UNIVERSITY OF MARYLAND EXTENSION
Sea Grant Maryland

Issue 1 Volume 6
March 2019

HEADWATERS

PUBLICATION OF MARYLAND SEA GRANT EXTENSION WATERSHED EDUCATORS

Inside this Issue

Dear Headwaters Readers,

Spring is a confusing time for plants, animals, and people. Freezing cold temperatures one minute, you're breaking into a sweat the next minute. Daffodils popping up all over the place and that pale, red glow in the distance show that the Maples have had enough winter and it's time to bask in the sun and enjoy springtime! As you think about getting out in the yard and doing a little maintenance, don't forget that your septic system might need some TLC too. In this issue of Headwaters, Dr. Andy Lazur closes out his series on septic systems with some suggestions on their maintenance. We also share some insight on one of our key partners, the Watershed Assistance Collaborative. And to wrap it all up, we pitch 5 questions to Dr. Bill Hubbard, our new Assistant Director and Program Leader.

So here's to spring and a great 2019! If you would like more information about an article or our program, our email addresses are on the last page of Headwaters.

Source: The Baltimore Sun

Springtime greetings,

The Maryland Sea Grant Extension Watershed Educators Team






Issue 1 Volume 6
March 2019

Maintaining Your Septic System - the Key to an Effective and Lasting Investment

+ Andy Lazur

State Extension Specialist - Water Quality
University of Maryland Extension
Central MD Research and Education Center
2005 Largo Road
Upper Marlboro, MD 20774
lazur@umd.edu

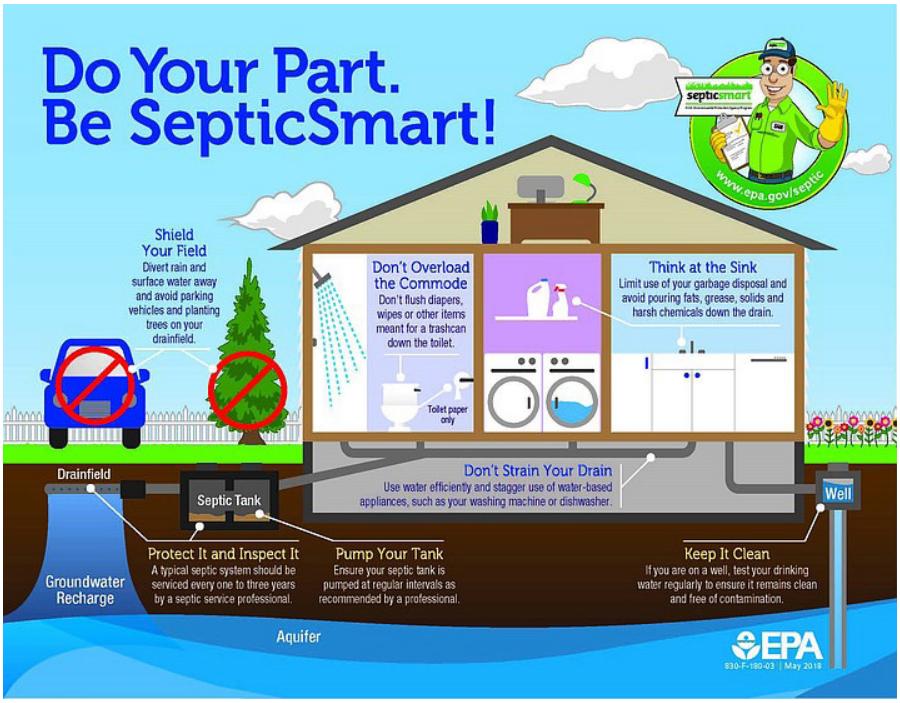
We are all familiar with changing the oil in our cars or having our home heating and air conditioning system serviced to keep them working properly and last longer. The same is true for your septic system. In fact, your septic system is likely the most expensive appliance of your home. What is more is that a properly maintained septic system is not only an effective tool to treat home wastewater, but also can protect both your health and the environment. Here we want to share some simple, but important maintenance tips to keep your system working effectively for many years.

