



# down to earth

Environmental Restoration Quarterly • Spring 2023

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**EARTH DAY**  
**APRIL 22**



## MBSS Sampling By: Byron Madigan, Water Resource Supervisor

Each year between March 1-April 30, staff from the Bureau of Resource Management, in accordance with the Maryland Biological Stream Survey (MBSS) protocols, performs biological stream sampling at selected sites within the County. The goal of the MBSS survey is to provide an inventory of biodiversity in our streams, assess the current condition and identify the impacts of stressors on ecological resources in Maryland's stream and rivers, and further assess the efficacy of watershed restoration and conservation efforts, while building a long-term database to document changes over time of the ecological condition and biodiversity of Maryland's streams.

Biological sampling involves collecting benthic macroinvertebrates from riffles, leaf packs, root wads and wood debris over a 75-meter stretch of stream to assess the overall biological health of the stream by accounting for the presence or absence of species and species diversity. In addition to the total species diversity, percent abundance of pollution-sensitive or pollution-indicative organisms, and total organism abundance of the macro-invertebrate communities all factor into the overall biological health of the watershed and the MBSS index of biotic integrity (IBI). The IBI is based on a 1-5 scale, whereas a score of 4 and above indicate a watershed with "good" biological health and a score below 1 indicates a watershed that is in "very poor" biological condition.

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Bureau of Resource Management (BRM)  
• 225 N. Center St., Westminster, MD 21157 • 410.386.2712

<https://www.carrollcountymd.gov/government/directory/land-resource-management/resource-management/>

Protecting and managing Carroll County's natural resources for the pleasure and enjoyment of its Citizens



# MBSS Sampling Continued ...

Carroll County has been macroinvertebrate sampling throughout the County since 2003, with a focus primarily on stormwater retrofits and restoration sites. Biological function of a stream takes the longest of any stream function to recover following restoration and establishing baseline biological conditions several years prior to implementation and monitoring for several years post project completion documents change to indices values and if improvement to the biological community has occurred as a result of restoration.

Staff from the Bureau of Resource Management attend the annual certification training by the Maryland Department of Natural Resources in late February to maintain familiarity with protocols and sampling techniques required to perform MBSS sampling. Annual renewal of training and a field audit every 3 years ensures consistency and accuracy for all persons who wish to do macroinvertebrate sampling across Maryland. This year County staff will focus biological sampling at 20 sites across the County.



# Monocacy River Board By: Byron Madigan, Water Resource Supervisor

The Monocacy River Board serves as advocates for the Monocacy River, its watershed and the varied resources contained within. This five-member Board meets once a month during the evening to discuss various environmental topics, projects, and monitoring occurring within the watershed. Additionally, the Board plans and participates in bi-annual community projects such as maintenance of tree planting projects and stream cleanups within the watershed.

If you are interested in promoting the enhancement of natural resources within the Monocacy River Watershed, the Board is looking for volunteers who are willing to serve and participate. For additional information contact Byron Madigan at 410-386-2167.



← Little Pipe Creek Stream Cleanup

Monocacy Board Float Trip  
↓



Robert's Mill Park - Tree planting maintenance

**Carroll County**

**Environmental Action Awards**

**Seeking Nominations!**

**Accepting nominations for 2023 Environmental Action Awards starting Earth Day, April 22. Check the website for nomination forms & criteria.**

<https://www.carrollcountymd.gov/government/boards-commissions/environmental-advisory-council/environmental-action-awards/>



## NPDES MS4 Permit By: Ed Singer, Watershed Management Coordinator

This past December, Carroll County and the eight municipalities, who are co-permittees with the County, were issued our 5<sup>th</sup> Generation National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit. We would like citizens of Carroll County to understand the purpose of the program, the costs associated with it, and how citizens can make a difference. This co-permittee relationship with our municipalities is unique to Carroll County and allows us to share resources and more efficiently implement our permit requirements. In other places in Maryland, the counties and their municipalities generally have their own separate permits. NPDES was created by the Clean Water Act in 1972, and the program is administered by the U.S. Environmental Protection Agency through the Maryland Department of the Environment (MDE) and the work and required programs are implemented by local and municipal governments.

Many streams and water bodies in Carroll County and Maryland are impaired by pollution that occurred as land was developed. Some of the primary contaminants are excess nutrients and sediment. The goal of the NPDES MS4 program is to reduce pollution that is carried by stormwater runoff from roads, sidewalks, rooftops, and other impervious surfaces to meet water quality standards. Our permit requires us to treat 1,217 acres of untreated impervious area over the next 5 years.

There are numerous efforts that the County and municipalities undertake to improve water quality in our receiving waters. Some of these efforts are part of our restoration program which include constructing new or retrofitting existing structural stormwater with current best management practices. Some examples of best management practices include surface sand filters, constructed wetlands, and submerged gravel wetlands. We also improve water quality by planting riparian forest buffers adjacent to streams and water bodies or completing stream restoration projects to reduce erosion and transport of pollutants.

Another primary responsibility under our permit is to prevent pollution from entering our water bodies through illicit discharges into our stormwater infrastructure. County and municipal staff work together with Carroll County businesses to ensure good housekeeping practices are in place to prevent pollution. NPDES Compliance Specialists work to educate our County and municipal public works and other staff on best practices to prevent pollution. They conduct annual screenings of our stormwater outfalls to detect potential illicit discharge and conduct visual surveys of higher risk areas in the County. Staff also respond to citizen concerns about possible illegal dumping into storm drains. If a resident notices a pollution problem, we encourage them to call our stormwater pollution hotline at (410) 386-2210. This is a non-emergency number, and emergencies needing urgent response should be reported to 911.

