



down to earth

Environmental Restoration Quarterly • Summer 2017

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Blue Ridge Manor

By Chris Heyn, P.E., BRM Staff

The Bureau of Resource Management (BRM) was awarded a grant of \$3.95 million dollars in June of 2016 to complete a stormwater management retrofit or upgrade project in each of the eight Carroll County municipalities.

This summer, the BRM staff will initiate the start of construction on the Blue Ridge Manor project. The Blue Ridge Manor subdivision was constructed in the early 1990's off of MD 31 in New Windsor.

Stormwater management is provided by a detention basin that is overgrown due to the unmaintainable steep slopes. The BRM will retrofit the facility to a surface sand filter that will provide water quality, channel protection, and peak management of the 10 year storm for the 31 acre drainage area, of which, 7.7 acres are impervious. The new facility will also be re-graded to support long term maintenance. The parcel is owned by the Town of New Windsor. ●



Department of Land and Resource Management (DLRM) • Bureau of Resource Management (BRM)
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protecting and managing Carroll County's natural resources for the pleasure and enjoyment of its Citizens

2017 Envirothon at Bear Branch Nature Center

By Colleen Ensor, BRM Staff

On Tuesday, April 25th thirty high school students from Carroll County gathered at Hashawa/Bear Branch Nature Center for the 16th Annual Carroll Envirothon Competition. This special program, coordinated each year by the Carroll Soil Conservation District, is designed for high school students with a particular interest in the field of environmental science. The competition was a culmination of the instructional day that took place on November 29th.

In teams of 6, the groups circulated through a series of five stations. The first station, aquatics, was led by Tracy Eberhard, a Water Resources Specialist for Carroll County's Bureau of Resource Management.

Tom Robertson from the Bureau of Facilities – Public Works – led the forestry exploration examination. Bryan Snyder and Matt McMahon from the Soil Conservation District directed the soils station and two staff members from DNR tested the students on their knowledge of wildlife. The final station was an opportunity for the teams of high schoolers to give a presentation on a “5th issue,” Agricultural Soil and Water Conservation Stewardship. The presentations were evaluated by Jim Slater of the Baltimore Metropolitan Council, Martin Rickell of Carroll Land Services, Inc. (CLSI), and Jennifer Kemp from the Carroll Soil Conservation District.

The Venturing Crew 202 (VC), a local extracurricular group, won 1st place in the competition for the sixteenth year in a row. The VC went on to win first place at the state competition that was held on June 15-16 in Centreville, Maryland. For more information on the Envirothon and how you can participate, please contact Ed Null at ed.null@maryland.gov.





Earth Day at the Carroll County Farm Museum

By Colleen Ensor, BRM Staff

On April 27th, 55 sixth grade students from Shiloh Middle School participated in an Earth Day event during their week with the Carroll County Outdoor School. This annual event is organized and presented each year by the Carroll County Bureau of Resource Management (BRM) at the Carroll County Farm Museum.

Throughout the day of hands-on STEM education, students participated in four different stations. During the stream investigation, led by Byron Madigan, BRM Water Resources Supervisor, students learned about macroinvertebrates and how to identify them using a key. One of the students, Madison Harris, shared, "My favorite part of the day was exploring the stream. I learned that the caddisfly digs holes in rocks and that salamanders can be found near the edges of streams."

Next, they toured five newly-installed stormwater management practices at the Farm Museum, including a rain garden, landscape infiltration, rain barrel, drywell, and bioretention facility. Daniel Grushold, a student, was inspired by the engineering demonstrations by BRM staff Martin Covington, P.E., and Myron Frock. In a thank you letter to the Bureau, he expressed his interest by drawing a sketch of the piping design from the drywell.

For the third activity, students were able to plant and mulch the newest bioretention facility. The station leader, Chris Heyn, P.E. with the BRM, made quite the impression on 6th grader, Alyssa Crabbe. "I learned all about the different species of plants and trees and how to plant them correctly in a bioretention facility. I now understand how important it is to take care of the environment and prevent erosion."

In the fourth and final station, led by Jon Bowman from the BRM, students learned about the benefits of trees and the importance of forest conservation and participated in the planting of eight deciduous trees on the property. "Planting trees is good for the environment. Mr. Bowman taught me to loosen the roots on a tree before I plant it so the roots can move and grab on to the soil as it grows."

