

Economy Versus the Environment

During this economic downturn, the relationship between economic prosperity (or lack of) and the ability to maintain a projects obligations to the NPDES permit has rarely been more evident. Not only have construction crews been downsized, but so have many of the agencies and municipalities that oversee and monitor these sites. As a result, the implementation and maintenance of erosion and sediment controls, and in other instances, post-construction stormwater management facilities, has suffered.

While the financial woes of developers and the agencies that monitor these sites can be sympathized with, it needs to be understood that protection of our wetlands and streams remains a priority. Implementation and maintenance of controls is just as important now as it has always been, and besides that, it is the cost of doing business.

The key to minimizing the cost of implementation and maintenance is to be proactive. For sites that have not been reviewed or approved should take into account that there is a chance that the scope of work may not be able to be completed with the market as is. Consider breaking the project down into more manageable pieces and phasing it. Sequencing and proposed limits can also have quite an impact. The less area opened up means the less area dependant on controls, which also, in turn, means less controls and thus less maintenance.

For construction sites that are currently under active earthmoving, there are several ways that cost can be kept down. Frequency of maintenance of all controls should be relatively consistent. The more often that controls are inspected and repaired, there is less of a chance that several of these "small" maintenance problems, when left unattended, will morph into larger maintenance problems with more complex issues. For example, the cost of maintaining a section of silt fence on a regular basis is inexpensive compared to allowing the problem to exist for an extended period of time, and further deteriorating to the point where rectification may involve regrading of resulting gullies, removal and clean-up of off-site sedimentation, and E&S control reimplementation. While one or a couple crew members may take a few minutes to rectify the problem initially, the same problem when left unattended may take more people, equipment and several hours to days to resolve. This does not even include potential fines and loss of workable time if DEP may need to be involved.

Site stabilization is another means of minimizing cost of control implementation and maintenance. If an area of disturbance upslope of an erosion control is well stabilized until work can be done, this effectively reduces the burden on downslope controls. Well stabilized upslope areas means less runoff and less of a sediment load contributing to the controls. Additionally, inspectors are less likely to note a poorly maintained control downslope of a well stabilized area. No potential for pollution? No problem!

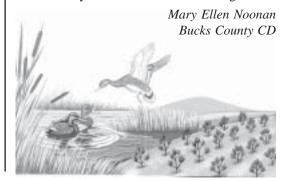
Benjamin Drover Chester County CD

Citizen Scientists: Pay it Forward in your Watershed

Once again the Pennsylvania Association of Conservation Districts (PACD) has provided funding to Bucks County for an educational program involving riparian areas. The Citizen Scientist program is modeled after last year's program that taught Delaware Valley College (DVC) environmental design students about the importance of properly managed riparian areas to water quality, and then gave them the chance to practice their skills during on-site consultation with streamside property owners.

The basis for this year's program is similar with one exception. This year we will offer this intensive training on riparian buffers direct to property owners. To get more *bang for the buck*, the participants need to promise to "pay it forward" by training three additional streamside neighbors.

Bucks County Conservation District educator and watershed specialist will team with Eve Minson, former Associate Professor of Environmental Design at Delaware Valley College, and Vivian Williams of Stroud Water Research Center, to complete the training. Topics will include, but are not limited to: water quality and quantity issues, invasive plants, assessment practices, site analysis and design. For more information on this program, contact maryellennoonan@bucksccd.org.



Hands across the watershed

Thanks to a generous grant from the National Park Service (NPS), Lower Delaware Management Committee, Bucks County Conservation District (BCCD) has partnered with New Jersey's Hunterdon County Soil Conservation District (HCSCD) and the Delaware River Experience (DRE) to present hands-on educational opportunities to schools located within the Lower Delaware River Management Plan area.

Educators Mary Ellen Noonan, BCCD and Barbara Urcinas, HCSCD along with Captain Dee Keller, DRE have developed a unique watershed program which packs a one-two educational punch. To introduce the "Experience the Delaware" program to the students, Barbara and Mary Ellen provide a preliminary classroom visit. To prepare students for the field trip portion of the program, and through hands-on activities, students learn how much of the earth's surface is water (over 75%) but that less than .01% of this water is available fresh water. Using maps of the Delaware River Basin, students learn what a watershed is and how the boundaries of a watershed are determined. The fact that the Delaware River watershed includes not only NJ and PA but DE, NY and even a small portion of MD is discussed. Students prepare for the laboratory portion of the field trip by learning how to use a dichotomous key during an interactive activity which directly involves the students.

