

Conservation & You

A publication of the
Southeast Pennsylvania
Association of Conservation Districts

Bucks
Chester
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Montgomery



FALL 2014

Volunteers, PADEP, BCCD and PA DCNR Collaborate to Remove Invasive Water Chestnut for 6th Consecutive Year at Lake Towhee

On July 8th, 9th and 10th Pennsylvania Department of Environmental Protection, Keep Bucks Beautiful, Bucks County Conservation District and a number of area resident volunteers celebrated July as Lakes Appreciation Month by participating in the 6th annual invasive plant removal project at Lake Towhee County Park in Haycock Township. The group motored and paddled through and around dense stands of native plants in the lake to weed out the invasive plant water chestnut (*Trapa natans*), pulling each plant out by hand. Water chestnut was first documented in Lake Towhee in 2009 and has been spreading rapidly ever since. As the plant spreads across the water's surface it chokes out native vegetation and disrupts the balance of the lake ecosystem, and it makes navigation increasingly difficult.

After learning how to identify water chestnut, most of the volunteers split up to pull plants from different sections of the lake while others remained on land to assist boaters with unloading. The removed plant material was then transported to an approved composting location. Extra attention was devoted to the lower portion of the lake, where the water chestnut is more sparsely distributed but poses the greatest threat of re-introducing the plant downstream to Lake Nockamixon.

A total of 71 participants contributed 504 hours to the removal effort. Over three workdays, a total of 5 dump truck loads or approximately 50 cubic yards of wet plant material was removed from the lower 25 acres of the 50-acre impoundment. These pulling events were completed in early July to remove as much of this year's population as possible before it produces seed. Water chestnut spreads so quickly mostly due to its high reproductive rate - each single plant removed this year equates to 120 fewer future plants!

Special thanks to Nockamixon State Park for providing a dump truck and drivers to assist in removing the plant material, as well as loaning several kayaks, paddles and lifevests for volunteers' use. Thanks also to Bucks County Department of Parks and Recreation for their behind the scenes support of these events. Finally, an extra special thanks to the many members of Pennsylvania Department of Environmental Protection staff and local volunteers who contributed their time and energy to this messy but gratifying task!

Meghan Rogalus, Watershed Specialist – Bucks County Conservation District



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Montgomery County Conservation District Announces New Ag Conservation Specialist and Watershed Specialist

The Montgomery County Conservation District welcomed their new Agriculture Conservation Specialist, Jessica Moldofsky, in March and Watershed Specialist, Krista Scheirer, in May. Jessica is involved with the Nutrient Management/Manure Management Programs, Farmland Preservation Program, Dirt and Gravel Road Program, and Agriculture Conservation Technical Assistance Program. Jessica has prior experience as an Environmental Scientist with Land-Studies Inc. as well as an internship with the Penn State Conewago Creek Watershed Initiative. Jessica has a B.S. in Environmental Resource Management and a minor in Wildlife and Fisheries Science from Penn State University. In her free time, Jessica enjoys horseback riding and bass fishing, and she looks forward to serving the agricultural community of Montgomery County.

Krista Scheirer, in her role as Watershed Specialist, is involved with restoration and outreach projects, and she will be helping to implement the first Master Watershed Stewards program in Montgomery County this year. She will also be coordinating this year's Envirothon for the county. Krista comes from the Perkiomen Watershed Conservancy, where she held the position of Conservation Coordinator for over two years, and interned while in college. Her varied experience includes stormwater management, stream restoration, invasive species management, grant administration, event coordination, and environmental education. She holds a B.A. in Biology and English Literature from Swarthmore College. She enjoys writing, boating, hiking, and spending time with her dog.



Jessica Moldofsky, left, and Krista Scheirer, right

Both Montgomery County natives, Jessica and Krista are excited to get to work protecting and restoring land and water resources in Montgomery County.



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Side Slope Construction of Transmission Pipelines

Side slope construction of transmission pipelines can quickly become an Erosion and Sediment Control headache. Often when pipeline construction is traversing side slopes the contractor will need to cut the higher side of the hill and fill the lower side to provide for a level construction zone that will allow construction equipment to travel the construction zone perpendicularly through the contours. This is known as single cut and/or two tone construction.

Whether this temporary grading is needed is usually left up to the contractor when it comes time for bidding or even at time of construction and will be based on several factors such as width of Right of Way, steepness of side slope, location of other active gas lines, etc. What this ultimately equates to is that if the E&S Control Plan is already approved it does not consider this temporary grading. This can have a substantial impact on the proposed BMPs by increasing the slope steepness above them and also adding a loose fill sediment load to the BMPs in a runoff event.

