

The Department of Defense in August announced that it was awarding \$1 million to help protect 2,259 acres of forest, wetlands and farmlands along the Eastern Shore River which contain a high diversity of plants and animals.

The lands are also important to the Patuxent Naval Air Station because they are part of its Atlantic Test Range used for aircraft. Protecting the lands from development will reduce noise and safety concerns in the test range and head off potential future restrictions or delays in training and testing.

The award was one of two made this year under the department's Readiness and Environmental Protection Integration Program Challenge.

The REPI program, established in 2003, allows the military to enter into cost-sharing partnerships with government agencies or conservation organizations to preserve land around military installations from development that could restrict their operations, training and testing.

"There is a direct relationship between the realistic training and success on the battlefield," said Kristin Thomasgard-Spence, REPI program director.

In the last decade, the program has protected about 315,000 acres to buffer land around 72 installations in 27 states.

The \$1 million awarded for the Nanticoke was part of the REPI Challenge program, launched in 2012, which is designed to support proposals that go beyond the normal requirements of the

REPI program by leveraging a greater amount of support from other agencies or organizations, protecting large landscapes and achieving additional natural resource benefits.

The Nanticoke project was developed by the Chesapeake Conservancy and is expected match the REPI funding by more than 5-to-1 with the help of other project partners including the U.S. Fish and Wildlife Service, the U.S. Department of Agriculture, the states of Maryland and Delaware, the Conservation Fund and The Nature Conservancy.

The parcels targeted for protection are unprotected areas in an 8,500-acre corridor along the river that includes 124 rare, threatened or endangered plant and animal species.

The Nanticoke is one of the least developed rivers on the Eastern Shore, and thousands of acres in the river corridor have already been protected.

But, said Joel Dunn, executive director of the Chesapeake Conservancy, the protected land in the corridor is highly fragmented. The REPI grant, he said, will help "fill in missing pieces, particularly ecologically significant properties that might also provide public access to the Captain John Smith Chesapeake National Historic Trail — and protect the Atlantic Test Range."

Also awarded under this year's REPI Challenge was \$4 million to Fort Huachuca in Arizona.

The Nanticoke project is one of only three projects to be funded through the REPI Challenge program since it was launched two years ago.



Nanticoke River, on Maryland's Eastern Shore, is home to a high diversity of plants and animals (Photo Credit: Dave Harp)



Accounting for Urban Stormwater Retrofits Under the Chesapeake Bay TMDL

By: Kelly Duckworth, Michael Baker International

The Chesapeake Bay Stormwater Training Partnership (CBSTP) held a webcast on 04 September 2014 addressing Urban Stormwater Retrofits, specifically —tracking them and accounting for them. In this webcast, representatives from the Center for Watershed Protection discussed the key panel outcomes from the final approved Water Quality Goal Implementation Team (WQGIT) report and retrofit options for opportunities to gain credits in meeting load reductions. The referenced final report and a supplemental FAQ document is available at: <http://chesapeakestormwater.net/bay-stormwater/baywide-stormwater-policy/urban-stormwater-workgroup/retrofits/>. This article provides a general overview of Urban Stormwater Retrofits. Using the information provided in the final report, installations can determine how to account for their retrofitted best management practices (BMPs) using the standard retrofit equation to determine pollutant removals. Updated state stormwater contacts can answer any questions regarding retrofits and associated reporting and verification procedures (see Table 1).

Table 1: State Stormwater Contacts (as of 4 September 2014)

State	Stormwater Contact	Email	Data Manager	Email
DC	Jeff Seltzer	jeffrey.seltzer@dc.gov	Steve Saari	steve.saari@dc.gov
DE	Randy Greer	Randell.Greer@state.de.us	Marcia Fox	Marcia.Fox@state.de.us
MD	Ray Bahr	rbahr@mde.state.md.us	Greg Sandi	gsandi@mde.state.md.us
NY	Robert Capowski	rmcapows@gw.dec.state.ny.us	Ben Sears	brsears@gw.dec.state.ny.us
PA	Ken Murin	kmurin@state.pa.us	Ted Tesler	thtesler@state.pa.us
VA	Fred Cunningham	Frederick.Cunningham@deq.virginia.gov	Bill Keeling	William.keeling@deq.virginia.gov
WV	Sebastian Donner	Sebastian.donner@wv.gov	Alana Hartman	alana.c.hartman@wv.gov

So what is a stormwater retrofit? A stormwater retrofit is a best management practice that provides nutrient and sediment reductions on existing development that is currently untreated by any BMP or inadequately treated by an existing BMP. There are two types of retrofit categories: New Retrofit Facilities and Existing BMP Facilities. New retrofit facilities can be constructed near existing stormwater outfalls, within the conveyance system, adjacent to large parking lots, green street retrofits and on-site retrofits, to name a few. Existing BMP facilities include conversions, enhancements, and restoration to the existing BMP. Additionally, all practices are sorted into two categories, Runoff Reduction (RR) and Stormwater Treatment (ST). Table 2 shows the classification between the two categories and example retrofits.