On the field trip day, students travel to Upper Black Eddy, PA to board the River Otter, a coast guard certified pontoon boat owned by the Delaware River Experience. This section of the river is characterized by deep pools and riffles. Captain Dee provides background information on the river; its unique geology, history, wildlife and microclimates as the boat makes its way up river. Laboratory experience follows as students take water samples and test for dissolved oxygen, temperature, pH and turbidity of the water. Once these results are gathered, and as the boat makes its return trip to the dock, educators lead a discussion on interpreting test results and topics such as non-point source pollution, runoff and riparian buffers. Students are asked probing questions which lead them to make connections about water quality and human actions.

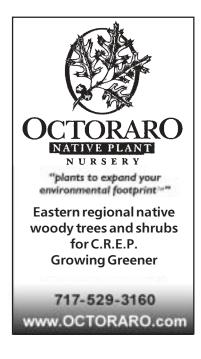


Students from Quakertown Friends School participate in a field trip on the Delaware River.

The final activity includes a macroinvertebrate assessment along the banks of the river. Students are asked to predict the diversity of insects which might be found and to draw conclusions about the quality of the water based upon all the data which has been collected. By the end of the program students understand how important the Delaware River is to them. By being out on the water students develop a much deeper appreciation of the river than if they were only taught about it in the classroom. Having fun is just a perk of the day!

Funding for this program has allowed us to schedule 6 trips for this fall. Depending upon additional funding, BCCD, HCSCD and DRE hope to be able to provide this program again next spring. For more information contact maryellennoonan@bucksccd.org.

Mary Ellen Noonan Bucks County CD





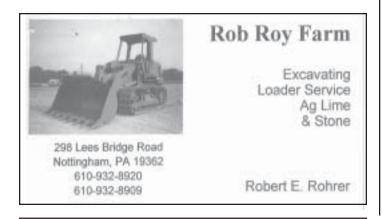
Christian E. Strohmaier transitions to Acting District Manager

The Chester Conservation District is pleased to announce the transition of Christian E. Strohmaier to Acting District Manager. Strohmaier came to the Conservation District as a summer intern in 1996 with a strong agricultural background from growing up and working on the family dairy farm. A 1996



graduate of Indiana University of Pennsylvania with a BA in Environmental Geography, Strohmaier is a resident of Kennett Square. He has been with the Chester County Conservation District full-time since February 1997. He joined the staff as a Chesapeake Bay Resource Conservationist and was promoted to Agricultural Resources Team Leader in October 1999. During that time, Strohmaier was recognized by the Octoraro Watershed Association with an Octoraro Riverkeeper Award in 1999 and a Presidential Citation in 2004 for his leadership and fieldwork in implementing riparian restoration and streambank fencing in the Octoraro watershed. In addition, the Chesapeake Bay Foundation presented Strohmaier with a conservation award in recognition of his accomplishments. Strohmaier also served as an Octoraro Watershed Association board member and Vice-President.

Strohmaier was promoted to Assistant District Manager in January of 2006 and oversaw the agricultural, erosion and sediment field operations and staff as well as grant management.



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Notice of Termination Form

The notice of termination (N.O.T.) form is an important yet often forgotten aspect of the NPDES permit. The N.O.T. should be submitted for one of two reasons; that an applicant has finished all site work on a project, or that a co-permittee would like to be removed from the NPDES permit.

After an applicant has completed all site work at a permitted project, a notice of termination form should be completed and sent to their local conservation district. A representative from the conservation district will then conduct a final inspection of the site to verify that all disturbed areas have been adequately stabilized, all post construction storm water controls are implemented, and finally that all previously noted violations have been addressed. It is important to note that a notice of termination will not be acknowledged until all violations are resolved and the site is in compliance.

