



Conservation Matters



Time flies.

I realize as I am putting this newsletter together that summer is almost over, which means only one thing: I'm late with this newsletter!

Our summer has been extremely busy. We've had a number of streambank restoration projects completed throughout the county. A series of very heavy rain events have also kept "the crew" busy between runoff issues and mosquito complaints.

I've often heard the term "lazy summer days." This summer has definitely proven to not have too many of those for us. There's plenty of work to get done.

With fall just around the corner, we hope you'll enjoy the last few weeks of summer remaining. Whether it's a vacation at the beach or on your back porch, here's hoping you get to enjoy some lazy days in between busier times.

Sincerely,
Judy Becker

2017 Twilight Meeting

Our annual Twilight Meeting has been scheduled for **Tuesday, September 12th** starting at 5pm. It will take place at the Long Center For Environmental Stewardship and Education located at 182 Houser Road, Sunbury. You should have received a separate flyer with registration information in the mail.

Presentations this year will include John Bray from Penn State Extension presenting on "What's New in Herbicides" and "Resistant Weed Management," Elizabeth Bosak from Penn State Extension presenting on "Reading the Label and Draft Reduction Strategies" and "Pesticide Safety," and Sean High, Staff Attorney from Penn State Center for Agricultural and Shale Law presenting on "The Agriculture, Communities and Rural Environment Act (ACRE)."

A delicious meal will be served at 5pm before the meeting begins, and the cost will be \$5.00. We have applied to the PA Department of Agriculture for 2 Core and 2 Category credits.

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"Conservation Matters" is a quarterly newsletter published by the Northumberland County Conservation District, Sunbury.

Our Programs: Erosion and Sedimentation Control, National Pollution Discharge Elimination System (NPDES), Dam Safety and Waterway Management, Environmental Education, Nutrient Management, Chesapeake Bay Program, Dirt & Gravel Roads, Agricultural Land Preservation, Watershed Protection and Education, Mosquito-borne Disease Control

Visit www.nccdpa.org for more information. We are also on Facebook at www.facebook.com/nccdpa.

Summer Intern

By: Ryan Cherwinski, Bloomsburg University

Hello! My name is Ryan Cherwinski, and I am currently a senior at Bloomsburg University. I am working towards a bachelor's degree in Environmental, Geographical, and Geological Sciences (EGGS) with my focus on Geography and Planning and a minor in Spatial Analysis. Even before graduating from Southern Columbia High School in 2013, I knew I wanted to pursue a degree that enabled me to work and serve in the environment. My childhood passion for hunting and fishing all over Pennsylvania resulted in me attending Wilkes University majoring in biology for a year before returning to the Bloomsburg area. I knew EGGS was the right major for me the moment I reviewed the curriculum. With courses such as water resources management, land resources management, various science courses, and opportunities with GIS, I knew I found the school for me. My one hope when searching for an internship was finding a place that gave me experience in many fields. In my time at the conservation district I have done things I couldn't imagine. No two days have been the same. I've delivered improvement of management to local farmers, I was able to collect and test various water samples, assist with several streambank restoration projects, shadow the Erosion and Sediment Technician to different construction sites, shadow the mosquito technicians as they collected samples, and I was even able to spread knowledge to children at a local school district. I am very grateful to the Northumberland County Conservation District for the opportunity to learn and assist this summer.



NCCD Receives Mini-Grant to Shed Light on Non-Point Source Pollution

By: Bryanna Kenno, Agricultural Conservation Technician

The Northumberland County Conservation District (NCCD) has received a \$2,000 mini-grant from the Pennsylvania Association of Conservation Districts (PACD) towards a project to promote public awareness of non-point source pollution and prevention in local watersheds. The grant was awarded on March 23, 2017.

NCCD, in cooperation with the Natural Resources Conservation Service (NRCS) and the Little Shamokin Creek Watershed Association (LSCWA), will be hosting a public awareness tour in Northumberland County to showcase non-point source pollution projects throughout the county while demonstrating practices that the public can implement at home.

NCCD plans to tour two farms and several streambank restoration sites in the county, as well as having a demonstration of practices that can be implemented at home. This public awareness tour will target homeowners, landowners, teachers, government officials, media, and the public. The public awareness day will highlight examples of best management practices and at-home conservation practices that can be utilized by Northumberland County residents.

