

Conservation & You

A publication of the
Southeast Pennsylvania
Association of Conservation Districts

Bucks
Chester
Delaware
Montgomery



Spring 2008

The success of Partnership Programs

In 2006 the Chester/Delaware Homebuilders Association, the Chester and Delaware County Conservation Districts, and the Southeast Region Department of Environmental Protection developed a partnership program for volunteer members of the association to conduct self inspection of erosion and sediment control best management practices at specific construction sites.

Montgomery County Conservation District has been following the success of the Chester/Delaware program and recently initiated a test program in Montgomery County with the assistance of the Bucks/Mont Home Builders Association, and the Southeast Region Pennsylvania Department of Environmental Protection.

The Montgomery County program is tailored after the existing self inspection program in Chester and Delaware counties. The goal of the program is to reduce erosion and sedimentation and improve water quality.

Site supervisors from Moulton Builders, Inc., Heritage Construction Company, and W.B. Homes Inc., attended a six-hour training session on erosion and sediment control conducted by Delaware, Chester and Montgomery Conservation District staff members in January.

The training centered on the importance of the Erosion & Sediment Control Plan; implementation and maintenance of best management practices, and the sequence of earth disturbance activity. Each site supervisor will have the responsibility of conducting a weekly and runoff event inspection of erosion and sediment control BMP's, and filing a report with the district. Participation in the program is site specific and does not include all construction sites currently operated by the company. The sites included in the program are: Edgewood Terrace, in Lower Salford Township – Moulton Builders; Heritage Crossing, Limerick Township – Heritage Construction Company; and Cheswold Estates, Towamencin Township – W.B. Homes, Inc.

Oversight for the program consists of the Bucks/Mont Homebuilders Association, Montgomery County Conservation District, and the Southeast Region Department of Environmental Protection. The District will monitor the inspection reports and conduct unannounced site visits to monitor the program's effectiveness.

Rich Kadwill
Montgomery Co. CD

Reinventing Stormwater Basins - Some Hints to Retrofits

Naturalized infiltration and innovative stormwater BMP's, such as rain gardens and greenroofs, are being recommended with the introduction of the PA Stormwater BMP Manual. Many of the previous BMP's focuses a large stormwater basin that sometimes infiltrated, that is if the soils were good and the contractor did not compact the soils during construction. If these basins were not mowed regularly or routinely maintained, they became overrun with invasive plants such as phragmites (*Phragmites australis*), or cattails (*Typha L*). Although some may argue that any vegetation is better than none, it is imperative to establish plant diversity. A large portion of basin maintenance is having the proper knowledge to provide a diverse and maintained ecosystem so that the constructed stormwater basin has a beneficial wetland function.

Appendix B of the PA Stormwater BMP Manual provides an extensive list of native plants that should be used for stormwater BMP's. The plants are broken up in hydrologic zones based on the amount of saturation and water tolerance they have; i.e. Zone 1: Open Water: Permanent Pool – Water Lily (*Nymphaea odorata*) to Zone 6: Upland (never inundated) – White oak (*Quercus alba*). It is important to have a good mix of these zones to achieve the greatest water quality and ecological benefit when undertaking a stormwater retrofit. This can be achieved for all existing basins—even those that have a permanent pool of water. Below are some ideas for achieving a more natural approach to stormwater basins:

- Always utilize native plants. Besides providing better food and cover for the wildlife, they will result in better pollutant removal and water quality. Please refer to PA Stormwater BMP Manual Appendix B.
- Consider amending the existing soils with mushroom compost, spent mushroom substrate (SMS) or other nutrient-rich organic mixtures. Please refer to the PA Stormwater BMP Manual, page 221, chapter 6. Also, if there is an existing clay liner, it should be removed before adding a soil amendment.
- Immediately stabilize the retrofit/earthwork with erosion control blanket and a quick-germinating annual grass mix (where applicable). Basins do not offer much shade, and it is vital for the native plants or seed mixes to take root under some type of protection.

Jordan Perry
Chester Co. CD

Tree Vitalize is Making Communities Greener

Montgomery County Conservation District has been fortunate to have participated in the Tree Vitalize Watershed program over the past few years. The Tree Vitalize program is a Department of Conservation and Natural Resources (DCNR) initiative to restore tree cover in Southeast Pennsylvania.

Tree Vitalize Watershed projects have successfully restored landscapes, taking them from overgrown invasive infested areas or mowed turfgrass monocultures to diverse healthy native habitats. Diverse native landscapes can increase groundwater recharge capabilities by as much as 30% compared to a conventional lawn. In addition to providing improved recharge capabilities, they also intercept stormwater runoff and filter out pollutants before the runoff reaches the local waterway.

