

HEADWATERS

PUBLICATION OF MARYLAND SEA GRANT EXTENSION WATERSHED EDUCATORS

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DEAR READERS:

Spring: a time of renewal, regeneration, and revitalization. Traditionally spring is a long-awaited respite from short days and cold weather, a time when we gladly watch the change from brown and gray to a fresh palette of pinks, yellows, white, and green. Days get longer, plants begin to germinate, sprout, and blossom, and individual trees begin to slowly fade before our very eyes into a carpet of forested green.

Some changes are more easily noticed such as dogwoods and dandelions while others signs are much more subtle, but if you slow down and take a closer look, the wonders of spring are all around us. In the floodplain of Norwich Creek, a tributary that drains into Tuckahoe Creek and the Choptank River, very special signs of the change of season were visible during a recent visit. Paw Paw trees were blossoming, Mayapples were flowering, and Jack-in-the-Pulpit and the fiddleheads of a yet-to-be-identified fern were sprouting not far from a carpet of Spring Beauty.

As Watershed Restoration Specialists, we are often called upon to look for causes and solutions to the problems that affect the many creeks, streams, and rivers that feed the Chesapeake Bay. Sometimes the problems are simple and easy to spot, other times they are manifold and obscured. We work with local governments, watershed groups, and





“A time of renewal, regeneration, and revitalization”



Spring Beauty in bloom near Norwich Creek. Unfortunately their presence is threatened by the encroachment of Japanese Knotweed and Fig Buttercup, also known as Lesser Celandine. Both are non-native, invasive plant species. *Image: Eric Buehl*

concerned individuals to seek science-based, common-sense solutions to address potential impacts. Sometimes it might involve an engineered solution, but other times it starts with individuals addressing stormwater runoff from their own back yard.

So as we accept the welcoming embrace of spring and venture forth into our lawns and landscaped areas, take a look around and assess how you might be able to decrease runoff or integrate the planting of native vegetation. Then take

a moment and visit our website (extension.umd.edu/watershed), which has a wealth of information on residential-scale best management practices and links to numerous resources. And if you cannot find what you are looking for, members of the Watershed Protection and Restoration Program are only a phone call away. So with spring in mind, this issue of Headwaters emphasizes its feeling of renewal, regeneration, and revitalization. In this issue you will meet our two newest Watershed Specialists, learn that small things really can





“Paw-Paw trees are blooming, Mayapples are flowering, and Jack-in-the-Pulpit and the fiddleheads of a yet-to-be-identified fern were sprouting”

witness the success of grants that help with planning, find out what the Stewards at St. Mary’s County Watershed Stewards Academy have been up to, and learn about how the Maryland Coastal Bays Program is taking steps to assess its vulnerability to climate change.

Sincerely,

**The Maryland Sea Grant
Extension Watershed Educators
Team**



Welcome signs of spring near Norwich Creek. Clockwise from top left: Paw Paw, Mayapple, fern fiddleheads, and Jack-in-the-Pulpit. *Images: Alexandra Buehl*





Welcome Kelsey



+ Kelsey E. Brooks

Regional Watershed
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Kelsey Brooks has joined the University of Maryland Sea Grant Extension Watershed Protection and Restoration Program as the Regional Watershed Restoration Specialist for the Northern Cluster, serving Baltimore, Harford, and Carroll Counties and Baltimore City. Prior to joining Extension she spent four years in Richmond working for Virginia's Department of Environmental Quality as an MS4 Stormwater Specialist, primarily focusing on developing tools and guidance to assist Virginia's MS4 permittees in calculating and meeting their reduction requirements under the Chesapeake Bay Total Maximum Daily Load (TMDL).

Kelsey graduated from Princeton University with a B.A. in Ecology and Evolutionary Biology, where she wrote an undergraduate thesis on the ability of naturally occurring weed species to remediate

heavy metals at a brown-field in Trenton, NJ. She also holds a Masters in City and Regional Planning with a concentration in Physical and Environmental Planning from Rutgers University. During her graduate coursework she developed a strong interest in stormwater management and green infrastructure following the impact Hurricanes Irene and Sandy had on New Jersey.

In her free time Kelsey enjoys reading about and trying to make sense of history, visiting museums and gardens, and making her home as cat friendly as possible. She is looking forward to learning about and exploring Maryland.





Welcome Alexis

+ Amanda Rockler

The Watershed Protection and Restoration Program (WPRP) has recently added its youngest and tiniest member to the team. Alexis Gael Ovalle Rockler was born on January 22, 2017 and has already proven himself a natural fit for the WPRP team by celebrating his first earth day and marching for science! So far the new tiny team member enjoys sleeping, eating, baths, and giggling.