The tour will be held on Saturday, September 23, 2017 from 9am until 2:30pm and it is FREE. We will start and end at the NCCD office on Plum Creek Road outside of Sunbury. A flyer for the event can be found on the next page of this newsletter. Please feel free to contact Bryanna Kenno at (570) 495-4665 x 304 or bkenno@nccdpa.org for more information or to attend!



Financial and other support for this project is provided by the Pennsylvania Association of Conservation Districts, Inc. (PACD) through a grant from the Pennsylvania Department of Environmental Protection under Section 319 of the Clean Water Act, administered by the U.S. Environmental Protection Agency. For more information about PACD, visit www.pacd.org.



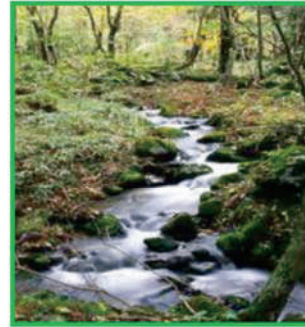
Northumberland County Conservation District is proud to host a county wide



Non-Point Source Pollution Public Awareness Tour!

What does the tour include?

- Visitation to two local farms
- Streambank restoration projects
- Demonstration of at home conservation practices



What will the tour highlight?

- Conservation practices
- Focus on reducing non-point source pollution
- Showcase ways to improve water quality in the county

Date: Saturday, September 23rd **Time:** 9am-2:30pm **Cost:** FREE

Meeting Location: NCCD Office, 441 Plum Creek Road, Sunbury

Lunch is included! Please wear proper clothing!

Please contact Bryanna Kenno, Agricultural Conservation Technician,
to register! [\(570\) 495-4665 X 304](tel:5704954665)

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CENTRAL SUSQUEHANNA THRUWAY UPDATE

by: Michael McCleary, Erosion and Sediment Technician

Phase I of the CSVT:



Work continues on the Cofferdams that are being constructed around the areas where the river bridge piers will be constructed.

The piers are beginning to rise up from the ground.

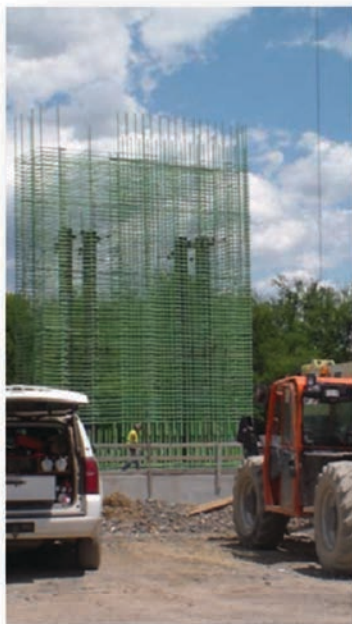


Concrete rings are installed 8' to 10' apart vertically as the pier area is excavated inside the coffer dam for reinforcement.

When the 10' thick concrete footers have been poured and solidified, the steel forms are removed.



When the pier is in the river, a rounded plinth constructed of concrete is poured over a mesh of steel reinforcing bars on top of the footer. The plinth is designed to reduce the impact of river water flowing around the pier. The pier will be constructed on top of the plinth.



Piers not expected to be impacted by the flow of the river will be constructed directly on top of the footer. All concrete structures must be reinforced with steel rebar so a mesh cage of rebar is erected on top of the footer. Forms are placed around the reinforcement, and concrete is pumped up to fill the form. The piers are constructed in sections as the concrete hardens enough to support the weight of additional sections. The pier in the foreground of the picture on the right is currently 60' high, and the pier in the background is 90' high. The rear pier will reach a height of 180' when complete.

CENTRAL SUSQUEHANNA THRUWAY UPDATE, *continued*

This picture shows some of the forms that will be used to construct the wings or buttresses that will be placed on the top of the piers to support the bridge decking and parapets. The structure on the left shows the bottom portion of the form which will be used to support the right side of the wing. This form will be fastened to the pier and supported by a steel reinforced concrete column on the outside end.

When the piers on the eastern half of the river are complete, the causeway will be moved to the western side and work will proceed on the remaining piers.



Earth moving activities continue on **Phase II of the project** which includes the main route of the thru-way from Ridge Road in Point Township to the existing four lane portion of SR 147 in West Chillisquaque Township.