Our most important recommendation for septic maintenance is to pump your tank every three to five years. This applies to conventional systems with a standard septic tank. If you own a BAT or advanced treatment unit, the pumping procedure and schedule varies among the BAT manufacturer. In that case, call your BAT service provider or manufacturer for details. Pumping your system will remove the solids, or sludge and scum (fats, oils and grease layer). This is important because you don't want solids or scum entering your drainfield, which is the soil based dispersal portion of your system. Once a drainfield is clogged and wastewater can no longer percolate into the soil, it either comes up to surface or possibly backs up into the house. This creates not only an odor issue, but also a serious health hazard due to the pathogenic bacteria in wastewater.

To exasperate this situation, a drainfield typically cannot be repaired; rather a new one must be constructed in undisturbed or virgin soil to ensure good water percolation. Again, it is

"A properly maintained septic system is not only an effective tool to treat home wastewater, but also can protect both your health and the environment."

so much cheaper to maintain a system than repair or replace it. For a list of certified BAT service providers, septic system inspectors, and other septic systems information, visit the Maryland Department of the Environment's Onsite Division website. Your county Health Department can also provide helpful information including local certified vendors. For a list of county Health Department offices, see County Contacts at http://extension.umd.edu/well-and-septic.



Other key maintenance practices include:

- Fix leaking toilets and sinks. Your system is designed to handle a specific volume of wastewater per day. Leaks can overload it.
- Use water efficiently and space out showers, laundry, and dishwashing. This helps to reduce the daily wastewater flow.

"Don't flush any products other than toilet paper. Adult or baby wipes may flush, but they do not decompose in the tank, and can clog septic tank filters, BAT pumps or the drainfield."

- Limit use of household cleaners and do not dump cleaners, paints, etc. in the drains. These can kill the beneficial bacteria in your system or clog the soil pores in your drainfield.
- Direct rainwater drainage and hot tub water away from the tank and drainfield. You do not want excessive or standing water on your drainfield. Excessive water can overload capacity for wastewater to percolate into the soil, can overload the system, and blocks oxygen from entering drainfield soil. The beneficial bacteria needs oxygen to do their job.
- Don't use a garbage disposal or drain oils. Undigested food particles require more time to break down and increases the sludge volume. Oils and fats add to scum layer reducing wastewater storage capacity of septic tank.
- Don't flush any products other than toilet paper. Adult or baby wipes may flush, but they do not decompose in the tank, and can clog septic tank filters, BAT pumps or the drainfield.
- Don't drive over or park cars on your drainfield. This can compact the soil and block oxygen entering soil and will cause water ponding.
- Tree roots can clog a drainfield resulting in a failure and wastewater back up, so don't plant trees within 50 feet of drainfield. Some trees with shallower roots can be planted 25 feet away. Contact your local Extension office for more information on landscaping septic systems.

If you have a well, and your septic system is malfunctioning, the sewage could be contaminating your drinking water, which could then cause gastrointestinal issues amongst family members and guests. If you are concerned about your

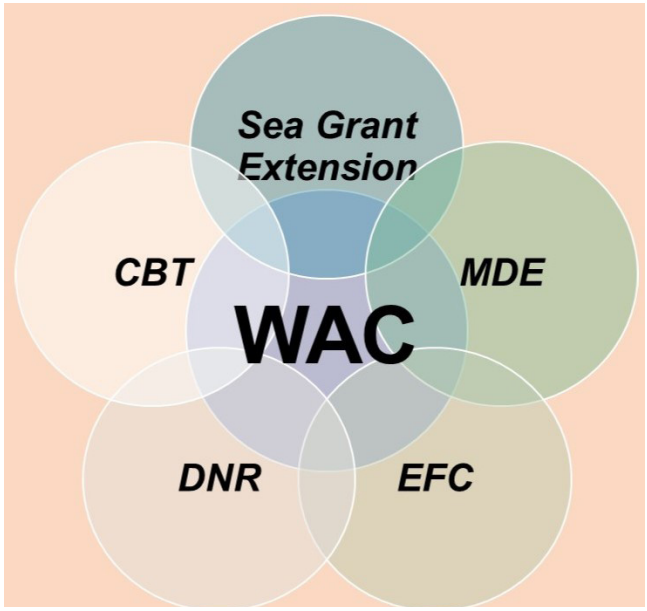
drinking water quality, you should work with a state-certified lab to test your well water for bacteria and nitrates, which is a recommended well maintenance practice you should do annually. Maintaining your septic system will not only protect your family's health, but a little attention to your system will also go a long way in keeping it operational and lasting for many years.

