

Watershed Action Team

Environmental Water Restoration Quarterly

Carroll County Department of Land Use, Planning & Development

Summer 2011



ENVIRONMENTAL ADVISORY COUNCIL (EAC)

People concerned about environmental issues in Carroll County have a place to turn

where their voices will be heard and their questions addressed.

The Board of County Commissioners created the EAC, as the council is known, in 2004 to replace the defunct Environmental Affairs Advisory Board. The EAC was charged with reviewing environmental issues, advising the county commissioners on policy, and assisting with educational efforts. It also serves as the county's Tree Commission.

The nine-member, all-volunteer council held its first official meeting in January of 2005. The group's goal is to promote effective environmental protection and management principles.

Members serve staggered four-year terms. They select their chair, who serves in that position for two years. Sandra Zebal is currently the chair of the Board.

Other members include: Kimberly Petry, David Pyatt, Brian Rhoten, Christopher Spaur and Robin Gilden. As of this date, there are three vacancies.

Beyond the original charge for the group, another important role the EAC fulfills is offering a public forum where residents can raise concerns about local environmental issues. For example, when a utility company announced plans to cut down trees along Route 140 in Finksburg, people spoke to the council, which in turn invited the company to explain its policies. Conversations between property owners and the utility company were prompted by discussions at the EAC meetings.

Meeting times for the council alternate between afternoon and evening. That way, anyone wanting to raise a topic with the board has an opportunity to do so. In addition, meetings are televised on cable channel 24 and videos are archived on the county's website. To view past EAC meetings, go to <http://ccgovernment.carr.org> and click on Video Directory.

As part of the council's charge to educate the public, it sponsors Environmental Awareness Awards. The award program is a way for the EAC to recognize people and organizations who have been outstanding stewards of the land, air or water in Carroll County. They present the awards, in conjunction with the Board of County Commissioners, in five categories: agricultural, business, individual, institutional and student. Attention garnered by award-winners helps to promote the overall goals of the council.

In past years, the awards were made annually. Beginning in 2011, however, they will move to every other year. The next Environmental Awareness Awards are slated for the spring of 2012.

The EAC also can recommend actions concerning the county's environmental policies. For instance, the council has advocated for stronger recycling programs. In response, a recycling coordinator was hired to boost efforts countywide.

The group's final duty is to serve as a tree commission. That means they advise the county on tree maintenance policies and on plans that involve planting, maintaining and removing trees.

continued on page 2

In this Issue:

Page 1: Environmental Advisory Council

Page 2: Watershed Restoration; Forest Bank at Piney Run

Page 3: Carroll Elementary Students

Page 4: Backyard Stream Buffers

EAC continued from page 1

Anyone who wants to contact the council with a concern or suggestions for a discussion topic can call 410-386-2210 or send an email to EAC@ccg.carr.org.

Copies of minutes from previous meetings can be found on the council's web page, <http://ccgovernent.carr.org/ccg/eac>.



Watershed Restoration; Through Stormwater Management (SWM) Retrofit:

Over the past several years, one of our goals in the Bureau of Resource Management is to restore our existing stormwater management facilities. When determining which sites to retrofit, we look at the age of the facility, the amount of impervious acres being treated, and the existing condition of the facility.

The following items are taken into consideration during the design phase:

- ☞ Compliance with existing Storm Water Management code by addressing; water quality, recharge, channel protection, and the overbank flood protection volume for a 10 year storm;
- ☞ Providing easier maintenance of the facility by reducing the steepness of slopes, grading an access road to the facility, and removing all woody vegetation.
- ☞ Analyzing and treating the maximum drainage area to the facility.

Approximately 540 acres of drainage area have been treated to date by retrofitting 14 existing facilities. Two hundred

fifty six (256) acres of impervious area have been treated relating to these facilities.

As we proceed through this watershed restoration effort, we will continue to keep citizens informed of work in their areas. Your continued support in these efforts will help make the projects run smoothly while enhancing the County's water quality.

Another Forest Bank at Piney Run

Property around the Piney Run Reservoir is becoming more and more protected day by day. The Department of Public Works; Bureau of Solid Waste and the Department of Land Use, Planning & Development; Bureau of Resource Management has been working jointly on the Piney Run Forest Bank #2 project. This thirty-one (31) acre planting addresses the forest conservation obligations relating to the county owned landfills as well as watershed restoration projects taking place throughout Carroll County.

The planting consisted of native trees and shrubs such as; black walnut, black cherry, black locust, black oak, red maple, sycamore, black gum, sassafras, flowering dogwood, and winterberry. Tree shelters were used at the site to prevent damage relating to the large deer population around the reservoir. Preliminary nutrient reductions for this project were:

| | |
|----------------|--------------------|
| 18.52 lbs./yr. | Phosphorus |
| 84.43 lbs./yr. | Nitrogen |
| 3.09 lbs./yr. | Suspended Sediment |

The planting was installed in late November by Parkton Woodland Services and is under a three (3) year maintenance period. At the end of the three (3) year period, a 75% survival rate is required to release Parkton Woodland Services of their obligation.

As we move forward in addressing the cleanup of the Chesapeake Bay, more and more tree plantings and watershed restoration projects will be taking place throughout Carroll County. If you are interested in finding out more about the programs and how you can be involved, please contact the Bureau of Resource Management at (410) 386-2506 or send us an email at ccwater@ccg.carr.org.