Estimates found on the Tree Vitalize program website identifies that the five country region of Southeast PA has lost 8% of heavy tree cover (34,000 acres) over 15 years. The average tree cover in Southeast PA is 27%, although some municipalities have a tree cover as low as 1%.

Since Montgomery County began participating in the program in 2005, municipalities, schools, churches, homeowner's associations, preserved farm owners, and non-profits have partnered to plant 7577 trees, 5416 shrubs, and 9968 herbaceous plants on 100 acres of riparian and stormwater management areas.

Tree Vitalize projects have helped bring communities together to work on a collaborative effort to better the environment. One local Homeowner's Association representative had the following to say after completing a riparian planting project in their community open space area.

"The Ashbrook Estates Arbor day project was an unqualified success on every level. The Community as a whole was as stunned as I was at the large turnout of people who took part in the planting project to benefit our part of the Mingo Creek. There were people of all ages doing whatever they were capable of, whether it was carrying a tree or a bucket of water. We also had wide-ranging support from outside the Estates such as the school district, and members of local & state government – our Congressman even planted a dogwood! As amazing as it felt at the time, watching the trees turn color really made what we accomplished just that much more visual! We are all grateful to the County and the Tree Vitalize program for helping us to see that in our small way we could have a positive effect on the environment that reaches beyond just our section of Montgomery County."

Tree Vitalize Watershed funding is available for local planting projects in stormwater management or riparian areas. In order to be eligible for funding the site must be on either public or private protected land.

Interested in volunteering for a project in your community or learning more about the program? Visit the Tree Vitalize website at www.treevitalize.net or contact your local Conservation District for more information.

Susan Harris
Montgomery County CD

Photos from the recent Tree Vitalize Project at the Metroplex in Plymouth Meeting, Montgomery County.



Development of Old Orchards – Remediation Process

A developer requested a pre-application meeting to discuss permit requirements for a project that historically operated as an orchard. They had conducted environmental testing and were in the process of developing a remediation plan to deal with arsenic levels that exceeded recommended residential standards. Pesticides containing arsenic – most often lead arsenate – were used on Orchards as recently as 1988 when a ban was placed on its use. This issue was unexplored territory for the Delaware County Conservation District, but we followed protocol developed for other contaminated sites. We requested the applicant to file for an Individual NPDES Construction Permit. This process would allow for permit coordination, and additional guidance from DEP on how to deal with potential off-site contamination. We soon learned that DEP does not treat agriculturally related contaminated sites in the same fashion as brownfields, or urban contaminated sites. DEP regulatory responsibilities and procedures for dealing with contamination in non-developed areas remains somewhat of a mystery to us and will require additional research.

Assistance was provided by DEP's Watershed Management – Stormwater Section, and we incorporated into the permit requirements increased attention for the control of dust, reporting post remediation testing results to the local municipality, and the use of flocculants to assist with sedimentation. We also required a detailed sequence of construction to deal with the remediation process because of its impact on the normal erosion and sedimentation control procedures.

The process used for remediation on this project was blending – mixing the soil up to six feet deep. This process does not remove arsenic, but instead dilutes the sample to the point where the level falls within an acceptable range. Once the area is tested and found to be acceptable, the area is then compacted and stabilized.

The NPDES construction permit was eventually approved. We then started to receive complaints about dust shortly after construction began. We referred these complaints to DEP Air Quality section, and at the same time worked with the contractor to do a better job with their water trucks. We referred an official complaint to DEP on September 28, 2007, and were verbally informed on October 31, 2007 that DEP Air Quality staff would soon be issuing a Notice of Violation. In October and November, however, we were hit with heavy rains, and the contractor had a significant failure by not directing sediment laden run-off to the sediment basin.



The down-slope neighbors were hit with a wave of sediment-laden run-off. Now, these neighbors not only had to deal with sediment on their property, but also with the concern of whether or not these deposited sediments contained arsenic. Working in conjunction with the Township and the contractor, improvements were made. Run-off was properly redirected to the sediment basin.

We are now dealing with a discharge from the Sediment Basin that is adversely impacting downstream neighbors, because of what is perceived to be excessive volume. The turbidity of the discharge is also a concern and remains high for days after each rainfall. In fact, samples taken by the Conservation District show that even after several months the water remains discolored. We requested DEP to conduct testing of this discharge to determine whether or not arsenic was leaving the site, but we were unsuccessful. To address the concerns of local residents the municipality stepped forward and did conduct testing. They fortunately found that arsenic levels were not a problem. Hopefully this has reduced the concerns of downstream neighbors.