Issue 1 Volume 6
March 2019

Watershed Assistance Collaborative- Maryland's Water Quality Partnership

+ Eric Buehl

We form partnerships for a variety of reasons; some strategic (e.g. business alliances), some to reduce risk (e.g. minimize liability with an LLP), and some out of necessity (e.g. political - the enemy of my enemy is my friend). Functioning partnerships can help to share the workload, allow you to capitalize on a variety of skills and strengths, and serve as a platform for a diversity of thoughts and methods on how to share limited resources. We are fortunate in Maryland to have a highly functioning partnership called the Watershed Assistance Collaborative, also known as the WAC or Collaborative. Managed from within the Maryland Department of Natural Resources' Chesapeake and Coastal Service, the Watershed Assistance Collaborative has been helping communities across the state work to meet the goals of the Chesapeake Bay Total Maximum Daily Load (TMDL), the pollution diet intended to restore the Bay's health.



"The Collaborative is a partnership that provides services and technical assistance to communities to advance restoration activities and projects."

A little over a decade ago, several state agencies, the Chesapeake Bay Trust, University of Maryland Sea Grant Extension Program, University of Maryland Environmental Finance Center, in conjunction with NOAA and the EPA, created the Watershed Assistance Collaborative in order to better provide resources to speed up implementation of Bay restoration projects. The Collaborative is a partnership that provides services and technical assistance to communities to advance restoration activities and projects. By leveraging the resources of its partners, the Watershed Assistance Collaborative can help to provide additional capacity and other resources to those implementing projects local level. This was done because everyone recognized that not all jurisdictions currently had the capacity to implement the bay restoration and protection efforts that were being asked of them.

In this issue of Headwaters, we'd like to share a little more information about the WAC's partners and where you can go to find out what types of services they have to offer. And if you're interested in the WAC's annual report or want to request the services of the WAC, visit the Watershed Assistance Collaborative website or contact Phillip Stafford at 410-260-8720 or phillip.stafford@maryland.gov.

Issue 1 Volume 6
March 2019

WAC Partner: Chesapeake Bay Trust-the License Plate People

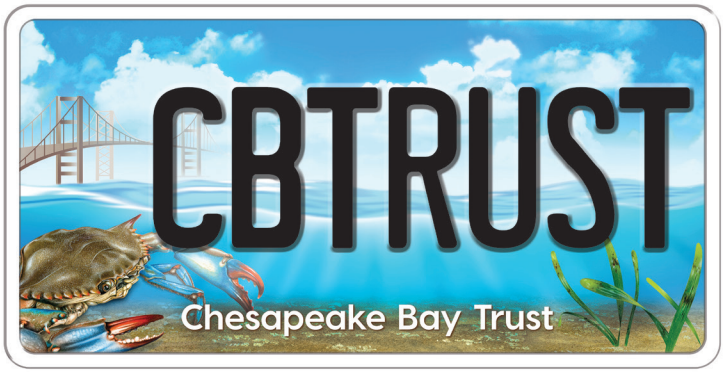
+ JACKIE TAKACS

Every wonder where the money goes for the popular Chesapeake Bay license plate? Wonder no more! It goes to the Chesapeake Bay Trust (Trust). Created in 1985 by the Maryland General Assembly, the Trust is a nonprofit grant-making organization dedicated to improving the watersheds of the Chesapeake Bay, Maryland Coastal Bays, and Youghiogheny River. The Trust has gone from their humble beginnings of a handful of small granting programs restricted to the state of Maryland to a powerhouse funder and partner of over 25 different granting programs and capacity building initiatives across the entire Chesapeake Bay Watershed.