Plan reviewers and plan designers should closely evaluate proposed pipeline construction across side



slopes, assume that single cut or two tone grading will be necessary and provide plans and notes that clearly address adequate E & S controls or the need to redesign at the time of construction if this type of grading activity is required.

Joe Sofranko, CPESC – Chester County Conservation District

Important Updates for the Dirt & Gravel Roads Program – Low Volume Roads Now Apply!

The grant funding for the PA Dirt and Gravel Road Program (D&GR) has increased from \$4 million to \$28 million annually. The funding allocations for each County will depend on several factors, including the length of applicable roads and identified stream impacts. The program will continue to focus on the environmental impacts of each project site and will contribute funding to eligible municipalities who have attended the two-day Environmentally Sensitive Maintenance (ESM) training within the last five years. Please note that the person representing the municipality and who has attended the training must be an employee or elected official of the municipality for grant applications. A third-party consultant may not apply on behalf of the municipality. It is recommended that the Road Master and other Road Crew staff attend one of the several ESM trainings that are offered throughout the state each year.

In addition to D&GR, low volume roads will now also be eligible for program funding. Low volume roads include paved (and tar & chip) roads with less than 500 vehicles per day. Details on what types of projects will be funded are still under discussion amongst advisory groups and official guidance is expected at some point this summer. Early discussions indicate that the focus of funding for low volume road projects will be on the projects that address drainage issues and impacts to the stream, including projects outside of the Right of Way that address stormwater issues coming into the road. Funding may even be available for reconstruction of bridges if the existing bridge is causing stream impacts and the proposed bridge (generally a clear span) meets the standards for improving the impact. Please note that projects that improve stormwater quality may also qualify for credits in a municipality's MS4 permit.

One of the main principles of the program continues to be "Local Control" so each County Conservation District who administers the D&GR Program will have differing priorities in ranking applications so it is important to contact your local Conservation District when considering an application for grant funding.

Eric Konzelmann, CPESC, CPSWQ – Montgomery County Conservation District

Stormwater / Roles and Responsibilities

With stronger regulations and improved technology, Pennsylvania has been improving the way stormwater from new land development is managed. But this won't solve all of the existing hydrologic problems in urbanized watersheds. Many of the most densely-developed communities were substantially built out during the years before stormwater controls were required. Many of our problems with small stream flooding and stream erosion have long-standing and complex causes. The question "Who is responsible to fix this problem?" is a question that sometimes has no clear answer.

THE ROLES OF DIFFERENT LEVELS OF GOVERNMENT:

Each level of government has some role in the regulation of stormwater runoff and in dealing with its consequences. What follows is a summary of the key roles and responsibilities.

Local government has the broadest range of responsibilities related to land use planning and stormwater management. They include the following:

- Municipalities have the lead role in controlling land use changes, which they do through zoning, subdivision and land development ordinances, and the land use planning process. Land use planning is the first line of defense against the unwanted consequences of poorly managed stormwater.
- Municipalities assist the County Conservation Districts and DEP to regulate runoff and sediment from construction sites.
- Municipalities usually own most of the stormwater sewer systems in their communities, and they are responsible for the proper operation and maintenance of these systems. Their responsibilities are set out in a permit called the "MS4" permit ("MS4" stands for "Municipal Separate Storm Sewer System"), which is issued to municipalities by Pennsylvania DEP.
- Municipalities specify and enforce requirements for post-construction stormwater management at sites that are being developed (or re-developed). These requirements usually appear in a stormwater ordinance. Municipal stormwater ordinances often follow the minimum standards put forth in a watershed or county-wide stormwater plan, if such a plan has been adopted by the County.

County-level agencies are normally involved in the following ways:

- County Conservation Districts (CCDs) are the lead agencies for the regulation of erosion and sedimentation (E&S) control at construction sites. CCDs normally

perform review and approval of E&S control plans, and they perform inspections during the construction period. They carry out these duties in coordination with both local and State governments.

- County governments take an important role in community planning, including planning for water resources. Through the Act 167 planning process, counties can determine appropriate minimum standards for post-construction stormwater controls at development sites. The technical standards may vary from place to place, depending on location and watershed conditions.

State government's involvement in stormwater management is primarily through the Department of Environmental Protection (DEP). DEP's major activities are summarized below. Additional details about DEP's roles can be found in PA Regulations, Title 25, Chapters 92a, 102 and 105; and by consulting the DEP website at <www.depweb.state.pa.us> keyword:stormwater.