“The time will soon be here when my grandchild will long for the cry of a loon, the flash of a salmon, the whisper of spruce needles, or the screech of an eagle. But he will not make friends with any of these creatures and when his heart aches with longing, he will curse me. Have I done all to keep the air fresh? Have I cared enough about the water? Have I left the eagle to soar in freedom? Have I done everything I could to earn my grandchild’s fondness?”

CHIEF DAN GEORGE (1899 - 1981)





SMALL BMPs CAN MAKE A BIG DIFFERENCE

+ ERIC BUEHL

+ HOMEOWNER BMPs ADD
UP

All across Maryland best management practices, or BMPs, are used to reduce the impact of stormwater runoff on water quality in the Chesapeake Bay. You often see them when you stop at the neighborhood drug store, along the highway or in the median strip, or in your own subdivision. They include small wetland ponds, landscaped areas that filter runoff, or infiltration practices including pervious or porous surfac-

es that help water soak back into the ground. At the homeowner level, many residents across the state are installing rain gardens or doing conservation plantings in areas that were formerly lawn.

In case you have ever wondered if a small BMP like a rain garden has any significance, these small areas can add up to make a big difference when it comes to water



The native plants in five hundred small rain gardens would be enough to cover Capital One Field at Maryland Stadium from end to end.
Images modified from Rice County SWCD and UMTerps.com





“These practices...can have a positive impact on local waterways and beneficial insect populations.”

quality. Think about this; a small homeowner rain garden (10 feet wide by 10 feet long by 6 inches deep) can hold 374 gallons of water. If only 500 rain gardens of the same size are installed, they would hold enough water to cover nearly 7 acres of land with one inch of water.

Rain gardens also provide many more benefits. By using native plants in rain gardens, wildlife, including native pollinators, can benefit from the additional space to rest, feed, and lay eggs. If we take those same 500 homeowner rain gardens planted with native plants, they would cover an area the size of a football field (without the end zones).

These practices will never replace the forests that once buffered the Bay or the meadows that served as home for our pollinators, but collectively, they can have a positive impact on local waterways and beneficial insect populations.





THE POWER OF DESIGN



PHILLIP STAFFORD,
COASTAL NON POINT
COORDINATOR,
MARYLAND DEPARTMENT
OF NATURAL RESOURCES-
CHESAPEAKE COASTAL
SERVICE DIVISION

On April 4th, there was an event to highlight the 30 new awardees under the Watershed Assistance Grant Program (WAGP), which is jointly supported by the Chesapeake Bay Trust, Maryland Department of Natural Resources, Maryland Department of the Environment, and EPA Chesapeake Bay Program to provide design funding for local on-the-ground solutions to water quality issues. The event was held at the MedStar Harbor Hospital, the site of one of the new projects. The MedStar project partnered MedStar Harbor Hospital, Blue Water Baltimore, and Plisko Sustainable Solutions to design nine green infrastructure facilities in Baltimore City. The facilities will treat 18 acres of the hospital's impervious surface, which currently discharges stormwater into the Middle Branch of the Patapsco River. The project will also create green spaces that can be used by patients and

even be prescribed by doctors to allow recovering patients to get outdoors and get fresh air.

The WAGP began in 2009 and provides funding for design and watershed planning of storm-water remediation and nutrient reduction projects. WAGP is a key funding source for local governments and nonprofits as it allows them to create the designs needed to pursue implementation grants such as the Chesapeake and Atlantic Coastal Bays Trust Fund. WAGP provides the first step in producing successful storm-water projects by ensuring that they are well designed and thought out before implementation starts through other funding sources.

Since it's inception, WAGP has funded the design and planning for 146 projects totaling \$6,359,090. For the current year, 43 applications were received and 30 projects were funded totaling \$2,000,885. This included projects that ranged from flood alleviation





“Since it’s inception, WAGP has funded the design and planning for 146 projects”

and wetland enhancement to stream restorations. Annually, the request for proposals (RFP) for WAGP is released in early June with applications due in September. If you are interested in learning about WAGP, visit the Chesapeake Bay Trust website at (cbtrust.org/watershed-assistance/) or contact your Regional Watershed Restoration Specialist for more information.



The unveiling of the design plans for the MedStar harbor Hospital site in Baltimore funded through WAGP. Photo: Phillip Stafford





HOW VULNERABLE IS THE MARYLAND COASTAL BAYS PROGRAM?