Their goal is to increase stewardship and partnerships that support K-12 environmental education, on-the-ground watershed restoration, community engagement, and the underlying science of these three realms. The Trust accomplishes this by partnering with over 25 federal, state and local agencies, foundations and other NGOs, which has allowed the Trust to diversify their fiscal resources to be able to provide more granting opportunities. Additionally, along with the Treasure the Chesapeake vehicle license plate fees, the Trust receives financial support from donations made through the Chesapeake Bay and Endangered Species Fund on the Maryland State income tax form and donations from individuals and corporations.

The Watershed Assistance Grant Program (WAGP) grew out of the partnership the Trust has with the other members of the WAC. This grant program offers funding for design, planning

WAC Partner Factoid: the Chesapeake Bay Trust awards more than $10 million in grant funding each year to hundreds of nonprofits and community organizations throughout the region for hands-on projects that are ensuring a cleaner, greener, healthier Chesapeake watershed for years to come.



Visit https://cbtrust.org/purchase-a-bay-plate/ to find out how to get your new Bay plate. Source: Chesapeake Bay Trust

and programmatic development of watershed restoration and protection projects and receives funding from the Trust and the Maryland Departments of Natural Resources and Environment. Since planning and design are the first steps to any successful program or project, WAGP grants ensures that recipients have resulting designs, plans, or projects to craft future proposals for implementation funding. Sea Grant Watershed Restoration Specialist serve as technical assistance providers for this grant opportunity.

Over the last 32 years, the Trust has awarded over $100 million and engaged hundreds of thousands of individuals through environmental education, community outreach, local watershed restoration, and science research projects. The Chesapeake Bay Trust truly is a "Jewel of the Chesapeake" and the Watershed and Bay, along with all of us who work to protect, preserve and restore it, are lucky to have them as a resource and partner.

Issue 1 Volume 6
March 2019

WAC Partner: Environmental Finance Center- Sustainable Financing for Stormwater

+ Jennifer Dindinger

"But how will we pay for this?" This is the question that brings the meeting to a halt. Stormwater management, especially in urban areas, is an expense for which we have not budgeted in the past. Yet dedicated funding for design, installation, and maintenance of best management practices (BMPs) is the only way Maryland will reach its clean water goals.

Lucky for Maryland, UMD's Environmental Finance Center (EFC) is one of the core partners of the Watershed Assistance Collaborative (WAC). While the other WAC partners assist communities with finding suitable sites and projects, identifying grants, bringing in local and regional partners and experts, and implementing outreach and education projects, EFC's Stormwater Financing and Outreach Unit provides crucial financing assistance to help communities move from short-term grants to long-term sustainable funding. Sometimes this looks like a stormwater utility

EFC has helped several communities establish effective pet waste campaigns to reduce water pollution. Source: Eric Buehl

WAC Partner Factoid: EFC's early work in the WAC included providing financial recommendations to the Sassafras River Association for their EPA-approved watershed plan, and facilitating the Middle Chester partnership to successfully implement that group's Chesapeake and Atlantic Coastal Bays Trust Fund grants.

program, other times something different. Regardless, EFC's approach is to work with the community to craft a solution based on community needs and community voices.

In EFC's own words, "Services the Stormwater Unit Provides:

- Assessment of existing stormwater management activities and identification of programmatic gaps
- Research and analysis of financing options that designed to best meet local needs and priorities
- Consultation with municipal or county staff to help prepare annual stormwater budgets and work plans
- Guidance on how to implement a selected stormwater financing strategy
- A user-friendly end product that can highlight and explain which financing options may be best for your community
- Assistance with outreach & education activities, including presentations to the public and elected officials, marketing campaigns and stakeholder development."