The questions I have now are as follows:

1. Does mixing the soil to a depth of six feet impact the erosion process, or make the soil more soluble?
2. How is run-off from a typical residential construction site impacted by the compaction of the entire project area following blending?
3. Should stricter discharge requirements be developed to address discharge from contaminated construction sites?

We currently have a second orchard development project under review. The remediation process selected for this site, however, is consolidation and capping of the contaminated soil on site. The Delaware County Conservation District welcomes input on this issue. These types of issues are not covered in Pennsylvania's Chapter 102 – Erosion Control Design Manual.

*Ed Magargee
Delaware County C.D.*

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Smart Boating, Clean Waters Fishing Line Recycling Initiative

Following the success of last year's bilge sock pilot project, the Clean Boating Committee has decided to pursue a monofilament fishing line recycling program.

With a grant provided through Boat US, the group has acquired PVC bins to be placed at marinas and fishing piers throughout each member's respective coastal zone. In Delaware County, Ridley Township and Tinicum Township have agreed to accept bins.

As the bins fill up, monofilament-fishing line will be collected and placed into a box to be shipped to Berkley who then recycles the line to create fish habitat structures.

If you would like more information regarding this program please contact Kevin Boyle at the DCCD at 610-892-9484.



*Example of PVC bin in
Huntington, FL*

*Kevin Boyle
Delaware County CD*



The Pennsylvania Envirothon originated in 1979. It was known then as the "Envir-Olympics" with only three participating counties. Throughout the past twenty nine years, the scholastic competition has grown into a nationwide program with participating schools from every county across Pennsylvania. Currently, over 15,000 students compete each year in Pennsylvania alone.

The Envirothon is a scholastic competition in which student's knowledge is tested in five different categories including aquatics, soils, forestry, wildlife, and current issue. Students and advisors spend months studying and preparing for the event. This includes classroom work, individual research, and field studies. The day of the competition the students an opportunity to demonstrate their understanding of environmental concepts.

Since I am writing this article as an alumnus of the Envirothon Competition who now has an opportunity to give back to the program as a volunteer, I can personally declare that the Envirothon is a great opportunity for those involved including the students, parents of students, teachers, advisors, and volunteers to further educate themselves and others on critical environmental concepts. The Envirothon is more than a competition for those who participate; it is designed to challenge students to expand their knowledge and interest in the natural and environmental sciences.

It is my belief that those involved should not take the opportunity for granted, especially the advisors to the students who have the monumental task of guiding and nurturing the interest of our future environmental scientists. As a past participant, I can personally state that the Envirothon and my advisor encouraged and strengthened an already growing interest in the natural sciences and played a hand in my career choice to become a Resource Conservationist.

*Matthew J. Miller
Chester Co. CD*



The team from Monroe County placed first in the 2002 County Envirothon and 9th at the state level. Chester County CD Resource Conservationist, Matthew Miller, is second from left.

Buffers 100

Beside every good stream is a good forest

At the recent Southeast Region's Roundtable Meeting the **Buffers 100** initiative was mentioned. Buffers 100 is the dream child of the Pennsylvania Campaign for Clean Water. In a nutshell, the Pennsylvania Campaign for Clean Water is proposing that the Chapter 102 regulations be amended to add minimum buffer requirements to the existing regulations for earth disturbance associated with new developments. As the name of the initiative notes, these buffer requirements include a 100-foot forested buffer on either side of every stream, measured from the top of the bank.

Additional requirements include:

- an additional 50-foot forested buffer for first and second order streams
- an additional 200-foot forested buffer for EV and HQ streams
- additional forested buffer widths (not specified) for steep slopes based upon the following formulas, add 10 feet if the slope is 10-15%, 20 feet if the slope is 16-17%, 30 feet if the slope is 18-20%, 50 feet if the slope is 12-23%, 60 feet if the slope is 24-25% and 70 feet if the slope exceeds 25%.
- buffer restoration, with native trees and shrubs, in non-forested riparian areas where development is proposed
- buffers of a size and vegetation type necessary to protect state or federal threatened and endangered species and habitat, but in no instance less than the minimum 100-foot requirement
- for impaired water, either an additional 50 feet of forested buffer or implementation of specific buffer, land use and stormwater management requirements
- some form of legally enforceable, permanent protection of all required buffer areas
- all required buffers established and maintained as non-disturbance areas limiting disturbance of vegetation or soil to restoration activities or other minimally disruptive activities, requiring offset of disturbance by buffer improvements or an extended buffer area and prohibiting new structures.

