

# Conservation & You

A publication of the  
Southeast Pennsylvania  
Association of Conservation Districts

Bucks  
Chester  
Delaware  
Montgomery



Winter 2009

## Partnership to educate streamside property owners

Bucks County Conservation District (BCCD) and Delaware Valley College (DVC) have formed a partnership to educate streamside property owners about riparian buffers. Developed after a similar project funded by the League of Women Voters and The Alliance for a Sustainable Future, BCCD received funding from the Pennsylvania Association of Conservation Districts to complete a grant project entitled Stormwater Management: Riparian Buffer Maintenance for Streamside Property Owners.

During the fall 2008 semester Delaware Valley College Environmental Design students in Eve Minson's Major Native Plants class were trained on the importance of developing and maintaining riparian buffers on streamside home sites. Students learned how utilizing native plants and encouraging buffers of at least 50 feet on either side of a creek can improve water quality by reducing non point source pollution, reduce erosion and sedimentation improving habitat for fish and macro invertebrates and reduce flooding.

Students worked in teams and each team created an educational brochure for homeowners that will give information on how to improve and maintain streamside properties to enhance riparian areas and water quality. Each team presented their brochures to a panel of experts who gave the teams feedback on their brochures. Teams were sent back to the drawing board to develop their final brochures. The brochures were graded, and the two winning designs will be utilized to create the final brochure to be mailed to some streamside property owners in Bucks County.



*Eve Minson, Professor of Environmental Design, Delaware Valley College, speaks to students on a field trip along the Tincicum Creek.*

*(continued on p.2)*

## Crabby Creek Restoration Celebration

The Valley Creek Restoration Partnership celebrated the successful restoration of Crabby Creek on Saturday, January 24, 2009 at the Tredyffrin Township Building, Berwyn. The restoration of the creek was possible with funding provided by the William Penn Foundation. The total project had three parts: 1) 1480 linear feet of restoration on Crabby Creek with a recreated floodplain and the construction and placement of 22 new fish habitat structures; 2) creation of an urban stream restoration toolkit for use by other watershed groups, and; 3) the design and construction of four urban stormwater best management practice retrofits in the township.

Volunteers and sponsors for the project were recognized for their contributions. Pennsylvania's Senator Andrew Dinniman, Representative Duane Milne, and Representative Paul Drucker presented citations of volunteer appreciation to four of the project leaders—Pete Goodman, Malvern; Chuck Marshall, Paoli; Dr. Owen Owens, West Chester; and Jim Nelson, Downingtown. Chester County Commissioners Aichele and Cozzone also presented citations to the four project leaders for their volunteer efforts to the County's waterways. Senator Dinniman presented a Memorial Citation to the family of Neil McAloon, Paoli for his life efforts, service to the project, and his community and watershed conservation leadership.

The Valley Creek Restoration Partnership also presented conservation service awards to project partners Chotty Sprenkle, Watershed Coordinator, Chester County Conservation District, and Dr. David Dunbar, Professor, Cabrini College. Pete Goodman and Chuck Marshall were also recognized for their conservation leadership and watershed stewardship in the region.

For more information on the Crabby Creek Project, contact Chotty Sprenkle, Watershed Coordinator, Chester County Conservation District at 610-925-4920 Ext. 103 or at [csprenkle@chesco.org](mailto:csprenkle@chesco.org). A copy of the Methodology, Assessment, and Planning Report or M.A.P. Report (restoration toolkit) will be available online for download at [www.chesco.org/conservation](http://www.chesco.org/conservation), click publications.



*Award winner  
Chotty Sprenkle*

*Dan Greig, Chester Co. CD*

## A Failing Stormwater Infiltration BMP – PART 1

Last year the Chester County Conservation District received a complaint about stormwater infiltration basins that were holding water longer than a designed 48 hour dewatering time. The project, a township community park, was designed to incorporate several infiltration BMPs including 5 infiltration basins and



*1<sup>st</sup> test hole dug in 1" of water, dry soils immediately below surface*

2 rain gardens. An inspection was performed with the township engineer, a township supervisor, the design engineer, the contractor and the Conservation District. During the inspection 3 potential reasons for these failures were identified. The three observed failures include: 1) Top soil on basin bottom appears to have become a prohibitive layer, not allowing adequate surface infiltration 2) Silt deposits from construction over top of amended soils have become a prohibitive layer, and 3) Clay soils that led to very slow dewatering rates. This article will discuss the first problem found- the top soil became a prohibitive layer and the proposed repair to better facilitate infiltration. The other two issues will be discussed in future articles