Some of EFC's online resources include:

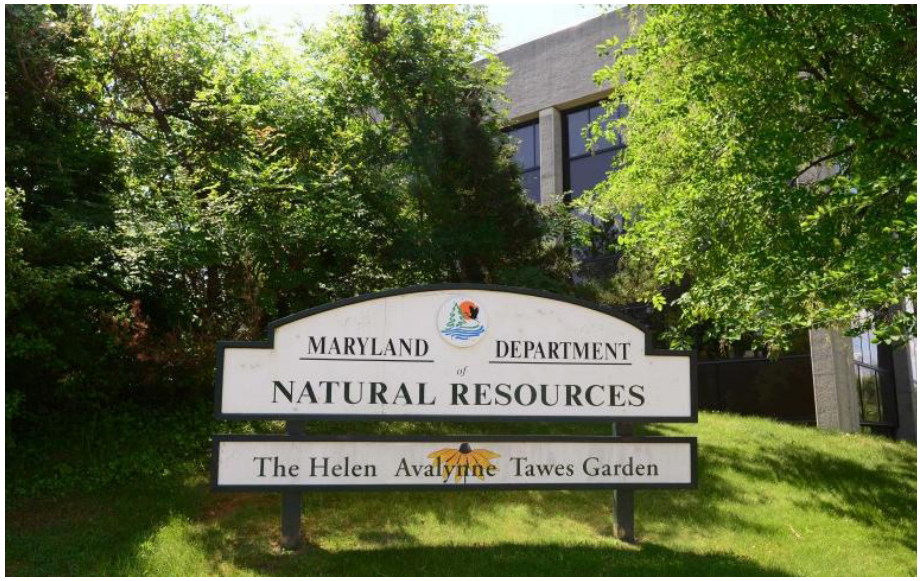
- Local Government Stormwater Financing Manual
- Municipal Online Stormwater Training (MOST) Center
- Community Stormwater Projects
- Technical Assistance Provider for National Fish and Wildlife Foundation Capacity Building Initiative

For more information about EFC's work, visit https://efc.umd.edu/ or contact Executive Director Jenn Cotting at jcotting@umd.edu.

WAC Partner: Maryland Department of Natural Resources- Guardians and the Gateway to Maryland's Natural Resources

+ Eric Buehl

Although its current name only goes back to 1969, the Maryland Department of Natural Resources can trace its roots back to late 1800s and the State Oyster Police Force. Over the intervening years, there were numerous commissions and departments that managed or protected various natural resources throughout the state. In 2003, the Department reorganized into five main functions: Chesapeake Bay Programs; Forests, Parks, Fish, and Wildlife; Information Technology Service; Land and Water Conservation; and Management Services. In 2007, further reorganization involved Aquatic Resources, Land Resources, and Mission Support.



Buildings of the Maryland Department of Natural Resources are surrounded in part by the Helen Avalynne Tawes Garden. It is a five acre landscaped garden and arboretum that it is open to the public. Visit https://www.tawesgarden.org/ to learn more. Source: The Talbot Spy.

WAC Partner Factoid: Showcasing the work of the Maryland Department of Natural Resources, **Outdoors Maryland** has been on the air for more than 30 years. It airs on Maryland Public Television channels on Tuesdays at 7:30 p.m.

The Department's mission statement says that they will lead "Maryland in securing a sustainable future for our environment, society, and economy by preserving, protecting, restoring, and enhancing the State's natural resources." To accomplish this, staff from DNR work every day to meet multiple objectives: Sustainable Populations of Living Resources and Aquatic Habitat; Healthy Maryland Watershed Lands, Streams and Non-Tidal Rivers; Natural Resources Stewardship Opportunities for Maryland's Urban and Rural Citizens; Conserved and Managed Statewide Network of Ecologically Valuable Private and Public Lands; Diverse Outdoor Recreation Opportunities for Maryland Citizens and Visitors; and a Diverse Workforce and Efficient Operations. Since 2008, DNR has been host to the Watershed Assistance Collaborative (Collaborative) in support of Bay restoration efforts.