Another circumstance when the notice of termination should be submitted is when a co-permittee or co-applicant wants to be removed from a NPDES permit. Prior to submitting a N.O.T. form, a co-permittee should have completed all of their permit responsibilities. The conservation district will review permit responsibilities of the co-applicant that were previously agreed upon on the co-permittee form. This is why it is very important for the co-applicant to specifically list all planned site work on the co-permittee form if they are only taking partial site responsibility. When completing the N.O.T. form the co-permittee must also obtain the signature of the remaining applicant to show that they agree that the co-applicant has fulfilled all site responsibilities. If a co-permittee fails to submit a N.O.T. form, they will remain a responsible party on the NPDES permit and will continue to receive inspection reports, as well as remain responsible for any site maintenance or violations.

Once a notice of termination form has been acknowledged by the conservation district, permittees are no longer allowed to release discharges related to construction activities and are not allowed to conduct any further earth disturbance. The notice of termination form is often sent to the applicant within the NPDES permit package. The form can also be accessed online via DEP's website http://www.elibrary.dep.state.pa.us/dsweb/View/Collection-9453

If you have any questions while completing or submitting the notice of termination form, contact your local conservation district.

Tessa Bailey Delaware County CD



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Proposed 102 Regulations for Farming

The DEP has posted the proposed updates to the 102 regulations that will affect farming in Pennsylvania. The scope of the agricultural section (102.4(a)) is being enhanced beyond "agricultural plowing and tilling" to also include "animal heavy use areas." What are these changes and definitions and how will they affect the farming community? First let's look at the proposed and enhanced DEP regulation definitions:

 Agricultural Operation – The management and use of farming resources for the production of crops, live stock, or poultry, or for equine activity.

Agricultural plowing and tilling activity -

- (i) Earth disturbance activity involving the preparation and maintenance of soil for the production of agricultural crops.
- (ii) The term includes no-till cropping methods.
- Animal Heavy Use Area- Barnyard, feedlot, loafing area, exercise lot, or other similar area on an agricultural operation where because of the concentration of animals it is not possible to establish and maintain vegetative cover of a density capable of minimizing accelerated erosion and sedimentation by usual planning methods.
- Conservation Plan A plan that identifies conservation practices and includes site specific BMPs (which minimize the potential for accelerated erosion and sediment from (for agricultural plowing and tilling activities and animal heavy use areas).
 - (i) BMPs for agricultural plowing and tilling activities, including soil loss tolerance values (T), are identified in the *Pennsylvania Soil and Water Conservation Technical Guide*, United State Department of Agriculture, Natural Resources Conservation Service, 1991.
 - (ii) The Conservation Plan shall include a schedule for the implementation of the BMPs.

• **E&S Plan**—Erosion and Sediment Control Plan—a site-specific (identifying) consisting of both drawings and a narrative that identifies BMPs to minimize accelerated erosion and sedimentation before, during and after earth disturbance activities. (For agricultural plowing and tilling activities, the Erosion and Sediment Control Plan is that portion of a conservation plan identifying BMPs to minimize accelerated erosion and sedimentation.)

What does all of this mean to the farming community? It means that there are going to be a lot more farming operations including the small farms and horse farm operations that will have to follow a conservation plan that meets the state requirements

For agricultural plowing and tilling activities and animal heavy use areas the following erosion and sediment control requirements apply:

- · Written E & S Plans that disturb 5,000 square feet or more of land
- The E & S plan must include cost-effective and reasonable BMPs
- This plan must, at a minimum, limit soil loss from accelerated erosion to the soil loss tolerance (T) over the planned crop rotation.
- If this plan occurs on fields with less than 25% cover and within 100 feet of a river, or perennial or intermittent stream, additional BMPs shall be implemented to minimize accelerated erosion and sedimentation.
- The E & S plan must identify BMPs to minimize accelerated erosion and sedimentation.

Many farmers have been working with the Conservation District and NRCS and are aware that changes are on the way. We will continue to work with the farming community to update their plans with these new proposed regulations. We are here to help. Please contact us at your Conservation District if you have any questions or are unsure if the above proposed regulations may affect your farming practices.