Infiltration testing rates in the infiltration basin were good at 5.33 in/hr. The last rain we had was Friday September 12<sup>th</sup> 2008 and the inspection was held on Monday September 15<sup>th</sup> 2008. The CCCD recommended that test holes be dug within the basin to see if there were better soils below the surface. Fortunately during the inspection a Township employee and backhoe were on site and able to dig two holes while we watched. Immediately below the surface the soils were dry and sandy. The first dig was in about 1 inch of water, we then had a hole dug in the deepest part of the standing water approximately 6 inches, maybe deeper. In the first bucket there was dry soil. It seemed that the topsoil layer had clogged. No evidence of sedimentation from construction was visible. What caused the topsoil to fail is unknown. Some theories we discussed on site included compaction during installation, poor grass growth (no grass root structure to aid the porosity of the soil), or a high fine material and organic component in the topsoil that clogged under concentrated flows and collection of surface water. Sedimentation from construction was not considered because there were no signs of it on the surface.

The proposed fix on this particular basin is to install stone beds that extend into the good soils and scarify the surface along with immediate stabilization. Future designs of these surface infiltration beds should take into account the topsoil. An easy, cost effective solution may be a simple soil amendment to the topsoil to aid in its porosity.

*Joe Sofranko, Chester County CD*

## Partnership

*(continued from front page)*



*Panel members judge the students' work (l-r) Sue Meyerov, Environmental Planner-Heritage Conservancy; Meghan Rogalus, Watershed Specialist-BCCD; Malcolm Crooks, BCCD Board Member; Drew Gilchrist, Regional Director Land Protection, Natural Lands Trust; Eve Minson, Professor of Environmental Design, Delaware Valley College.*

This spring, students will be trained to become land managers, and several property owners will be selected to receive a free consultation at their home. Students, accompanied by DVC and BCCD personnel, will develop a landscape plan for each property owner. More information about this ongoing project will be reported in the next issue of *Conservation & You*.

*Mary Ellen Noonan, Bucks County CD*



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## NPDES Permit Renewals

NPDES Permits are valid for a five-year period that begins on the date that the permit is issued. The expiration date can be found on the permit and at the bottom of page one on the Earth Disturbance Inspection Report. If there is less than five acres of disturbance remaining on the project and this remaining area does not have a point source discharge to a surface water of the Commonwealth, the local county conservation district may use their discretion as to whether or not the permit should be renewed. A call should be made to the conservation district to schedule an inspection to make this determination.

In order to renew the permit, an administratively complete permit package should be submitted to the conservation district at least 90 days prior to the expiration date for general permits and at least 180 days prior for individual permits. A Notice of Intent using the latest revised form (5/2007) and the permit-filing fee of \$250.00 for general permits and \$500.00 for individual permits are required. A new PNDI search needs to be performed. If there are any hits on that receipt they must be cleared by the appropriate agency even if these hits were cleared when the original permit application was submitted. Notifications and proofs of receipt to the county government and local municipality are also required.

Once the review of the renewal application is complete, the permit will be authorized and valid for an additional five years from this date. It is important to remember that once a permit has expired it cannot be renewed and a new application will be required. Questions regarding the permit renewal process should be directed to your local county conservation district.

*Michelle Ferri, Delaware County CD*

## Reorganization of Permits and Technical Services Section, Watershed Management Program – DEP

In case you haven't heard by now, the Permits and Technical Services Section has been reorganized, which encompassed: the NPDES Stormwater Construction Program, the Chapter 105 Water Obstruction and Encroachment Program; and the Dam Safety Program for Field Operations. The section has essentially been split into two smaller units due to the tremendous increase in the span of responsibilities in the last decade that has made it too big and cumbersome to manage under one unit. The new organizational structure is as follows:

**Stormwater Section** – Handles the NPDES Stormwater Construction Program including providing oversight, technical and compliance assistance to the County Conservation Districts and Philadelphia Water Department. The previous chief of the Permits and Technical Services Section, Mr. Domenic Rocco, P.E., will be the chief of this unit which includes 4 engineers and one compliance specialist.

**Dams and Waterways Section** – Handles the Chapter 105 Water Obstruction and Encroachment Program and Dam Safety Program for Field Operations. This includes Joint Permits, General Permits (such as minor road crossings and utility line crossings), waiver requests, etc. along with the field inspections of the various high and low hazard dams within the region. This unit is under the supervision of a new section chief, Ms. Zahra Nucci, P.E., and includes 4 engineers, a biologist supervisor and four biologists.

Though this change was effective in January 19, 2008, the Watershed Management Program has been undergoing a steady transition to establish improved focus for staff and to provide better service to the regulated community. Both units can still be contacted by calling the Watershed Management switchboard at 484-250-5970.