Pennsylvania Campaign for Clean Water is in the process of collecting organizational endorsements. For more information and to download endorsement forms go to www.pacleanwatercampaign.org.

Mary Ellen Noonan
Bucks County CD



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"New" DEP Conservation District Field Representative

Conservation District Field Representatives (CDFR), 6 in Pennsylvania, have the unique and rewarding responsibility of working as somewhat of a liaison to the districts for the PA Department of Environmental Protection (DEP). The position here in Southeastern PA had been vacant for several months, but is now filled with a seasoned fan of Conservation Districts. Linda Mackey, who may be familiar to some, began working out of the Southeast Regional DEP office in November 2007. She comes to DEP with a BS in Biology from Delaware Valley College and an MS in Environmental Health from West Chester University.



Linda began her work with districts in 1989 as an Erosion and Sedimentation Control Technician for the Chester County Conservation District (CCCD). After a few years, she decided to give Northeastern Pennsylvania a try, and worked at the Pike County Conservation District for three years as a Resource Conservationist. After the birth of her first son, she decided to be closer to family and came back to the CCCD. Now with DEP, Linda is happy that she still has the opportunity to be involved with districts. "I feel comfortable with districts, like I'm in my professional element. My challenge now is to familiarize myself with the many programs in which districts are involved, which have become much more numerous and involved over the years. Conservation Districts are sophisticated organizations with many hands in the communities. It's my job to be a source of information and guidance, which can be a daunting task when speaking to board members who have been with the districts for 20 years!"

Linda will be working with Bucks, Chester, Delaware, Lehigh, Montgomery and Northampton County Conservation Districts. She is available at 484-250-4158 or lmackey@state.pa.us.

Linda lives in her native town of Birchrunville, Chester County, with her two sons and their Golden Retriever.



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New district employees

The **Bucks County Conservation District** recently hired a new Agriculture Conservation Technician, **Rachel Onuska**. After graduating from Penn State in 2003 with a degree in Agriculture Education, she spent two and a half years serving as an agriculture extension agent in Senegal, West Africa for the Peace Corps. Upon completion of her Peace Corps service, she served as the Assistant Country Director for a humanitarian agency administering USDA-funded agricultural development and emergency programs in the Central African Republic. During her year and a half term in the Central African Republic, Rachel managed several types of programs including farmer credit programs, vocational agriculture trainings, income generating programs for AIDS widows and a child malnutrition program.



Rachel returned to the U.S. from the Central African Republic this past January and began working with the District soon thereafter. She is currently working towards her certification in nutrient management, as well as participating in conservation-planning trainings. She is working in collaboration with the Bucks County NRCS out of their Perkasio office.

Kristina Henderson is the most recent addition to the **Montgomery County Conservation District** staff. Kristina will perform the administrative completeness checks for the Chapter 102/NPDES program, work with the Costal Non-point Pollution program and implement the floodplain monitoring program.



Kristina has a dual major in Restoration Ecology and Biology from the Defiance College in Defiance, Ohio. She previously worked with the Connecticut Agricultural Experiment Station researching Eastern Equine Encephalitis, completed a year of service with AmeriCorps at the University of Maine Cooperative Extension, worked for the State of Maine, Land Use Regulation Commission as an Environmental Specialist II, and has volunteered as an Associate Supervisor for the Piscataquis County Soil and Water Conservation District in Maine. Most recently, Kristina worked as an Environmental Health Specialist at the Montgomery County Health Department.

The Montgomery County Conservation District is pleased to welcome Kristina to our staff.



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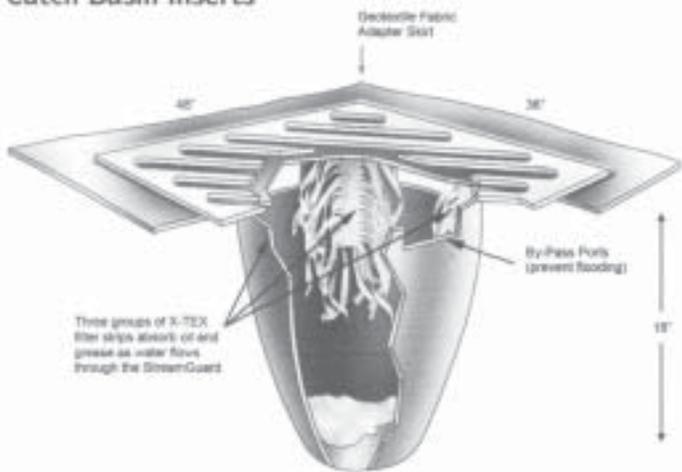
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