

HEADWATERS

PUBLICATION OF MARYLAND SEA GRANT EXTENSION WATERSHED EDUCATORS

Rain Garden Installation, Dundalk, MD
Photo by Krisztian Varsa

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DEAR READERS:

The Mid-Atlantic is infamous for its highly variable and seasonally extreme weather. But this spring we've witnessed impressive stormwater in action! In fact, BWI Airport nearly *tripled* its average monthly rainfall for April. Not surprisingly, the result was massive flooding, widespread property damage, and even [landslides in Baltimore](#).

Although the task of addressing stormwater and nonpoint source runoff pollution can be overwhelming, as we speak, dedicated and passionate people are helping resolve these issues in Maryland.

In the follow-up to the inaugural issue, this spring's *Headwaters* features news about the Watershed Stewards Academy program, a grassroots volunteer effort to implement stormwater runoff reduction projects. Master Watershed Stewards are trained in a six- to eight-month course, preparing them to become leaders in stormwater management in their own communities.

Don't forget to check out other *Headwaters* features like the Galesville Community Focus and Climate Corner. Also, explore our website for more on the Watershed Stewards Academy at www.extension.umd.edu/watershed.

Sincerely,

The Maryland Sea Grant Extension Watershed Educators Team





SPRING HAS SPRUNG AND PROJECTS ABOUND!

+ AMANDA ROCKLER

+ AFTER MONTHS OF TRAINING, MASTER WATERSHED STEWARDS ARE READY TO DIG, AMEND, AND IMPLEMENT PROJECTS THROUGHOUT THE BAY WATERSHED



Spring has sprung, the birds are chirping, April showers turned into May showers (or downpours), and lots and lots of flowers.

After the harsh winter and months of training, the Watershed Stewards from across the state are ready to dig, amend, and implement projects throughout the Bay watershed.

The Watershed Stewards Academy (WSA) is an intensive training program that engages and empowers community leaders to identify local stormwater pollution issues and treat them at the source. To comply with the Bay Total

Maximum Daily Load (TMDL) by 2025, it is imperative that small-scale stormwater solutions be implemented throughout the watershed. Although small, these actions add up, and with a “flood” of stewards throughout our local watersheds, communities can be empowered to transform stormwater to clean water.

Expert stormwater professionals lead the training, which includes watershed management, geographic information systems, leadership skills, social marketing, and stormwater best management practices. A consortium of experienced stormwater management practitioners provides Stewards with on-going support for their community projects. Watershed Stewards Academies can be found





“Although small, these actions add up.”

throughout Maryland. The original WSA Program was launched in 2010 in Anne Arundel County. The National Capital Region, which serves Montgomery County, Prince George’s County, and DC, launched soon after in 2012. Howard County is the most recent addition and it launched in 2013. The Cecil County WSA is slated to launch this fall, followed by the St. Mary’s/Calvert County WSA slated to launch in 2015. To become a Master

Watershed Steward, students are required to complete six- to eight-months of course work followed by a class project and a capstone project.



Conservation landscaping is beneficial for both stormwater management and habitat. Photo by Amanda Rockler

For more information on a Watershed Stewards Academy Program near you, contact your regional watershed restoration specialist or visit:

[Anne Arundel County Watershed Stewards Academy](#)

[Howard County Watershed Stewards Academy](#)

[National Capital Region Watershed Stewards Academy](#)





SAVING THE BAY... ONE ACADEMY AT A TIME

+ JENNIFER DINDINGER

+ WE'RE PROUD TO ANNOUNCE THAT A WATERSHED STEWARDS ACADEMY WILL PILOT IN CECIL COUNTY THIS FALL



“Across the bridge,” on the Western Shore, Watershed Stewards Academies are springing up to take action! On the Eastern Shore it’s no different. Two years ago, Sea Grant Extension and local community leaders convened a steering committee to adapt the WSA model for the Shore’s unique rural and urban mix. Committee members included county government representatives, Cecil County Extension, Chesapeake Bay Foundation, Chesapeake College, Corsica River Conservancy, Eastern Shore Land Conservancy, Environmental Concern, The Hughes Center for Agro-Ecology, Sassafras Watershed

Association, local Master Watershed Stewards from Anne Arundel’s program, and volunteers from the community. We met monthly to discuss the curriculum, build a support network, and develop program logistics. Then, we hit the road, sharing the idea with local governments and Watershed Implementation Plan (WIP) teams to “shop” the idea and gauge community interest.