- DEP oversees CCDs and assists them in implementing the E&S control program for earth disturbance associated with construction activity. All persons carrying out construction activities are required to implement appropriate E&S controls. Sites where the earth disturbance is 5,000 square feet or more must have a written E&S Control Plan. Sites where the earth disturbance is one acre or more are required to obtain a stormwater discharge permit.
- For those projects requiring discharge permits, DEP works collaboratively with CCDs to review Post-Construction Stormwater Management (PCSM) Plans. This activity supplements the work of local government to regulate stormwater runoff from new land development.
- DEP issues MS4 permits to municipalities (and certain other entities) that own and/or operate stormwater sewer systems in urbanized areas. DEP is responsible to ensure that all permit holders are operating and maintaining their systems properly.
- DEP regulates all structures and activities that physically obstruct, or encroach into, waterways and their floodways, or wetlands. The Dam Safety and Encroachments Act is intended to prevent unreasonable interference with water flow. Chapter 105 of Pennsylvania's environmental regulations provides for the Commonwealth's water resources to be protected from disturbance. Many of DEP's permitting activities under this regulation are done in conjunction with the required Federal authorization, which is administered by the US Army Corps of Engineers (see below).

Federal agencies have the following roles:

- The US Army Corps of Engineers, Regulatory Branch

has a responsibility for regulating activities where fill material is placed into waterways or wetlands. This is normally done in coordination with DEP, since the Federal requirements overlap with Pennsylvania's Chapter 105 Program, described above.

- The US Environmental Protection Agency (EPA) has broad oversight of Federal environmental protection programs that have been delegated to the state, including various regulatory programs under the Federal Clean Water Act. However, they are not normally involved with implementation at specific sites in Pennsylvania.


Pennsylvania Department of Environmental Protection (DEP) often receives complaints about stormwater, local drainage problems, and small stream flooding. This set of "information sheets" is intended to provide general information about these topics. Additional information about stormwater and about DEP's programs can be

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found on the web at <www.depweb.state.pa.us>. key-word: stormwater

Domenic Rocco, P.E., Waterways and Wetlands Program Manager DEP – Southeast Region PA DEP

Stabilization of Sediment basins and Traps

The PA DEP Erosion and Sediment Control Manual states that erosion control blankets should be used on all slopes that are 3H:1V or steeper and where potential exists for sediment pollution to receiving waters. It also states that erosion control blankets should be used for all seeded areas within 50 feet of a surface water and 100 feet of a special protection water-regardless of slope. Erosion control blankets can help hold soil particles in place and retain soil moisture, promoting seed germination, and they also provide seedlings protection from intense sunlight during early stages of growth.

Sediment basins and sediment traps may be designed to function as temporary facilities or incorporated into the overall Post Construction Stormwater Management design. If sediment basins are to remain, they must meet the criteria of the permanent basin: inside & outside slopes, permanent outlet structures, benches, forebays, access ramps, and preservation/remediation of subsoils for infiltration rates. The maximum steepness of slopes for constructed embankments in permanent basins is 3H:1V inside and outside. Permanent vegetative ground cover in compliance with 25 Pa. Code 102.22 should be established upon completion of basin construction. Outside slopes should be blanketed. The erosion and sediment control manual also notes: that the risk of infiltration failure may increase significantly for infiltration basins used as sediment basins during construction. This is most likely due to compaction during construction of the basin/trap and the sediment that is collected from runoff during the construction of the site.

In my experience reviewing erosion and sediment control plans, inspecting construction sites for erosion and sediment control compliance and based on the information previously mentioned, sediment basins and traps that will be utilized for PCSWM should be constructed, top-soiled and stabilized with seed and erosion control matting. It does not seem practical or financially sound to stabilize numerous times when it can be done once with minor maintenance. The straw matting in lieu of straw mulch achieves a higher germination rate, prevents rills and ruts from forming and depositing into the floor of the BMP, stays in place, is less likely to clog outlet structures and typically requires less maintenance. There are all types of erosion control matting available however. I have found when installed properly, that NAG S75 or other comparable blankets have the most success. The most important things to keep in mind when following the manufacturer's installation instructions are preparing the seed bed, making sure the surface is free of rocks, roots, debris, etc., and achieving good matting to soil contact. If there are any voids or areas where the matting is not anchored properly there is possibility for erosion to undermine beneath the blanket. Matting helps achieve the required uniform 70% perennial vegetative cover required for permanent stabilization. I have found that sites that incorporate and utilize erosion control matting in their design and construction have less issues achieving their final inspection and terminating NPDES Permits when required.

Richard Krasselt, Environmental Protection Specialist 1 – Bucks County Conservation District

Montgomery County Works to Restore Three Streams

Montgomery County organizations recently completed a rain garden installation, a wetland construction, and a stream bank stabilization to restore three local creeks suffering from the effects of excessive stormwater runoff. At all three of these project sites, educational signage will be installed, and the projects will continue to be used as demonstrations for further education on stormwater management and watershed stewardship. Local students will also be involved in the maintenance of the installations.