Issue 1 Volume 6
March 2019

WAC Partner: Maryland Sea Grant and Maryland Sea Grant Extension-the Bridge between Science and Management

+ Amanda Rockler

Maryland Sea Grant College works to apply science to protect and restore the Chesapeake Bay and Maryland's coastal resources. Located in College Park, Maryland Sea Grant College is a university-based partnership with the National Oceanic and Atmospheric Administration, and is a service organization administered by the University of Maryland Center for Environmental Science. By funding research, education, and outreach throughout the state of Maryland, they explain scientific research to help leaders and communities deal with our state's major environmental challenges. Maryland Sea Grant College also promotes a sustainable coastal economy.

Within Maryland Sea Grant College is the Maryland Sea Grant Extension program, which shares sound conservation and business practices with diverse audiences and advises community groups, teachers, government officials and staff, aquaculture businesses, seafood processors, and others. Maryland Sea Grant Extension offers expertise in aquaculture, education, seafood technology, marine economics, watershed restoration, coastal planning and land-use planning, and water quality.

Maryland Sea Grant College is also involved with the Watershed Protection and Restoration Program, which is a partnership between University of Maryland Extension and Maryland Sea Grant. Five Extension Agents covering 20 counties and Baltimore City utilize local, state, and federal

WAC Partner Factoid: To help share information about the latest scientific research and science-based practices that can help preserve the Chesapeake Bay and Maryland's coastal environment, Maryland Sea Grant utilizes its website, Facebook, and Twitter to share timely news and also publishes blogs, Chesapeake Quarterly magazine, and other publications and videos. Visit Maryland Sea Grant and check it out.

There are five watershed restoration specialists around the state. Their job is to minimize duplication, fill gaps, and help communities solve water quality and quantity problems. Joining three of the five specialists are friends from the Chesapeake Bay Trust and the Department of Natural Resources. Source: Kacey Wetzel.

resources to assist communities with their stormwater management and capacity building needs in order to improve local water quality.

Through a variety of programs and expertise, Maryland Sea Grant College is able to help foster viable communities with economies that are built to last as well as help those communities live sustainably within the Chesapeake Bay watershed.

Issue 1 Volume 6
March 2019

WAC Partner: Maryland Department of the Environment- Protecting Maryland's Air, Land, and Water

+ Kelsey Brooks

The Maryland Department of the Environment (MDE) was created in 1987 "to protect and preserve the state's air, water and land resources and safeguard the environmental health of Maryland's citizens." MDE is the state's environmental permitting agency and is tasked with the "enforcement of environmental laws and regulations" as well as "long-term planning and research. MDE provides technical assistance to Maryland industry and communities for pollution and growth issues and environmental emergencies."[1]

MDE plays a major role in the state's efforts to restore local streams and the Chesapeake Bay, including achieving the nitrogen, phosphorus, and sediment reductions required by the Chesapeake Bay Total Maximum Daily Load (TMDL). They have been responsible for leading the state's Watershed Implementation Plan (WIP) development, which is currently in its third phase. The WIP lays out the state's plans for meeting and maintaining the Chesapeake Bay TMDL's reduction requirements and requires the cooperation of both a number of internal MDE departments as well as other state agencies, including the Maryland Department of Agriculture, which assists with setting goals for the agricultural sector. MDE also coordinates with local stormwater staff, including municipalities and counties covered by the MS4 program, to determine what is feasible for inclusion in the WIP.

For the other members of the WAC, having a connection to the state's environmental protection agency can help ensure our work is meeting the state's goals.

WAC Partner Factoid: MDE has been headquartered in Baltimore's Montgomery Park Business Center since 2002. The building is located on a redeveloped brownfield and, appropriately, has a number of interesting sustainability features including stormwater management features such as a 30,000 sq ft green roof and parking lot bio-retention facilities.

According to Kathy Stecker of MDE's Water and Science Administration, "WAC partners help us accelerate progress toward healthier streams and a cleaner Bay."

[1]https://mde.maryland.gov/Pages/AboutMDE.aspx

Built in 1925 in south Baltimore, the Montgomery Park building was originally the Atlantic Coast headquarters for the Montgomery Ward Company. Source: www.bizjournals.com.