*Domenic Rocco, PE, CPSWQ  
Chief, Stormwater Section  
DEP Southeast Regional Office*



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## Marcellus Shale – *What is it, Where is it, and what is all the fuss?*

Devonian black shale, known as “Marcellus,” has been around for a very long time. It occurs about one mile below the earth’s surface beneath much of Ohio, West Virginia, Pennsylvania and New York. Geologists have known about it too, for a long time, but it is only recently that “Marcellus” has become the big buzz word in the oil and gas industry. The reason? New technologies and price incentives have now made this once difficult to extract gas profitable. Conservative estimates are that Marcellus shale contains 168 trillion cubic feet of natural gas; in reality it could contain as much as 516 trillion cubic feet. The US currently produces 30 trillion cubic feet of gas a year.

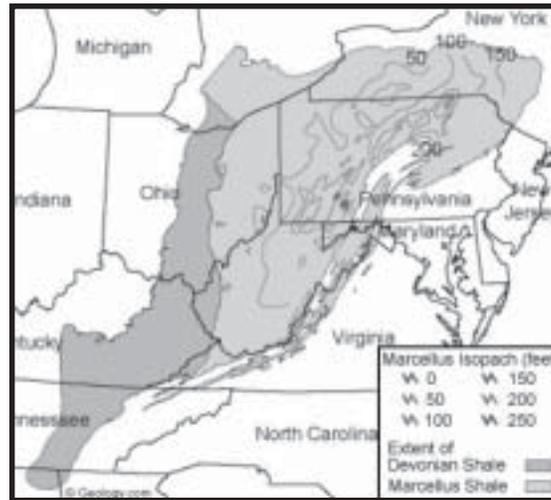
The Marcellus Formation, which lies beneath much of Pennsylvania (see map), runs from southwest Greene County northeast to Wayne County. Here in southeast Pennsylvania Marcellus Shale has not been found to exist. DEP has issued 618 Marcellus permits from 2007 through 2008.

The new technologies, which are making possible the gas extraction from the shale, include horizontal drilling and hydraulic fracturing. Depending on the geology a well is drilled vertically for several thousand feet. Special joints are then used to turn the shaft 90 degrees. It is then possible to continue drilling horizontally for another 5,000 feet. Horizontal drilling enables companies to extract more gas in a cost-effective manner.

The gas produced from a deep drilled well is under higher pressure than gas produced from a shallower or more traditional well. Different handling techniques are needed to extract it. The new technologies use significant quantities of water under very high pressure to fracture the shale, commonly referred to as “fracing”. Since the lines are now longer, the amount of water needed to frac the well is considerable. Estimates range between 1-5 million gallons or more per well. This water use and eventual treatment and disposal are one of the many issues facing communities dealing with the natural gas boom.

It is critical to understand that, in addition to the economic changes gas drilling will bring, there is the possibility of significant impacts to Pennsylvania’s environment and natural resources. Federal, state and local agencies are all involved in the regulation of natural gas exploration.

The Department of Environmental Protection (DEP), the Department of Conservation and Natural Resources (DCNR), the Susquehanna River Basin Commission (SRBC) and the Delaware River Basin Commission (DRBC) all regulate different aspects of exploration and drilling. DEP enforces Pennsylvania oil and gas laws relating to resource management, well construction and waste



management practices. DEP’s Bureau of Oil and Gas Management is responsible for the statewide oil and gas program. Depending on the project’s acreage, the county Conservation District may also have a role in regulating construction activities relative to erosion and sediment control.

DCNR has authority to lease state forest land for natural gas exploration. The oil and gas lease fund mandates that all rents and royalties from the leases are to be placed in a fund for use for conservation, dams, flood control programs, etc.

The SRBC and DRBC regulate water usage and other water related impacts of well drilling. They regulate water withdrawals and injection and disposal of fracing waste fluids. They also investigate situations in which private wells are damaged from drilling. Drilling companies must have prior approval for consumptive water use prior to drilling.

Gas well exploration and construction involves extensive earth disturbance. Roads, well pads and pipelines need to be created. A drilling pad alone can be 4 - 6 acres in size. These earthmoving activities are regulated under Chapter 102. For earth disturbance activities over 5 acres a Notice of Intent and General Permit for Authorization to control erosion and sediment must be completed.