As a result, we’re proud to announce that a Watershed Stewards Academy will pilot in Cecil County this fall! With Cecil County’s Department of Public Works, Development Services Division, a partnership crucial to the success of the WSA program, each class of stewards will conduct a community stormwater assessment and use the results to target





“Every dollar that WSA spends is matched more than 100% by community investment.”

stormwater management practices in their communities.

Stewards will also provide outreach and education to community members and recruit community volunteers to assist with projects. As the culmination of their participation in the WSA program, stewards will seek funding for and design and implement their own stormwater projects to improve water quality in their communities.

By the numbers, the WSA is a homerun. In Anne Arundel County, where the program was initiated by the Department of Public Works and the Board of Education, every dollar that WSA spends is

matched more than 100% by community investment. The result in 2012 alone was an investment of 3,700 hours and \$47,500 in watershed restoration in local neighborhoods. Notably, those stewards brought in an additional \$11,700 in grant funding for their communities.

If you want to learn about and implement stormwater management practices in your community, consider applying for the fall 2014 Watershed Stewards Academy in Cecil County.

Contact Jennifer Dindinger for more information:
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GALESVILLE'S SUMMERPALOOZA

+ JACKIE TAKACS

+ FUTURE MASTER WATERSHED STEWARDS USE SOCIAL MARKETING SKILLS TO INCREASE RAIN BARREL ADOPTION THROUGH MESSAGING AND COST REDUCTION



Changing behaviors to benefit the greater population is not a quick or simple process. Before we can expect someone to change a behavior, we have to ask a two basic questions:

Why aren't people doing the desired behavior?

Why would people want to do the desired behavior?

This process of examining the barriers and benefits of behavior change and creating appropriate programming/materials to elicit change is called social marketing and this tool is being increasingly employed in the environmental arena. We employ social marketing in the Chesapeake Bay Watershed where dedicated

people help connect the dots from homeowner's backyards to water quality.

This past year, our UME Watershed Restoration Team was selected by the Chesapeake Bay Trust to receive specialized training in social marketing. This opportunity allowed us to provide more technical expertise and guidance to our communities and partners. This past winter, I had the good fortune to advise a great group of Anne Arundel Watershed Stewards (Carmen, Cecelia, Nora, Mel, and Terry) on their first community behavior change project – getting the residents of Galesville to install rain barrels in an effort to reduce stormwater runoff and improve local water quality.





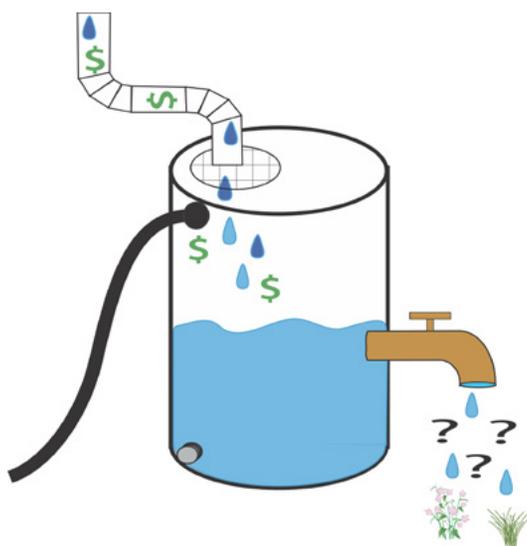
“17% of respondents indicated that they didn’t need a rain barrel because they ‘didn’t have gardens that needed watering.’”

Surrounded by water on three sides, Galesville is a 660-acre unincorporated town located in southern Anne Arundel County. Galesville boasts a population of 514 individuals living in 224 housing units, with one main road in and no delivered mail service. A survey of the residents, conducted by the team of stewards, revealed that cost and a lack of knowledge about function were major barriers to the purchase and

installation of rain barrels. In fact, 17% of respondents indicated that they didn’t need a rain barrel because they “didn’t have gardens that needed watering.”

The team of stewards spent months creating a social marketing plan that will kick off this summer and continue into the fall. Their goal is to have 55 new rain barrels installed in the town. That would keep 3000 gallons of runoff from entering the local waterways during each storm event.