SKIPPACK CREEK

This spring, Montgomery County Conservation District worked with Christopher Dock High School in Towamencin Township to install a 1000 square-foot rain garden on the school's campus to process stormwater from a parking lot and athletic fields. The rain garden will filter polluted runoff, recharge local groundwater, and improve the quality of water entering a headwater tributary to Skippack Creek, which is listed as impaired for sediment and phosphorus. The project was funded through a grant from the Schuylkill River Restoration Fund and is part of the Partnership for the Delaware Estuary's Schuylkill Action Students initiative to partner with schools to implement innovative stormwater management practices.

Dock senior, Aaron Guttenplan, completed his Eagle Scout project installing the rain garden, and volunteers from his school community and scout troop planted over 150 native trees, shrubs and perennials selected to aid rain garden function and attract wildlife. With the success of the rain garden, the school is planning several more improvements to the stormwater management on campus.

SCIOTO CREEK

This summer, the Perkiomen Watershed Conservancy, an environmental nonprofit, completed a 2-acre constructed wetland along a tributary to Scioto Creek in Upper Frederick Township. Community volunteers came out to plant over 4000 wetland perennials in the two-basin system, which will process stormwater from the township's property before discharging to the stream. This will also enhance water quality by halting the severe streambank erosion at the site. Furthermore, the wetland will provide much-needed habitat for a variety of species. During the planting days, birds, frogs, dragonflies and other insects were already abundant in the new wetland habitat. The project was funded through a DEP Growing Greener grant, with additional funding from the Schuylkill River Restoration Fund and anonymous grant sources.

PERKIOMEN CREEK

Also this summer, Montgomery County Conservation District, in partnership with the Pennsylvania Horticultural Society, Ursinus College, and Collegeville Borough, stabilized a 250-foot section of stream bank in the borough's preserved natural area, Hunsberger Woods. This work was part of a larger watershed stewardship and education project in Hunsberger Woods, which also saw the installation of a 2-acre meadow, a large rain garden, and 400 trees with grant funding through the Schuylkill River Restoration Fund and the TreeVitalize Watersheds program.



Perkiomen Creek pre-construction: bank erosion baring tree roots at the stream's bend, where a log vane deflector and root wads were later installed.



Perkiomen Creek post-construction: re-graded stream banks stabilized with seed and straw mulch after the structures were installed.

The stream bank stabilization work occurred on a sharp bend of a tributary to Perkiomen Creek to address severe bank erosion threatening water quality. Root wads, mud sills, and a log vane deflector were installed following PA Fish and Boat Commission designs. Then, a gravel and sediment bar was removed from along the opposite bank, and the banks were both re-graded and seeded with a native riparian mix. Approximately 43 tons of rock, 27 pounds of seed and 10 root wads and logs were used to complete the project, which has already weathered two large storms with no visible impact to the site.

Though a sewer line runs across the stream at the project site, several buffer trees were planted as close to the stream banks as possible, and the Conservation District is working with the borough on maintenance practices to enhance the buffer while keeping the easement mown, as required.

By working with Ursinus College environmental studies students and conducting education programs with a local middle school, the project partners have engaged hundreds of students in environmental stewardship throughout the course of the project.

Krista Sheirer, Watershed Specialist – Montgomery County Conservation District.



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Joseph F. Matejik Memorial Scholarship for Continuing Education awarded to Olivia Rush of Doylestown

In February of 2014 Bucks County Conservation District established the Joseph F. Matejik Memorial Scholarship for Continuing Education. Joe Matejik, a long standing member of the Board of Directors at Bucks County Conservation District, was a leader in the agricultural community of Bucks County. Joe was an innovator and an early adopter of conservation practices, always maintaining a high level of conservation on his farms. Joe utilized cutting-edge, best management practices on his farm including, nutrient management, crop rotation, cover crops and continuous no-till practices for over 20 years.

Bucks County Conservation District is pleased to announce that Olivia Rush, an Animal Science major at Penn State University was selected to receive this scholarship. Olivia's interest in agriculture and livestock began during her many years of participation in 4-H. After graduation, Olivia's goal is to begin a career in animal nutrition working with farmers and producers to develop feeding programs that meet their needs and objectives. She was recommended for this scholarship by Robert Brown, 4-H Coordinator and Dr. Daniel Kniffen, Extension Specialist.



Shown with Olivia is Karen Matejik, Gretchen Schatschneider, BCCD District Manager and Tom Trycieki Board of Directors, Vice Chair.

Mary Ellen Noonan, Environmental Educator
– Bucks County Conservation District

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