A major concern has been the demand and treatment of the large quantities of water used in the frac process. The water used to frac the shale is mixed with sand and other products. Concerns over water use during gas well drilling prompted changes to the state permit in October 2008. The permit now must include information on the sources and locations of water to be used in the drilling process, the impacts of drilling on water resources and proof that the water withdrawals have been approved by the appropriate river basin commission. The drilling companies must identify where they plan to obtain and store the water being used and where the “frac water” is to be treated and disposed.

While we are only now experiencing the infant stages of gas exploration it is going to be crucial that local communities become aware of the effects that drilling activities will have on the environment and other facets of their neighborhoods. Local leaders and residents will need to understand how gas drilling may affect them and their environment. Understanding how these activities occur and how to best manage them will be an important issue for municipalities and residents to consider.

*(continued)*

## Marcellus Shale *(continued from p.4)*



*Containment tanks for frac water at a well pad site in Susquehanna County*

Two excellent guidebooks have been published by Penn State Cooperative Extension that provides information on Marcellus Shale and what municipalities need to know (see references below). The Cooperative Extension's website, [www.naturalgas.psu.edu](http://www.naturalgas.psu.edu), is also a very comprehensive educational resource.

*Lisa Ishimuro  
Bucks County CD*

### References:

The Marcellus Shale-An Old "New" Gas Reservoir in Pennsylvania. Bureau of Topographic Geologic Survey, DCNR: Pennsylvania Geology Vol 38, No. 1

Marcellus Shale: What Local Governments Need to Know. Penn State Cooperative Extension.

Natural Gas Exploration. Penn State Cooperative Extension.

Energy Resources Group, Harrisburg, Pa. [www.naturalgas.psu.edu](http://www.naturalgas.psu.edu)

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## "TreeVitalize" program at Gallows Run

The Bucks County Conservation District (BCCD) staff spent the morning of October 27, 2008 engaged in a team-building activity by planting 130 native trees and shrubs on the banks of the Gallows Run. The 300 foot section of the riparian area adjacent to Route 611 in Kintnersville had been the site of emergency road and streambank repair the prior spring and provided an ideal spot for the planting. The native trees and shrubs planted here will restore the riparian buffer which had been devastated by flooding from several spring storm events. Riparian buffers serve a critical role in regulating the health of the entire watershed by stabilizing streambanks and preventing erosion, increasing infiltration and mitigating flooding, and providing fish and wildlife habitat.



*BCCD staff (left to right) Gretchen Schatschneider, Jake Borden, Mary Ellen Noonan, Rich Krasselt, Rachel Onuska, Meghan Rogalus, Lisa Ishimuro and Eric Wightman smile for a photo after completing the morning's work.*

Thanks in part to an auger on loan from Heritage Conservancy and the BCCD staff's talents and work ethic, the group completed the task quickly. Plant material and deer protection for this project were provided by the TreeVitalize program ([www.treevitalize.net](http://www.treevitalize.net)), a partnership led by the Pennsylvania Department of Conservation and Natural Resources. The program was initiated in 2004 to restore tree cover in the southeast region and has recently expanded to metropolitan areas statewide. TreeVitalize provides funding for materials to local groups willing to make the effort to get the plants in the ground by recruiting a volunteer workforce. The Bucks County Conservation District acts as the local liaison for these community organizations; and in this special case, also provided the volunteer labor to install the plants. The BCCD staff welcomes the opportunity to plant more trees in the future.

*Meghan Rogalus  
Bucks County CD*

## Conservation Awards

The Bucks County Conservation District is now accepting nominations for its 2009 awards competition. This annual program recognizes residents of Bucks County for outstanding conservation efforts in several categories. The awards will be presented along with commendations from the County Commissioners for the award recipients at a Commissioner's meeting in 2009.

The award categories are:

- Conservation Individual
- Conservation Organization
- Conservation Farmer
- Elected Official Recognition Award
- Farmland Preservation named in honor of George M. Bush
- Conservation High School Student

For a description of each category, more information and nomination forms, visit the BCCD website at [www.bucksccd.org](http://www.bucksccd.org) or call Mary Ellen Noonan at 215 345 7577 ext 101. Completed nominations should be submitted to BCCD, 1456 Ferry Road, Suite 704, Doylestown, PA 18901 by **March 10, 2009**.



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## Montgomery County Conservation District Revised Fee Schedule

At the regularly scheduled public Board of Directors meeting of the Montgomery County Conservation District conducted on December 9, 2008, the district board approved revisions to the district fee for service in the Erosion & Sediment Control program. The effective date is March 1, 2009. The revised district application form is available on the district web site at [www.montgomeryconservation.org](http://www.montgomeryconservation.org)

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<u>DISTURBED ACRES</u>	<u>FEE FOR SERVICE</u>
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10+ to 15.0	2,000.00
15+ to 20.0	2,300.00
20+	2,300.00 plus \$50.00/acre over 20

Single Residential Lot: A fee of \$160.00 will be charged for a single residential lot with minimal earth disturbance, low hazard on less than 3% slope.