To overcome the barriers of cost and installation, the team intends to offer two workshops – one demonstrating a rain barrel installation at the local post office and one offering 50% discounts on rain barrels and installation to residents. Their education



Rain barrels are economically, environmentally, and horticulturally beneficial. Graphic by Jackie Takacs.





“Their education campaign is fierce! Cocktail parties...Burma Shave-style signs...and a Rain Barrel Pledge.”

campaign is fierce! Their education campaign is fierce! It includes cocktail parties hosted at homes with a rain barrel; rotating signage on the demo barrel at the post office (all residents have to get their mail at the post office); a Rain Barrel Pledge; and “Burma Shave” type educational signage along the single main road road

that runs through town. For those too young to remember Burma Shave, it’s a series of small signs that combine to deliver a single message. The team plans to keep the community aware of their progress through the use of a publicly posted “Rain Barrel Thermometer” that will illustrate their advancement to the 55-barrel goal.



If I were a betting woman, I’d put my money on the team not only reaching their goal but also educating most of the residents of the town about all the possibilities of rain barrels (sounds like an evaluation survey!). If you find yourself in Galesville this summer or fall, be sure to take notice of the hard work of these wonderful stewards.

Rain barrels come in many shapes, styles, colors, and designs. This rain barrel was designed and built by the owner. Photo by Krisztian Varsa.





NEW WE TABLE TECHNOLOGY FACILITATES HABs WORKSHOP

+ KRISZTIAN VARSA

+ MARYLAND SEA GRANT CONVENED A WORKSHOP TO DEVELOP GUIDANCE ON THE REMOTE SENSING OF HARMFUL ALGAL BLOOMS



Algal blooms are a natural part of the Chesapeake Bay ecosystem. Fortunately, less than 2% of these algal blooms can produce a toxin that are harmful to aquatic life or humans. However, in certain conditions, the blooms can have negative effects on aquatic organisms, potentially causing widespread fish and shellfish kills and even closing beaches. These conditions are called Harmful Algal Blooms, or HABs.

On May 1, Maryland Sea Grant convened a workshop to develop Harmful Algal Bloom guidance for NOAA's

National Centers for Coastal Ocean Science (NCCOS) for developing remote sensing models and delivering appropriate products for user groups in the Chesapeake Bay region. Specifically, Maryland Sea Grant Extension educators Krisztian VarSA and Vicky Carrasco worked with Maryland Sea Grant's Mike Allen and Jeff Brainard and Shelly Tomlinson and Rick Stumpf of NCCOS to conduct and facilitate breakout groups to demonstrate and obtain feedback on remote sensing HAB products using weTable technology.

WeTable technology, which converts a computer screen projection into an interactive decision-making tool, allowed attendees to learn more about the science and products for the remote sensing of HABs. For example, product users





“Maryland Sea Grant’s weTable was an ideal tool for enhancing engagement and creating interactive dialogue at the HABs workshop.”

evaluated the effectiveness of NCCOS satellite-detected algal bloom maps of the Chesapeake region. Attendees also provided feedback on a web-based HABs mapping tool and HABs bulletins which NCCOS produces for other regions.

Maryland Sea Grant’s weTable was an ideal tool for enhancing engagement and creating interactive dialogue at the HABs workshop. By transforming the tabletop

into an interactive map, browser, and decision-making platform, Sea Grant Extension Specialists facilitated collaborative outcomes for remote sensing HABs specialists.

If the weTable sounds like appropriate tool for your participatory activity or engaged meeting, please contact Maryland Sea Grant Extension at: weTable@mdsg.umd.edu



Previous page and above: HABs Workshop attendees analyze and evaluate the effectiveness of remote sensing imagery. Photos by Maryland Sea Grant’s Michael Fincham.





CLIMATE CORNER

+ VICKY CARRASCO &
EMILY GREER

+ EXAMINING THE 2014
NATIONAL CLIMATE
ASSESSMENT, RELEASED
ON MAY 5

On May 5, the U.S. Global Change Research Program (USGCRP) released the 2014 National Climate Assessment (<http://nca2014.globalchange.gov>), which outlines expected future effects of climate change in regions across the United States. The U.S. Global Change Research Program was established by Presidential Initiative and Congressional mandate in 1989-1990 to “assist the Nation and the world to understand, assess, predict, and respond to human-induced and natural processes of global change.” Assessments are a requirement of this program.

