KEYSTONE 10 MILLION TREES PARTNERSHIP

Since 2019, Chester County Conservation District (CCCD) and Brandywine Red Clay Alliance (BRC) have been active partners with the Chesapeake Bay Foundation’s Keystone 10 Million Trees Partnership (K10). K10 provides free trees, shrubs, stakes, tree and shrub tubes, and bird nets to landowners across all of Pennsylvania with the goal of planting 10 million trees by the end of 2025. CCCD has provided technical assistance to landowners, such as providing advice on tree placement, species selection, and answering other questions about tree plantings. BRC has provided us with a space to organize the supplies and planting materials into individual orders, and they have contributed many staff hours every spring and fall to the K10 effort in Chester County. In 2023, Chester County has provided landowners with over 12,000 trees and shrubs, in addition to the supplies necessary to shelter the plants. This is an estimated $150,000 of value in the cost of the supplies.
Envirothon Wildlife Videos

The Envirothon is an annual environmentally-themed academic competition for school students that is co-sponsored by Chester County Conservation District and Chester County Facilities and Parks. Each year students from public, private, parochial, and home schools, grades 3-12, celebrate months of research, exploration, and preparation with an enjoyable outdoor competition and measure of learning. The success of the Envirothon in Chester County depends on the annual, dedicated effort of staff and partners across the county. With each passing year, educational resources, organization, and the day-of experience are improved so that all student participants are able to perform their best while learning important lessons about the natural world.

In 2023, in order to make education more accessible to students across the county, Outreach Coordinator Gaye Lynn Criswell invited Park Ranger Keith Mullen of the Parks and Preservation Department to give his well-loved wildlife presentation on camera. Ranger Mullen graciously agreed, and we set to work preparing to create a series of educational videos.

While the Agriculture Team has gained experience creating educational videos from our work alongside Pennsylvania Association of Conservation Districts (check out our YouTube channel at www.youtube.com/channel/UC1oAaC-I1jAYjNPmI-64Xpg), this experience was a breeze thanks to Ranger Mullen’s years of experience as an educator.

We met Ranger Mullen at the Nottingham Park Educational Center. Utilizing the skulls, pelts and tracks present in the Envirothon Wildlife Kit, alongside some taxidermy within the office, the stage was set and the cameras began recording. What followed was a fascinating and comprehensive look into the common wildlife species we live alongside here in Chester County, complete with a bit of local history and comparisons to boot. Can you identify the differences between a fox and a coyote as it runs across your yard? Did you know that beavers and muskrats shape their habitat in opposite ways? Even people who have lived locally all of their lives will still find something new to learn!

The Envirothon Wildlife videos produced feature information not only relevant to a student or coach participating in Envirothon, but for anyone interested in their wild neighbors and their contributions to our shared habitat. Working on the production of these videos was a fun and educational experience and would not have been possible without the help of Ranger Keith Mullen and our colleagues at CCCD. Please check out our videos on CCCD’s YouTube channel and keep an eye out for future content from CCCD!

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**2024 Chester County Envirothon**

Coaches Meeting  
January 16, 2024  
Government Services Center- Room 171  
9:00 am to 11:00 am

**Envirothon Dates:**

Hibernia County Park  
- April 24, 2024 (3-5th grade - Elementary Day)  
- April 25, 2024 (6-12th grade - Middle School & Senior Day)

This year’s Current Issue:  
**Renewable Energy for a Sustainable Future**

Any questions please contact Gaye Lynn Criswell at gcriswell@chesco.org
Mushroom Festival

CCCD attended the 38th Annual Mushroom Festival in Kennett Square, the “Mushroom Capital of the World.” The festival is held every September throughout the weekend after Labor Day.

If you didn’t get to see our display in person, take a look at the photo (left)! Attendees spoke with us about conservation concerns and were able to check out the rest of the mushroom growing exhibit, which included displays by other organizations and hands-on presentations about the mushroom growing process by local farmers.

PL-566 Update

The PL-566 program, funded and led by NRCS with support from the CCD, continues to move forward. The program aims to provide mushroom composting operations with financial and technical assistance for the installation of best management practices (BMPs). In May, the American Mushroom Institute hosted a joint meeting between its members, NRCS, and the Conservation District to discuss potential projects. Eligible practices under this program may include, but are not limited to, heavy use area protection, waste storage facilities, and structures for water control. Details such as the total grant amount for projects and potential payment rates will be finalized soon, as the program continues to develop.

Happy New (Crop) Year!

With fall quickly approaching and harvests already begun, the 2024 crop year is nearly upon us. Whether you have a small hobby animal operation, a crop farm, or a large dairy, this is the time to evaluate your plans for the upcoming year. What worked? What didn’t work? What changes are you making to adapt for better success in your management?

If you are making changes, these changes should be included in your planning paperwork, whether it is a Manure/Nutrient Management plan or an Ag E&S/Conservation plan. Some degree of planning is required for nearly all types of operations. A plan is only beneficial if it is up to date, reflects the activities of the operation, and is carefully followed.