Agriculture Construction: The above fee schedule will apply for agricultural earth disturbance other than agricultural "plowing or tilling." The NPDES permit requirement may also apply depending on acres to be disturbed.

Minimum Earth Disturbance: A fee of \$75.00 will be charged for adequacy review of the Erosion & Sediment Control plan for projects with minimal earth disturbance, and are "low hazard." This includes Chapter 105 General Permits or other Water Quality Permits, timber harvesting (select cutting), and agriculture construction. This list is not necessarily all inclusive and any unlisted activity will be categorized at the discretion of the conservation district.

*Rich Kadwill, Montgomery County CD*

## Web Soil Survey Workshop

On January 6, 2009 John Chibirka, Natural Resource Conservation Service, presented an informal workshop on the Web Soil Survey at Delaware Valley College. Over 30 participants representing engineering firms, municipalities, Penn State Cooperative Extension, Peace Valley Nature Center, PA Department of Environmental Protection and Bucks County Conservation District were in attendance.

John ran through a presentation on the new web program and then went to the website, answering questions and demonstrating the features and how to utilize the site to its full advantage. The web soil survey can be accessed through the Bucks County Conservation District webpage at [www.bucksccd.org/soil\\_survey.htm](http://www.bucksccd.org/soil_survey.htm) or directly at <http://websoilsurvey.nrcs.usda.gov>.

*Mary Ellen Noonan, Bucks County CD*

## Policy changes in Bucks County

The Bucks County Conservation District has made several policy changes for the year 2009 including increasing fees for Erosion and Sedimentation Control Plan review. The new fee schedule is detailed on the 2009 Application for Erosion and Sedimentation Control Plan Review. All applicants are required to use the new E&S Control Plan Review application which can be downloaded from the BCCD website's *Forms and Applications page*. Applicants are asked to review both sides of the new application form to become familiar with the new policies.

The fee increase is approximately 4% across the board. Any plans submitted for a second review, otherwise known as a "resubmission," will be charged 20% of the **current** fee. This is a change from previous years when a resubmission was "grandfathered" in on the old fee schedule. For a complete listing of the BCCD's fees, please see our website – [www.BucksCCD.org](http://www.BucksCCD.org).

The BCCD has increased the fee for expediting an Erosion and Sedimentation Control Plan review. Previously, requests for Expedited Review were required submission of two separate checks, one for the original fee and one in an equal amount for the expedited review fee. The District has now increased the Expedited Review Fee to twice the original fee. No individual or agency is exempt from the expedited review fee.

Several other Expedited Review Policies have been updated for better clarification. For a full listing of the new Expedited Review Policies, as well as the new application and fee schedule, please visit [www.BucksCCD.org](http://www.BucksCCD.org), and go to the *Forms and Applications page*.

Bucks County Conservation District Board of Directors has also approved an *Administrative Fee for Plan Withdrawal*. The goal of the policy is to 1) deter premature submissions of plans which have not received approval on the township level and are subsequently withdrawn from the review process midstream, and 2) to recover a portion of the District's cost for processing these plans. The administrative fee for plan withdrawal is 15% of the original fee, with a cap of \$150.00. The remainder of the original permit fee is returned to the applicant.

In compliance with the 2009 Right to Know legislation, the Bucks County Conservation District has appointed Camille Peters as their Open Records Officer. All requests for records should be directed to her attention. More details about the new Right to Know policies and the applicable forms are available on the *Forms and Applications page* of our website.

If you have any questions regarding any of these policies, please feel free to contact our office at (215) 345.7577, or visit our website at [www.BucksCCD.org](http://www.BucksCCD.org).

Gretchen Schatschneider  
Bucks County CD

## Delaware County Conservation District introduces new employee

### Tessa Bailey

Tessa Bailey is the new conservation technician at Delaware County Conservation District. She graduated from King's College which is located in Wilkes-Barre PA, with a B.A in Environmental Studies. In the summer of 2007, Tessa worked at Stroud Water Research Center in Avondale, PA within the entomology department. At Stroud she worked on the Schuylkill River project as an aquatic entomology intern. Tessa studied macro invertebrate samples taken from various tributaries of the Schuylkill River in order to assess the health of the streams. She is a native of Northeast Pennsylvania and has recently settled down in Boothwyn with her husband. Tessa looks forward to the opportunity to explore and learn about Delaware County.



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