The Bureau of Resource Management has always reached out to the public to educate them on our efforts to reduce pollution in our watersheds. Our new permit requires that we conduct at least 25 public outreach efforts on topics such as stormwater BMPs and maintenance, water conservation, lawn care and landscape management, residential car care and washing, pet waste, litter, solid waste and recycling, and erosion and sediment control practices. We have expanded our outreach efforts and are engaging interested citizens' groups to coordinate our common efforts in reducing pollution and improving our resources. There is also a new requirement in our permit to collect at least 11 tons of litter and debris annually. Many groups of Carroll County citizens are already involved in highway and stream clean-up programs, and we are working with them to enhance their programs and document their progress.

All this work requires a significant financial investment by Carroll County and the municipalities. This year, the County funded \$3,573,080 for restoration projects, \$449,138 for renovation of existing facilities, and \$129,000 for general facilities maintenance and mowing for a total commitment of \$4,151,218. These costs will continue to rise as restoration projects become more complex, the number of facilities that the County must maintain grow as property is developed, and with inflation. Since Carroll County did not adopt a specific tax to meet NPDES permit requirements, funding

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*Trevanion Terrace Underdrain*



*Student Engagement*

# HOUSEHOLD HAZARDOUS WASTE AND SHREDDING



SATURDAY APRIL 22, 2023  
8AM TILL NOON  
CARROLL COUNTY VEHICLE  
MAINTENANCE FACILITY

1250 OLD MEADOW BRANCH ROAD,  
WESTMINSTER MD

## Acceptable Items (examples)

Gas/Gas Oil Mix \*Kerosene \* Solvents  
\* Stains\* Sealants \* Oil Based Paint/  
Paint Thinners \* Household Cleaners  
\*Pesticides/Insecticides \* Herbicides  
\*Photographic Chemicals \*Pool  
Cleaners\* CFL/Fluorescent Tubes  
\*Nickel-Cadmium and NIMH



**\*Shred it!**

What we can shred for you\*: Invoices, bank statements, personal records, leases, balance sheets, audit reports, credit reports, checks, medical reports, etc.

\* 3 boxes or bags, available 8 a.m. until Noon **OR** until truck is full, whichever comes first.

**Residential only**

## Unacceptable Items

Latex paint (1)\*Explosives/  
Ammunition\*Asbestos \* Medical  
Waste/Medicine(2) \*Biohazard Waste\*  
\*Radioactive Materials \*Compressed  
Gas Tanks/Cylinders\* Rechargeable/  
Household Batteries \* Vehicle Batteries  
\* Motor Oil/Antifreeze (3)

1. Latex paint is not hazardous and can be disposed in regular trash after solidified by using an absorbent agent such as kitty litter, sand, mulch, shredded paper.
2. Unused and expired medication can be taken to the following police stations: Westminster, Taneytown, Sykesville, Mt. Airy and N.E. Greenmount. **NO Syringes .**
3. Vehicle batteries, motor oil/antifreeze are accepted year round at our Northern Landfill Recycling Center 1400 Baltimore Blvd, Westminster, MD 21157. Monday -

**For additional information, call the Northern Landfill 410-386-4550 or the Recycling Operations 410-386-2510**

**RESIDENTIAL ONLY  
NO COMMERCIAL, BUSINESS OR FARM**

## NPDES MS4 Permit

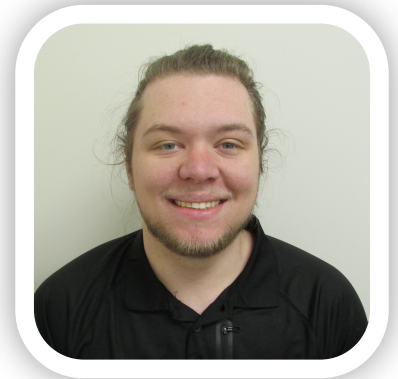
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comes from the Community Investment Plan and County Operating Budget with support from the municipalities. We are required to submit a financial assurance plan to MDE that demonstrates the County's financial commitment to meeting NPDES Permit requirements. MDE must approve this plan and provide a report to the Governor and the General Assembly annually.

We appreciate the support of the citizens in Carroll County in protecting and improving the natural resources in Carroll County and the State of Maryland. For more information, please visit the Department of Land and Resource Management's website at [www.carrollcountymd.gov/government/directory/land-resource-management/](http://www.carrollcountymd.gov/government/directory/land-resource-management/) and follow us on Facebook at [www.facebook.com/carrollenvironment](https://www.facebook.com/carrollenvironment).

## Meet the Staff

**Garrett Tucker**  
Intern



Garrett is in his Junior year at McDaniel College and is majoring in Environmental Studies with a minor in Biology. He graduated in 2020 from Francis Scott Key High School and lives in Keymar, Maryland. This is his first year interning for the Land and Resource Management Department. He plans to graduate in Fall, 2023 and pursue a career in the environment within a local government system. In his free time he enjoys, hiking, rock climbing, hunting, and spending time with his dog.

VISIT!



LEARN!



EXPLORE!



April 22<sup>nd</sup> 1 -4 pm at

**Piney Run Park Nature Center**

Piney Run Parking Fees Apply: 410-795-5165

**Master Gardeners:**

Activities for CHILDREN!

Plant Clinic: Got problems?

Bay-Wise displays & info

All about Pollinators

FREE Native trees!

**Environmental Groups:**

As seen at Env. Symposium

Six area "Friends of..." orgs

Earth-friendly products

Service organizations

**Bird Walk - bring binoculars**  
Departs Aviary at 3:00

Presented by:



UNIVERSITY OF  
MARYLAND  
EXTENSION



An equal opportunity institution.

In cooperation with:

Department of Land and  
Resource Management