Issue 1 Volume 6
March 2019

Five Questions with Bill Hubbard

Bill Hubbard, Ph.D.
Assistant Director & State Program Leader
Environment, Natural Resources & Sea Grant Programs
University of Maryland Extension
2115A Symons Hall
College Park, Maryland 20742
301-405-6268 (office)
whubbard@umd.edu

We'd like to welcome Dr. Hubbard, who took over as the Assistant Director and Program Leader for Environment and Natural Resources and Sea Grant Extension Program in January. A forester by training with over 30 years' experience working for Extension, he was a founding member and held numerous positions with the Association of Natural Resource Extension Professionals (ANREP) and an active member of the Society of American Foresters (SAF). We thought it might be helpful to learn a little more about him by asking for his answers to 5 simple questions.

1. Other than the alarm clock, what makes Bill wake up every day and go to work?

Other than absolute trust in my coffee maker, I'd say the biggest motivator I have to get moving in the morning at this stage in my job is the insatiable desire to learn as much as I can about the place I now live and work. I was fortunate in my previous job to have a great amount of 'academic freedom' to work in many very interesting areas, both programmatically and geographically. I found every day a new challenge and the people I worked with passionate about their jobs and the natural resources in their states and in this country. It was a very humbling experience and one I think prepared me well to move into this position that I currently hold. One other thing that motivates me is the desire to do the best job I can. I know a lot of people are counting on me and this position to have a positive impact and that is no small challenge. The desire to do well providing leadership in these areas will keep me getting up and moving for a long time.

2. What do you hope to accomplish in your first year on the job as Program Leader?

I'd like to have had a chance to meet at least once, if not several times, all of the faculty and staff in the ENR/SG programming areas, and hopefully have the pleasure of seeing them in 'action'; teaching, leading or otherwise facilitating an event in their communities, online or perhaps even at a professional development conference. I also want to have quantifiable results showing support for our major programming areas. I think faculty in these programs would like to see a vision and strategic plan for their programming area. This is something I want to investigate with faculty as I visit with them. I'd like to work to get our plans and activities in these areas synced with the state level Extension plan that is underway and the College of Agriculture and Natural Resources' Strategic Initiatives plan. Other accomplishments include meetings with and retainment of strong partnerships that include funding or other leveraging options that will allow us to keep, if not grow, our current capacity to deliver Extension programming to our audiences.

3. We find ourselves living in a world where information moves like a wildfire, where rumor or innuendo are portrayed as fact, and science is challenged at every turn. How do you deal with this?

I remember when the Internet was in its infancy and colleague of mine who was actually several years older and about to retire met me at a conference. He matter-of-factly predicted the end of Extension due to the fact that we now have the Internet where

"I see our role in Extension more important now than ever, and our responsibilities to be purveyors of sound science is critical."

we could get all of our information directly from the source within seconds. Fortunately I had been involved in some very early Web development and Internet application work and was not in the least concerned about this "new competition" to Extension. I offered up that we'll need Extension now more than ever to sift through what is sound information and what isn't. I also felt that there will always be the need for communication of sound science to various audiences. Extension is adapting to these changing times and we have to continue to work to be at the front line to understand the science and its implications well enough to translate it in multiple formats to multiple stakeholders at multiple points in time. I see our role in Extension more important now than ever, and our responsibilities to be purveyors of sound science is critical.

4. In your experience what positive changes have you seen Extension make over the years to maintain high-quality service to its clients? What changes do you see possibly being needed in the next 5-10 years, if any?

I've noticed that Extension's mantra of being a "change organization" has improved drastically since I started in 1989. We not only strive to educate for positive behavior change in our stakeholders, but most of us strive to improve our knowledge, understanding and ability to have greater impact in our jobs; thereby striving to have positive behavior changes in our professional and even personal lives. Whether we are talking about new delivery formats such as online or distance education, or new issue-based interdisciplinary programs, we as a System are always working to improve. Another area that I have noticed in my career is a serious attempt at all levels to be more inclusive in

"I've learned that things like water, good clothing, sun screen, first aid kits, etc. are no good if they are sitting on the kitchen counter at home."

our programming. I have benefited greatly from Extension work that engages people from all backgrounds, cultures and races to solve problems from the local to international level. Finally, our move towards more accountability and measuring impact has paid positive dividends from all levels. We can better justify our existence, we can better quantify the returns on investments, and we can use both quantitative and qualitative data to improve the service we provide our clients.