The top photo was taken in March 2017, and the bottom photo was taken late June 2017. Existing Ridge Road can be seen near the bottom of these photos. The relocation of Ridge Road is along the top of the exposed earth. The thruway will be constructed over the relocation of Ridge Road.



Relocated Ridge Road was completed and opened to traffic at the beginning of August. Route 147 has been widened to include a turning lane at the new intersection of Ridge Road and Route 147. This intersection is currently being completed. Once traffic is moving on the relocation of Ridge Road, Existing Ridge Road will be covered by the thruway construction and a bridge will be built to carry the thruway over it.

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CENTRAL SUSQUEHANNA THRUWAY UPDATE, *continued*

Two more bridges will be constructed in addition to the bridges spanning the river and Ridge Road.



The bridge at Wooded Run will be 90' long and 90' above the stream. Piers are under construction for this bridge.



A new bridge is being constructed to carry the north bound lanes of SR 147 over the Chillisquaque Creek, and then the bridge carrying the south bound lanes which is shown in the background will be replaced with a new bridge.

Program Update - Mosquito-borne Disease Control

By: *Corey Bower, Mosquito-borne Disease Control Program Coordinator*

The Northumberland County Conservation District is excited to introduce our newest program addition; the Northcentral Coalition for Mosquito-borne Disease Control Team (Team). The Team covers all of Northumberland, Columbia, Montour, Union, and Snyder counties. Their primary responsibilities are to preserve and protect public health through mosquito sampling and control. Samples are collected, identified taxonomically, entered into a database, and tested for pathogens such as the West Nile and Zika viruses. This data is used to define mosquito population abundance and virus infection rates in those populations, identify geographic areas of high-risk, support decisions regarding the need for and timing of control activities, and monitor the control efforts' efficacy.

Adult mosquitoes are collected using traps. Gravid traps (refer to figure 1) collect female mosquitos, which are attracted to the odor of stagnant organic water, whom have ingested a bloodmeal (required for reproduction) and are seeking breeding habitat to lay her eggs.



Figure 1 - Gravid Trap used for female egg-laying mosquitoes.

Program Update - Mosquito-borne Disease Control, *continued*

The BG Sentinel trap uses a human scent lure and dry ice to attract host-seeking mosquitoes (refer to figure 2). This trap is primarily used to collect the species *Aedes albopictus*, also known as the Asian Tiger Mosquito. This invasive pest is one of the primary vectors for Dengue, Chikungunya, and Zika viruses. It is also a highly aggressive daytime feeder that predominantly feeds on humans. The team can also be seen dipping in standing water for potential mosquito egg rafts, larvae, or pupae. All collected samples are sent to the DEP lab in Harrisburg to be identified and tested.

Mosquito control methods are performed using either briquets (compressed blocks of biomass), backpack sprayers, or the Ultra-Low Volume (ULV) truck-mounted sprayer. Below, in figure 3, is one of our new technicians utilizing the backpack sprayer on a larval infested pond.



Figure 3—Mosquito-borne Disease Control in action!

The pesticide product used is call AquaBac, a biological larvicide which utilizes an organic soil bacterium, *Bacillus thuringiensis israelensis* (Bti), as its active ingredient. Pesticides tend to have a negative connotation associated with them; however, much research demonstrates that Bti is target specific for black fly and mosquito larvae and nontoxic to humans, mammals, birds, beneficial insects, fish, plants, and most aquatic organisms (EPA Bti Fact Sheet, 2016).



Figure 2—BG Sentinel Trap for adult host-seeking mosquitoes.

To reduce your risk of contracting mosquito-borne diseases, control mosquito breeding hotspots by eliminating standing water. However, not all standing water bodies, such as healthy wetlands, are a source for mosquitoes. Common indicators of healthy aquatic systems are dragonflies and tadpoles, such as those displayed in figure 4. Commonly overlooked places are low spots on your property, open containers, window wells, and gutters, with special emphasis on old tires and tarps (refer to figure 5). Some mosquitoes only take 6 days to hatch from an egg to an adult!



Figure 5—Tarp found in Montour County that was an overlooked primary breeding source of mosquitoes.



Figure 4—Signs of a healthy aquatic system! Left, dragonfly nymph. Right, bull frog tadpole.

If you have any questions for our team or regarding our new program, please contact our office at 570-495-4665. We are here to help!