Gaye Lynn Criswell Chester County CD



Removing invasives from Lake Towhee

On August 26 & 27th, staff from Pennsylvania Department of Environmental Protection and Bucks County Conservation District collaborated on an aquatic invasive plant removal project at Lake Towhee County Park, Bucks County. The group was tasked with motoring and paddling through and around dense stands of native macrophytes to weed out the invasive water chestnut (*Trapa natans*) - pulling each plant out by hand. First noted during a lake survey last year, water chestnut was also recently spotted in the upper portion of Nockamixon Park at the Tohickon Creek inlet to Lake Nockamixon.

After an introduction, teams split up into different sections of the lake while others remained on land to assist boaters unloading their quarry and to haul the plant material to a pre-approved composting site. Great care was taken to remove the entire stem because even a small fragment could sprout to a new plant, negating much of the days' efforts.



Rachel Onuska (BCCD) pauses from her chore to smile for the camera

Over the two work days, roughly 90% of the water chestnut was removed from the lower 10 acres of the 29-acre impoundment. A total of 12 small-bed truckloads, or roughly 2.5 tons, of wet-plant material was removed. Although tired, wet and splashed with benthic sediment, everyone was extremely gratified to see the results of the team effort.

Special thanks to the Bucks County Department of Parks and Recreation Director, Bill Mitchell, for identifying a composting location in the woods offsite so that neither the seeds nor the composted nutrients would further contaminate the lake. Finally, an extra special thanks to the wonderful volunteers who contributed their time and energy to this task!

For more information on water chestnut, visit: http://www.pserie.psu.edu/seagrant/ais/watershed/chestnut.htm

Barbara Lathrop, PA DEP & Meghan Rogalus, Bucks County CD

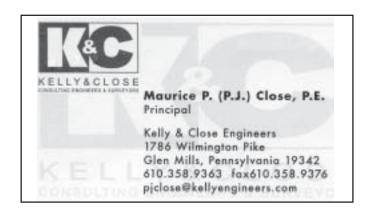
Legislative Breakfast in Bucks County

On Friday, August 21, Bucks County Conservation District (BCCD) held a legislative breakfast at Delaware Valley College (DVC). Dr. Joseph Brosnan, President of DVC, who is represented on the BCCD board by his assistant Don Felscher, welcomed the group of legislatures, BCCD employees and associates. Speakers included Gretchen Schatschneider, District Manager, Rachel Onuska, Agricultural Technician, Meghan Rogalus, Watershed Specialist, Mary Ellen Noonan, Educator and Patrick Murphy, PA House Representative. Each speaker discussed the important programs that are the mission of every Conservation District in the state. Financial statistic on how each of the districts is funded was reviewed. The intent of the breakfast was to provide legislatures with more information on district programs and funding so that they can make informed decision on important issues which affect each of Pennsylvania's Conservation Districts.

Mary Ellen Noonan, Bucks County CD



Congressman Patrick Murphy(right) speaks to Gretchen Schatschneider, Scott Geiser and Joe Feola at the Legislative breakfast.



Little Neshaminy Creek Stormwater Best Management Practices Demonstration Project

In 2005, Montgomery County Conservation District was awarded Growing Greener funding to implement a stormwater best management practices demonstration site on the headwaters to the Little Neshaminy Creek in Montgomery Township. Montgomery Township is a suburban landscape in Montgomery County with high impervious cover. In 2000, the Township was mapped with approximately 40 percent impervious, up from only 4 percent in 1970.

The Growing Greener funding was awarded to retrofit a stormwater basin at the Mary Mother of Redeemer Church and School. The 30 acre facility has many existing natural features including; wetlands, a pond, and 500' of a headwaters stream tributary to the Little Neshaminy Creek.

The stormwater retrofit included removing a concrete low flow channel, modifying the outlet structure to provide extended detention, installing a sediment forebay to filter stormwater runoff, and naturalizing the basin.

Upon removal of the low flow channel, a water quality berm was installed to maximize the flow path in the basin. The elevated berm directed stormwater through the basin, allowing it to meander within the basin before reaching the outlet structure.

The sediment forebay is a holding area where the stormwater enters the basin. It is a depressed area lined with larger rock which filters sediment and particulates from the stormwater as it enters the basin

At the outlet structure, the existing orifice was covered with a steel plate, and a new smaller orifice was installed one foot higher. This provides extended detention and enabled the basin to support wetland vegetation.