The success of the Earth Day experience was thanks to a generous grant from the National Fish and Wildlife Foundation to support the facility and installation of these new stormwater management practices.

For more information on the BRM's Annual Earth Day event and other outreach projects, visit <http://ccgovernment.carr.org/ccg/resmgmt/Outreach/EarthDay/EarthDay.aspx?yr=2017>. ●

Conserving and Protecting Our Water Resources

Compiled from www3.epa.gov

During the summer it is especially important to conserve and protect water. Drought conditions in certain parts of the country and activities that increase its use can cause water to be more scarce.

The Maryland Department of the Environment issued a drought watch on May 31, 2017 (<http://mde.maryland.gov/programs/water/droughtinformation/Pages/index.aspx>).

Water; Use It Wisely

There are a number of ways to save water. See how to use it wisely at: <http://www.wateruseitwisely.com/>

Water Saver Home

Learn what you can do to reduce water use in your home -- take a virtual tour of this Water Saver Home: <http://www.h2ouse.net>.

Volunteer Monitoring

Spend extra summer vacation time doing environmental volunteering. The summer growing season is when a lot of vegetative restoration activities (seeding, planting trees, aquatic grasses, removal of invasive species, etc.) take place; most of these restoration activities rely primarily on citizen volunteers to succeed. Find out how you can get involved.

Stay tuned for an article in the fall edition of our newsletter for a report from Sean Hartman on local water levels after collecting data from our well monitoring program.

The United States Environmental Protection Agency (EPA or sometimes USEPA) is an agency of the Federal government of the United States which was created for the purpose of protecting human health and the environment by writing and enforcing regulations based on laws passed by Congress. ●

How much WATER is your home WASTING?

and how can you stop it?

WHY DO WE NEED TO CONSERVE WATER?

While fresh water is a renewable resource, the world's supply of clean, usable water is decreasing faster than it can be replenished.

Only 1% of all the world's water is fit for human consumption!

Over 70% of the earth's surface is covered in water. But 97% of that is salt water, leaving a mere 3% of fresh water. Within that, 66% is frozen in glaciers and polar ice caps, leaving just 1% overall available for consumption. And, to make it worse...

About 95 percent of the water entering U.S. homes goes down the drain.

HOW CAN YOU SAVE MONEY AND WATER?

An average US family of 4 uses 146,000 gallons of water per year! That's 127% more than in 1950. Low-flow appliances and fixtures can help reduce that number.

Normal Faucet	Normal Washing Machine	Normal Shower Head	Normal Toilet
If the faucet is run for 4 minutes a day...	If you do just 2 loads every week...	If every other day you took a 15 min shower...	If a toilet is flushed 15 times per day...
4,000 gal/yr	5,000 gal/yr	19,000 gal/yr	33,000 gal/yr
Low-flow Faucet	Low-flow Washing Machine	Low-Flow Shower Head	Low-Flow Toilet
3,000 gal/yr	3,000 gal/yr	7,000 gal/yr	9,000 gal/yr
A water-saving faucet saves over 1,000 gal of water a year!	A water-saving washer saves over 2,000 gal of water a year!	A water-saving shower head saves over 12,000 gal a year per person!	A water-saving toilet saves over 24,000 gal of water a year!
savings on water bill: 1-2%	savings on water bill: 2-5%*	savings on water bill: 9-12%*	savings on water bill: 15-18%*

*depending on location

And fix your leaks!
Per family, they account for about 10,000 gallons of wasted water per year.

WHAT ARE THE TOTAL SAVINGS FOR THE US?

If all US households installed water-saving fixtures and appliances, it would save:

40,000 gal/yr per household × All Households in the US = 5.4 million gal/day! which is worth 11.3 million dollars!

total savings on water bill: 30%

In just one year, this amounts to over 2 TRILLION GALLONS of water saved, which is worth over \$4 BILLION DOLLARS!

SOURCES: www.epa.gov, www.drinktap.org, www.fi.edu, www.huffingtonpost.com, en.wikipedia.org

eLocal.com