Prepared by several hundred scientific and technical experts, the 2014 assessment provides an updated glimpse of climate change effects on a variety of sectors, including water resources, ecosystem services, and energy supply and use. Further, the assessment breaks

down effects by geographic region and concludes with possible mitigation and adaptation steps.

The report says that climate change will result in serious consequences that cross social, economic, and environmental aspects of life. For instance, the report predicts that decreased air quality and an increase in diseases transmitted by food and water will threaten human health. Climate change will also threaten infrastructure through sea level rise and larger storm surges. Agriculture will suffer from extreme heat and droughts, diminishing the security of our food supply. Finally, the report says, ocean waters will be warmer and more acidic, which will threaten marine life.





Local Lawsuit on Climate Change

Due to heavy rains which fell on Illinois in 2013, Farmers Insurance Group is suing several communities near Chicago for “failing to adequately prepare for the impacts of climate change and an increase in extreme weather.”

Be sure to join the Sea Grant Law Center in following the outcomes of this lawsuit and what it could mean for communities that plan for climate change.

[HTTP://TER.PS/5SW](http://TER.PS/5SW)

Several “Key Messages” cited in the report as specific to the Northeast could apply to communities in Maryland:

Climate Risks to People— Heat waves and coastal and river flooding will pose a growing challenge to the region’s environmental, social, and economic systems.

This will increase the vulnerability of the region’s residents, especially its most disadvantaged populations. **Stressed Infrastructure**— Infrastructure will be increasingly compromised by climate-related hazards, including sea level rise, coastal

flooding, and intense precipitation events.

Some communities have already started incorporating the risks of climate change into their planning and preparation efforts, but education on the science of climate change and adaptation to those changes is still in early stages. Decisions that take these risks into account will be complicated—there is no one universal adaptation solution—but sharing best practices and collaborative processes can support progress.

Key Message: Planning and Adaptation

While a majority of states and a rapidly growing number of municipalities have begun to incorporate the risk of climate change into their planning activities, implementation of adaptation measures is still at early stages.

Snapshot image of the planning and adaptation message from the 2014 National Climate Assessment report for the Northeast region of the U.S. <http://nca2014.globalchange.gov>



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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 Specialists:

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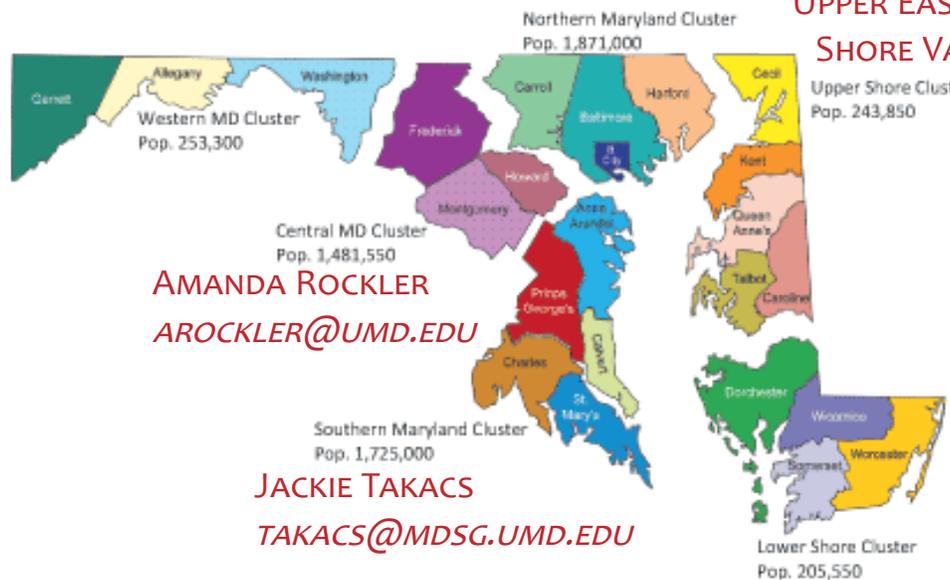
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