5. Lastly, with a background in forestry, you have spent a lot of time in the woods. What's one lesson learned from that experience that you would like to share with others?

The better prepared you are for the worst case scenario, the better piece of mind you'll have and the more successful outing you'll have, whether it is cruising timber, or hiking with family and friends. I've learned that things like water, good clothing, sun screen, first aid kits, etc. are no good if they are sitting on the kitchen counter at home. I know the Boy Scouts hammer the "Be Prepared" motto into scouts from the day they join. It is one of the simplest but most important life lessons that I have learned, and like I say, I've learned it the hard way too many times and still don't always get it right. All in all though, Extension is the greatest organization in the world, and one of the reasons for that is that we spend a lot of time as an organization, and as individuals training to be prepared to handle so many diverse situations.

UNIVERSITY OF MARYLAND EXTENSION
Sea Grant Maryland

Issue 1 Volume 6
March 2019

HEADWATERS

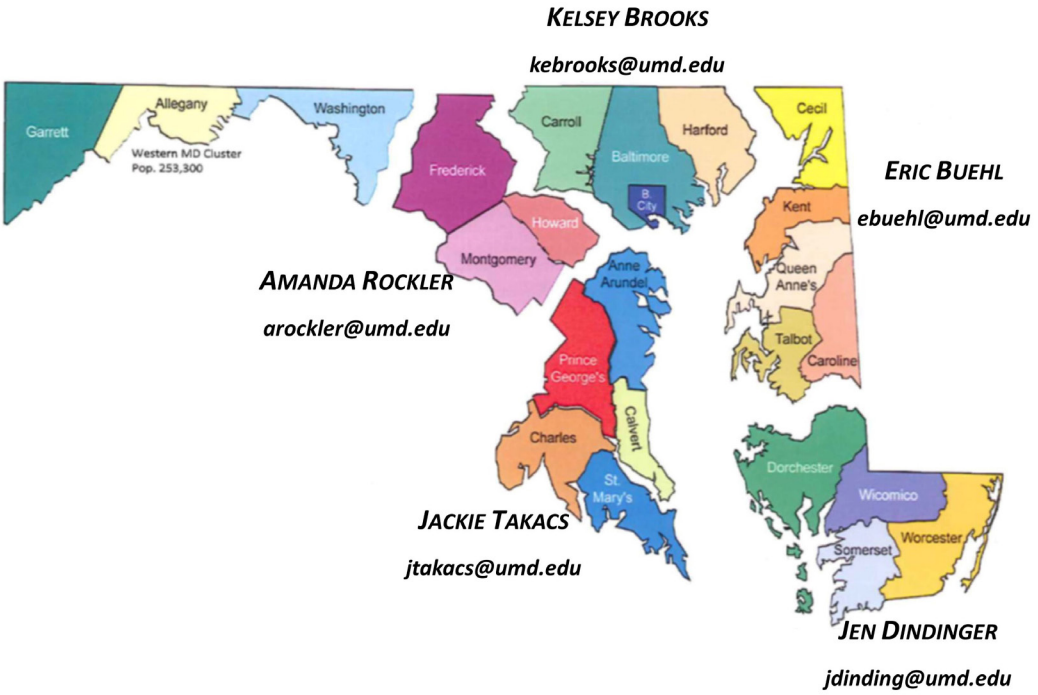
PUBLICATION OF MARYLAND SEA GRANT EXTENSION WATERSHED EDUCATORS

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: Eric Buehl
ebuehl@umd.edu

Headwaters
Sea Grant Extension Program
7998 Regents Drive
College Park, MD 20742

Special thanks to our Production Supervisor, Angela Preston, for her ongoing support to layout and design Headwaters every quarter!

Who's *Your* Watershed Specialist?



For more information on related publications and programs, visit extension.umd.edu/watershed. Please visit http://extension.umd.edu/ to find out more about Extension programs in Maryland.