Table 2: Runoff Reduction Practices vs. Stormwater Treatment Practices

To account for the runoff volume treated by a retrofit practice, a calculation must first estimate the Runoff Storage volume (RS) in acre-feet. The RS value divided by the Impervious Area (IA) in acres, is used in the standard retrofit equation to determine the amount of runoff volume in inches treated at the site:

$$\text{Where: } = (RS)(12)/IA$$

RS = Runoff Storage Volume (acre-feet)
IA = Impervious Area (acres)

<i>Runoff Reduction (RR) Practices</i>	<i>Stormwater Treatment (ST) Practices</i>
Bioretention	Constructed Wetlands
Dry Swale	Filtering Practices
Infiltration	Proprietary Practices
Permeable Pavement	Wet Swale
Green Roof	Wet Ponds

Once the amount of runoff captured by the practice is determined, using the retrofit removal adjustor curve, either RR or ST for each practice, one can determine pollutant removal rates for individual stormwater retrofits. The retrofit removal adjustor curves can be found in the *Final CBP Approved Expert Panel Report on Stormwater Retrofits* on the Chesapeake Stormwater Network’s website.

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If the retrofit removal adjutor curves are difficult to view/read, polynomial equations, as seen in Table 3, can be entered into an Excel spreadsheet to calculate the removal rates. Simply, enter the number of inches treated per impervious acre (X) by your retrofit or stormwater practice to get the percent removal for each of the three pollutants.

Table 3: Excel calculations for percent removal for each pollutant

TP	RR	$y = 0.0304x^5 - 0.2619x^4 + 0.9161x^3 - 1.6837x^2 + 1.7072x - 0.0091$
	ST	$y = 0.0239x^5 - 0.2058x^4 + 0.7198x^3 - 1.3229x^2 + 1.3414x - 0.0072$
TN	RR	$y = 0.0308x^5 - 0.2562x^4 + 0.8634x^3 - 1.5285x^2 + 1.501x - 0.013$
	ST	$y = 0.0152x^5 - 0.131x^4 + 0.4581x^3 - 0.8418x^2 + 0.8536x - 0.0046$
TSS	RR	$y = 0.0326x^5 - 0.2806x^4 + 0.9816x^3 - 1.8039x^2 + 1.8292x - 0.0098$
	ST	$y = 0.0304x^5 - 0.2619x^4 + 0.9161x^3 - 1.6837x^2 + 1.7072x - 0.0091$

The webcast presenter continued with tips for getting retrofits in the ground faster and easier such as piggyback on municipal construction/street reconstruction projects, maximize drainage area treated by individual retrofits and transforming stormwater maintenance programs. The speaker also recommended using an existing BMP inventory to conduct assessment of potential retrofit candidates, which some installations have already started analyzing.

The webcast ended with a Q&A session—see below. To view the archived version of the webinar, to learn more about upcoming webinars or learn more about the Chesapeake Stormwater Network visit <http://chesapeakestormwater.net/>.

Q&A

What records do I need to keep?

It is recommended that the following be kept:

- ◆ Retrofit class
- ◆ GPS coordinates
- ◆ Year of installation
- ◆ 12 digit watershed in which it is located
- ◆ Total drainage area and impervious cover area treated
- ◆ Runoff volume treated and identify type of BMP
- ◆ Projected sediment, nitrogen and phosphorus removal rates

Can I get credit for maintaining ponds?

No, credit is not given for routine maintenance on existing stormwater practices. Restoration activities must be significant enough to achieve the intent of the original water quality design criteria in the ear in which it was built.

What if I am using both runoff reduction and stormwater treatment practices?

Unless your state stormwater contact indicates otherwise, use the curve for the type of practice that comprises the majority of the runoff capture volume for the project site as a whole.

Are regenerative stormwater conveyance (RSC) practices considered retrofits?

Yes, DRY RSC practices can be treated as an upland BMP or as a retrofit for treating stormwater runoff. Use the “RR” curve for determining removal rates. WET channel RSC practices are considered to be a stream restoration practice.

How long are the credits good for?

For installation, the maximum duration for the removal rate will be ten (10) years and can be renewed base on a field performance verification.