************** Chester County Outreach **************

Are you interested in improving your farm and don’t know where to turn? Do you need an updated conservation or manure management plan? Do you have questions as to who you should speak with about your farming practices and if there is any funding available? Reach out to Gaye Lynn Criswell, our Outreach Coordinator, and she will connect you with helpful contacts and programs!

Call Gaye Lynn at 610-344-1365 or email gcriswell@chesco.org.
Chesco Chesapeake Communities Action Plan

Chester County has developed the Chesco Chesapeake Communities Action Plan (C3AP) to outline and recommend activities and approaches to ultimately result in the annual reduction of approximately 914,000 pounds of Nitrogen and 39,000 pounds of Phosphorus from entering our Chesapeake Bay tributary streams in agricultural and urban/suburban settings.

- Seven agricultural projects have been completed to date using this funding, and one final project is currently in progress. Of the completed projects, 33 individual BMPs have been installed, including practices such as: grassed waterways, barnyard improvements, nutrient management practices, stream crossings, fencing, and waste storages.
- Two non-agricultural projects have been funded and are currently in the design phase. Upper Oxford Township has been awarded $67,800 for the project “110 Turners Pond Drive Basin Retrofit” which will improve the function of an existing detention basin. Also, Oxford Borough has been awarded $105,104 for the project “Oxford Green Infrastructure: Bioretention Wetland BMP Construction at Community of Love Church.” An earthen berm will be installed at the rear of the Church to retain runoff and create a wetland or bioretention facility. The site is currently mowed lawn.

For more information contact:
Daniel Miloser
610-455-1380
dmiloser@chesco.org

Applications will be accepted in an ongoing, first come, first served basis. The application deadline is June 30, 2024 or until all funds are spent, whichever comes first. A 20% match will be required from the landowner/operator.

PLANS ELIGIBLE FOR REIMBURSEMENT INCLUDE:

- Manure Management Plans and Agricultural Erosion and Sediment Control Plans (Ag E&S Plans)
- Act 38 Nutrient Management Plans (required if the operation meets certain animal density and/or animal number thresholds) or NRCS 590 plans
- Conservation Plans that are used in place of Ag E&S Plans (only if the Conservation Plans also meet the state requirements outlined in Chapter 102)
Agricultural Conservation Assistance Program (ACAP)

ACAP is a program that provides financial and technical assistance for the implementation of best management practices on agricultural operations throughout Pennsylvania. ACAP is administered by the State Conservation Commission and delegated to participating conservation districts for local project implementation. **CCCD has been awarded over $5 million for BMP implementation projects over the next three years and has obligated nearly all of these funds in 2023!**

**Application Statistics:**
- 43 total applicants
- 22 contracts awarded to date
- 154 BMPs contracted so far (see chart, right)

**Projects Include:**
- Circular Waste Storages & Concrete Stack Pads
- Mushroom Wharfs
- Streambank Fencing
- Stormwater Controls

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**What’s Your Favorite BMP?**

The fall harvest season has begun, and our farmers are in the middle of one of their busiest seasons. However, work is not complete after harvest. Many farmers are also planting during the fall season to ensure their soil is covered going into the winter months. Cover Crops are well used within our County, and for good reason.

Cover crops have a variety of benefits for those who utilize them. Covering the ground throughout winter protects soil from the risk of erosion, minimizes soil compaction, suppresses excessive weed pressure, and helps improve soil moisture efficiency. Cover crops also reduce the risk of water quality degradation because they can take up excess nutrients. This may also help farmers have more options for winter manure applications, if necessary.

Each operation may plant their cover crops with different goals in mind and may utilize them in different ways (extending their grazing season, an additional harvestable crop, improved soil health), but all operations that successfully utilize cover crops continue to use them from year to year. This is because they continue to see the added benefits from having them as part of their annual rotations in their Conservation Plan.

Are cover crops your favorite BMP?

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**Simple & Effective BMP Highlight**

**Gutters & Downspouts**

One of the easiest and simplest BMPs to install also provides one of the biggest benefits to a barnyard. By installing gutters and downspouts onto roofs that run off into a barnyard, the amount of clean water to be collected in a tank is reduced – saving more room for waste. Plus, the rainwater can be routed to a stable outlet so the clean water can stay clean!
Dirt & Gravel Low Volume Roads Program

The Dirt and Gravel Low Volume Road Program’s purpose is to provide funding to municipalities for the improvement and maintenance of unpaved roads, and now paved roads that have a traffic volume of 500 cars or less, with the goal of protecting water quality.

Below you will find a snapshot of the Mill Road project that will improve water quality in East Marlborough Township. Please visit our website at: https://www.chesco.org/1992/Dirt-GravelLow-Volume-Road for more detailed information on our ever-growing program.

- East Marlborough Township – Mill Road: A Low Volume Road tributary to the Red Clay Creek. The grant total for this project is $192,000.00. This LVR project has implemented improved stream crossings, road banks, and stormwater controls, as well as a stabilized road surface.