+ JENNIFER DINDINGER

+ MCBP LOOKS INWARD TO PREPARE FOR CHANGE



To climate change, that is. The Maryland Coastal Bays Program (MCBP) recently received funding from the U.S. Environmental Protection Agency (EPA) to conduct a climate vulnerability assessment for the organization, and hired Jen Dindinger of Maryland Sea Grant Extension to moderate the process. Executive Director Frank Piorko is optimistic about the assessment because it will help the MCBP prepare for the future. *“We sought this assessment because there is reason to believe that climate change will affect what the Coastal Bays Program can accomplish through the Comprehensive Management Plan in the next 10 years,”* he said. *“Conducting the assessment will help us understand the risks from specific climate stressors, as well as the*

likelihood and consequences of each risk, and enable us to adapt accordingly.”

The group is using a workbook created by EPA’s Climate Ready Estuaries program: “Being Prepared for Climate Change: A Workbook for Developing Risk-Based Adaptation Plans.” The workbook has 10 steps, the first 5 of which result in a vulnerability assessment.

Elements of the vulnerability assessment include:

- 1. Communication and Consultation:** MCBP gathered key stakeholders to inform them about the process and ask for assistance.



Photo: DelmarvaNow.com





“Their goal is to protect and enhance the Coastal Bays watershed”



2. Establishing the Context for the Vulnerability Assessment: MCBP chose to focus on the ways climate change could impact the organizational goals adopted in its 2015 – 2025 Comprehensive Conservation & Management Plan.

3. Risk Identification: Through meetings with their Scientific and Technical Advisory Committee and an expert panel convened specifically for the assessment, a broad list was created of risks that could occur as a result of 7 specific climate change stressors (Warmer Summers, Warmer Winters, Warmer Water, Increasing Storminess, Increasing Drought, Sea Level Rise, and Ocean Acidification).

4. Risk Analysis: Small groups analyzed each Goal-Risk-Stressor pathway to characterize the consequence and likelihood of occurrence.

5. Comparing Risks: From the risk analysis results, a draft consequence/probability matrix will be created for the public to review and comment on at two evening meetings (May 11 and May 23).

The final product of the assessment will be a consequence/probability matrix with risks divided into High, Medium, and Low categories. Ultimately, MCBP will create a risk-based adaptation plan based on this assessment.

The Maryland Coastal Bays Program is a nonprofit partnership between the towns of Ocean City and Berlin, Worcester County, the National Park Service, EPA, and the Maryland Departments of Natural Resources, Agriculture, Environment and Planning. Their goal is to protect and enhance the Coastal Bays watershed, which includes Ocean City, Ocean Pines, Berlin, and Assateague Island National Seashore.

For more information about the vulnerability assessment process or this project, contact Jen Dindinger at jdinding@umd.edu.





SMALL BUT MIGHTY

+ JACQUELINE TAKACS

+ STEWARDS HIT THE GROUND RUNNING

Just over a year ago, the first class of the St. Mary's County Watershed Steward Academy gathered at the Agricultural Service Center in Leonardtown, Maryland. Hosted by University of Maryland Extension and St. Mary's County government and coordinated by Nicole Basenback, the Academy's first cohort of trainees, 10 in number, have completed their coursework and now are working on their capstone project within their communities. Here are just a few highlights of what they have been up to so far. I can't imagine what they will accomplish by graduation this winter!

- Stewards have completed over 180 volunteer hours (outside of classwork), and have recruited over 40 youth and 12 adults to volunteer on projects
- 60 trees and 70 native plants installed on steward-driven stormwater projects
- Five new partnerships have developed as a result of stewards working with their community to improve water quality

AND

- Stewards are working with five schools to educate students and install stormwater practices on school grounds
- Two grants have been awarded to stewards

- One new watershed association formed - the Friends of St. Clements Bay

I couldn't be any prouder to work with this small but mighty group of hardworking, dedicated people. For more information about the work of the St. Mary's WSA go to <http://ter.ps/StMarysWSA>.



Photo: Wayne Gwynn





ATTENTION ALL TEACHERS!

+ MSDE OFFERS 5
CREDITS FOR WSA

Attention all Teachers!!

Looking for an in-depth professional development opportunity? Look no more!

Teachers can receive 5 MSDE credits for becoming a Master Watershed Steward. Contact the local WSA in your area for more information (<http://ter.ps/WSA>).



Photo: Nicole Basenback



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Headwaters is a publication providing information and resources for Extension and watershed protection professionals. It is a joint production of the University of Maryland Extension and Maryland Sea Grant Program. If you have any comments, questions, or ideas for Headwaters, please contact the Editor:

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Who's Your Watershed Specialist?