Carroll Elementary Students Investigate Environmental Issues



When you were 10 years old did you ever think about the significance of parking lots? The typical student might recognize them as a great place to ride a bike when schools are closed. Today students see these necessary evils through a different lens. Students examine the impact impervious surfaces play in affecting the quality of water in Carroll County and the Chesapeake Bay watershed.

Carroll County Public Schools have linked environmental issues with its Science, Technology, Engineering, and Mathematics (STEM) curriculum at the elementary grade levels. Plans to have a unit that incorporates an environmental issue and STEM at every elementary grade level are in place.

In fourth grade, after an initial walk around the school grounds, students can be found with a ring made of clay pressed into the blacktop surface and a toothbrush. Students engage in a number of investigations such as pouring water on and collecting water from the parking lot. One of the first observations that students make is that the water poured in the ring does not go anywhere. This helps students construct an idea of what an impervious material is. Students observe their collected water sample and perform some basic tests on them in the coming days. Typically the students observe the water to be dirty as it is laden with sediment. Students are challenged to think of other things that might be in their water sample. Frequently, oil and gasoline start the conversation which opens the door to other pollutants such as brake dust, exhaust, and antifreeze. Students also examine the thermal effects of parking lots on water that falls on them in another hands-on lab.

Through the investigation of the parking lot, students come to realize that impervious surfaces do impact the quality of water that runs off of them. One of the unique facets of these units is that students are guided to take action related to data they have collected in their investigations. One possible action that helps minimize the thermal and chemical pollution that is washed off parking areas is a rain garden. Nineteen of 23 Carroll County elementary schools have taken the action of adding a rain garden to their campus as a result of their studies. By the close of the 2010-11 school year every elementary school will have a rain garden on their campus.

Students continue to use the gardens as an authentic learning environment beyond their creation. In subsequent years students collect water from the garden using a small pvc pipe that acts as a well. Students are challenged to determine if the garden is being effective in the pursuit of improving water quality. Students also suggest improvements to gardens and take other forms of action each year. Students have added erosion control where water enters the garden, increased the size of their garden, and added new native plants that are more acclimated to very wet and dry periods the garden experiences.

Having students integrate various aspects of content in a meaningful way is one of the primary goals of this unit. Students cross boundaries in math, social studies, technology education, and language arts to investigate the issue on their school grounds. As students recognize how human activities impact the environment, they are better equipped to become lifetime stewards and make informed decisions that benefit our community.



Backyard Stream Buffers

If you own property along a stream or river here are some helpful ideas on taking care of this portion of your property. A streamside buffer (riparian buffer) is an area of transition between a stream and an upland area consisting of native trees, shrubs, or other plants.

There are numerous benefits of a streamside buffer:

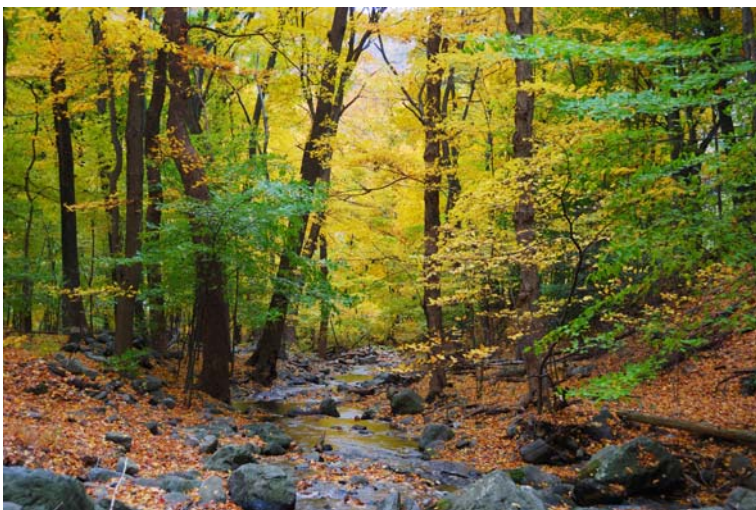
- ☞ Decreases the potential of flooding during storm events.
- ☞ Is a source of shade for you and the fish.
- ☞ Provides food and shelter for a variety of birds, mammals, and other animals.
- ☞ Increases property value.
- ☞ Acts as a filter of sediment and pollutants from runoff.
- ☞ Provides privacy and tranquility.
- ☞ Creates a colorful and eye-catching appearance.
- ☞ Provides bank stabilization and reduces erosion.
- ☞ Reduces the need for lawn care chemicals.
- ☞ And last but not least, reduces time spend mowing the lawn!



Enhancing your stream buffer can be achieved through planting your buffer with grasses, shrubs, wildflowers, and trees. Although plants in general improve water quality, native plants are more likely to attract wildlife than non-native species and generally need less care. Both native and non-native plants can also be invasive. Invasive species could take over stream banks and reduce the types of wildlife habitat attracted to these areas. The following is a list of trees and shrubs native to Carroll County: Red Maple, Sycamore, Winterberry, Swamp White Oak, Silky Dogwood, Arrowwood, Viburnum, Black Willow, River Birch.

Once a buffer is established, the best care is often a hands-off approach. A lawn currently being mowed to the water's edge can be transformed into a buffer by simply not mowing to the bank. Ultimately, flowers, shrubs, and eventually trees will start to appear in this area creating your new riparian buffer.

Now just sit back and marvel at what you have created with very little time and effort involved. Your new backyard stream buffer will provide you and your neighbors a lifetime of enjoyment.



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