In addition to retrofitting the stormwater basin, the Growing Greener grant project helped to leverage additional funding for the project. A TreeVitalize Watershed grant was awarded to plant 203 trees, and 342 shrubs to increase canopy cover, create wildlife habitat, and buffer the headwaters stream. Students and parishioners of the Church and School planted native vegetation in the basin. The grant also funded 150 live stakes to enhance biodiversity in the wetlands. A donation was made by a local company, Rohm and Haas, to purchase monitoring equipment for the students to study water quality in the stream and wetlands, and also to monitor the quality of the runoff at the inflow and outflow of the stormwater basin

We applied to Stroud Water Research Center through a Consortium for Scientific Assistance to Watersheds (C-SAW) grant to assist with establishing lesson plans, and instructing the teachers on how to use the monitoring equipment.

As part of our educational outreach efforts we held two workshops. An initial workshop was held in February 2006 as a kick-off event at the beginning of the project. There was a check presentation from DEP representatives and Sen. Greenleaf (R-Montgomery). Presenters at the workshop introduced topics such as the benefits of riparian buffer, stormwater retrofits, and the goals of the grant project. The workshop was attended by parishioners, students and parents, and interested local residents.

A second workshop was held in March 2008. At the second workshop we presented information on the completed project. We illustrated the before and after of the best management practices, the benefits of the project, and also presented information on long term operation and maintenance of basin retrofits, and riparian buffer.

Now, almost two years after the project was completed, the students and parishioners still continue to embrace the project and it's environmental benefits. The Church's Ecology Council maintains the best management practices, and the riparian buffer plantings.

There is a walking path through the buffer that allows users to enjoy the solitude of this newly created habitat.

The project was recently awarded the 2009 Pennsylvania Horticultural Society's Community Greening award which was presented at an award reception in November, 2009.

Susan Harris Montgomery County Conservation District



Before: Concrete low flow channel and large orifice at outlet structure provided a quick discharge of stormwater.

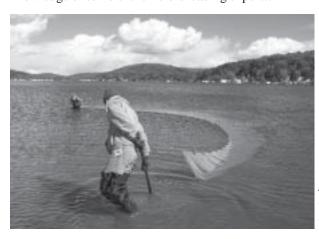


After: Elevated berm extends flow path in basin and provides greater recharge capabilities. The sediment forebay filters stormwater before it discharges from the basin.

PA Lake Management Society Hosts 20th Annual Conference

PALMS will be hosting its 20^{th} annual conference for Pond and Lake Management March 3^{rd} and 4^{th} , 2010 at the Days Inn Conference Center, State College, PA. The purpose of the Society is to promote further understanding of lakes, ponds, reservoirs, and impoundments, and their watersheds; the ecosystem of which they are a part; and their protection, restoration and management.

Each year PALMS hosts a two-day conference focusing on basic lake management issues and current "hot" topics. PALMS also offers certification credits for aquatic pesticide applicators through specialized conference courses. Novice or professional, lake association member or pond owner, PALMS welcomes all to come and share the knowledge of some of the field's leading experts.



Seinng project on Harveys Lake

The theme of this year's conference is *The Next 20 Years of Lake Management*. We will look at several factors that may change lake management in the future, including topics such as biofuels, solar power, Marcellus shale oil and gas drilling, and geothermal wells.

Registration Fees:

Wednesday session - \$75 Thursday session - \$75 Wednesday & Thursday Sessions - \$125 Students - \$20/Day Exhibitors - See below

All paid registrations include a one-year membership to PALMS

Exhibitors: Exhibitor space will be available during the conference. The cost for commercial exhibit space is \$175/Tabletop Display and \$225/10ft Floor Display, which includes one full conference registration. There is no charge for non-profit exhibitor space, but conference registration is still required at standard rates. Space is allocated on a first come, first served basis. Exhibits that focus on lake management products/services and education are encouraged. Contact Jessica Demusz or Joseph Gallagher at (570)788-1721 or ecos@ptd.net.

Call for Presenters: PALMS has currently issued a Call for Presenters for this year's annual conference. To develop the program further, we are seeking high quality presentations in any area of lake management. If you would like details, please contact Jason Smith at jesmith@hanovereng.com or by phone at (610) 691-5644 x220.

Gretchen Schatschneider, Bucks County CD and PALMS President

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