In addition to the above project, CCCD has three more projects approved and ready to go in 2023: Jaine Lane – a D&G project in West Vincent; Chestnut Hill Road – a LVR project in North Coventry; and Tapeworm Road – a D&G project in West Marlborough. All three projects are set to commence in 2023 and will improve water quality to the streams in their respective municipalities.

NEW DISTRICT STAFF

Hi there, my name is Emily Greenwood. I’m a 2016 graduate of West Chester University with a Bachelor of Science in Biology. I live in West Chester with my husband, two daughters and large Labrador. Since joining the CCCD Agricultural Team in June I have had the pleasure of shadowing many of my talented colleagues as they assist the farmers of Chester County. So far, I have been able to help conduct site surveys, observe BMP implementation, and attend outreach visits. One of the most interesting aspects of this role has been meeting with landowners to discuss their goals and resource concerns. I have also enjoyed watching the construction process of planned projects come to fruition. In the coming months I will be formally trained in Nutrient Management and continue to gain experience in the field. I look forward to expanding my knowledge surrounding agriculture and eventually taking on my own projects to serve the farming community.

Hi all, my name is Rob Grover and I am excited to join the Chester County Conservation District as District Engineer! I am a proud graduate of Virginia Tech with a Bachelor of Science in Civil Engineering. I have over 9 years of experience in land development permitting and planning for commercial, residential, parks, and industrial projects for both private and public clients. I live in Philadelphia with my wife, two children, dog and cat. I look forward to working for the County and with the Conservation District team to conserve soil for clean water and future generations.
The High Cost of Fines

For many contractors, engineers, and developers, basin conversion marks the beginning of the end of a large project. Often, it is also associated with the phrases such as “hope this works,” “we had great rates,” or “has the soil been tested?” For those unfamiliar, erosion and sedimentation basins (E&S basins) are built at the commencement of a large earth moving project, usually at the bottom of a drainage area to collect sediment-laden water from entering neighboring properties and waterways during construction. This allows sediment to settle onto the bottom of the basin as the runoff is slowed. Cleaner water can then be skimmed from the top and slowly released into the environment. This method significantly reduces the rate of water and sediment leaving the site during normal storm events. On the other hand, we have Post Construction Stormwater Management (PCSM) basins. As the name suggests, these basins manage clean stormwater rather than sediment-laden water after construction is complete. The PCSM Basin is designed to manage clean stormwater well into the future. Rather than build two different basins which both perform best at the bottom of a drainage area, E&S basins are built and later converted to PCSM basins after the earth work is complete.

You may ask: why not leave the basin as is? PCSM basins infiltrate clean water into the ground rather than releasing it into the environment. To properly convert to a PCSM basin, a lot of work goes into the removal of unusable sediment collected in the E&S basin during construction. Engineered soils are then tested and placed to allow the basin to infiltrate. The engineered soils also need to also be placed at just the right permeable layers in the natural ground for it to work. After the engineered soils are placed, the basin is seeded, and we all wait and see if it works. It is a process that must be done just right because the goal is for the collected stormwater to infiltrate into the ground within a few days. Sometimes it works and sometimes..., more often than we would like, the water does not infiltrate, and instead a pond is created. The question then is why; the testing was good, the contractor did it per plan, the soil was placed correctly, and the engineered soil design was correct. Why is it failing to infiltrate? Usually, after this occurs, a test pit is dug, and material is removed from the PCSM basin. What is often found is a small layer of silt and clay has clogged the engineered soils, creating an impermeable layer. Where did this silt and clay come from?

What happens is that the PCSM basin, when installed, is supposed to infiltrate clean water from a fully stabilized, constructed site. Often, there is a push to convert the basin too early when disturbed areas are not fully established and/or construction in the drainage area is not complete. Fines, such as silts and clays, enter the storm system after a rain event and make their way into the finished PCSM basin. Fines suspended in the water fill the basin, and as the basin infiltrates the dirty water, the fines get stuck between the sand particles in the engineered soils. In other words, the engineered soils are acting like a water filter and the dirty water is clogging that filter until the water cannot pass through. Often only a few rains are needed to completely clog a basin leading to the creation of a pond. So, what can we do?

First, we need to recognize that a PCSM basin is huge investment, and protection of that investment is needed. One of the keys to clean water is stabilization. If the fine materials such as clays and silts do not reach the basin they cannot clog the bottom of it. Sometimes, there may be additional work on a site after basin conversion. If construction is to continue in the drainage area, such as digging a basement for a house or adding a pool, try to isolate that disturbance from the basin. Silt socks and inlet filter bags are a relatively smaller investment compared to repairing a completed basin. As an investment it just makes sense.

| Sandy material which is able to infiltrate water. | Freshly collected run off water from an unstabilized site is added to the sandy material. | 48 hours later the fines in the dirty water have settled on and in between the sandy material. | Top view of fines collected after clean water was removed. |