Mosquito Fast Facts! (from myadapco.com)

- You're more likely to be a target for mosquitoes if you consume bananas.
- Mosquitoes prefer children to adults, and prefer blondes to brunettes.
- Light colors are less attractive to mosquitoes than dark colors; thus, mosquitoes are more likely to choose a victim wearing darker colors.
- Mosquitoes dislike citronella because it irritates their feet.
- Biting activity increases by 500 times when there is a full moon.
- A mosquito's wings beat 500 times a second.
- The average life span of a female mosquito is 3 to 100 days. The male lives 10 to 20 days.
- The animal responsible for the most human deaths world-wide... is the mosquito!

Sources:

<http://www.myadapco.com/education/public-education/fast-facts/>

https://www.epa.gov/sites/production/files/2016-08/documents/revised_bti_web_page-final_for_pdf.pdf

Water Quality Quiz

By: Jaci Harner, Watershed Specialist

Being watershed wise is a start to improving your local water quality. Why be concerned with local water quality? Our streams and the Susquehanna River provide drinking water and recreation opportunities for our local communities. The health of our streams shows how careful we are about using our land resources and our level of environmental stewardship. Do you have an abundance of erosion or stormwater flowing off your property? What effect does that have on our local streams and river? What does a healthy stream need? What can we do to become better environmental stewards?

Take this quick quiz to learn more: (answers on pages 11 and 12)

1. What is a watershed?
 - a. The local water plant that provides drinking water.
 - b. The land area that drains into a common water body.
 - c. A stream/river and the banks bordering it.
 - d. A shed that houses water collection equipment.
2. What determines the boundary of a watershed?
 - a. The mountains or highest elevations of the region
 - b. Township boundaries
 - c. Local roadways
 - d. All of the above
3. It is better to allow rain water or snow melt to soak into the ground rather than have it flow across the land and into our local streams.
 - a. True
 - b. False
4. Too much fertilizer can cause stream water pollution. Which major nutrient, in relation to polluted waters, comes from fertilizer?
 - a. Potassium
 - b. Calcium
 - c. Nitrogen
 - d. Carbon
5. Lawn fertilizer can pollute our streams and rivers.
 - a. True
 - b. False
6. Acid Mine Drainage (AMD) is polluting Shamokin Creek and other local streams flowing through coal country. Which mineral, in polluted waters, comes from AMD?
 - a. Iron
 - b. Manganese
 - c. Aluminum
 - d. All of the above
7. AMD streams often have a low pH, which is not healthy for aquatic life. Which type of rock is used in AMD treatment systems to raise pH?
 - a. Limestone
 - b. Shale
 - c. Granite
 - d. All of the above

Water Quality Quiz, *continued*

8. Healthy stream systems have
 - a. Vertical banks with meanders/turns throughout the channel
 - b. Sloped banks with meanders/turns throughout the channel
 - c. Vertical banks with a straight channel
 - d. Sloped banks with a straight channel
9. It is useful to mow or weed whack stream banks, limiting as much vegetative growth as possible.
 - a. True
 - b. False
10. Stream temperature is an important factor when evaluating stream health.
 - a. True
 - b. False

NRCS Earth Team Volunteers Program; The Earth Needs You – Join Our Team *by: Janette Leshner, NRCS District Conservationist*

We need your help in reducing soil erosion, conserving our water and improving its quality, and developing pride in our country's natural resource heritage. Your commitment to the Earth Team will help ensure that generations to come will enjoy America's bounty.

The Earth Team, the volunteer arm of the USDA Natural Resources Conservation Service (NRCS), is now recruiting volunteers in more than 3,000 locations across the country. Make a difference in your community -- become an Earth Team Volunteer.

Who Can Volunteer?

Anyone 14 years of age or older and interested in conserving our precious natural resources can join the Earth Team. You can work part-time or full-time, outdoors or in a local NRCS office. You can volunteer as an individual or form/join a group.

Why Volunteer?

As a member of the Earth Team, you will work side-by-side with USDA Natural Resource Conservation Service professionals who are committed to helping people protect and conserve the Earth's natural resources. As a volunteer, you could have opportunities to gain professional work experience, discover a lifetime career, receive training, earn academic credit, fulfill service learning requirements, and meet people with similar interests. Whatever your talents or interests might be, there is a volunteer opportunity for you. Working together we can make a difference!

Kinds of Jobs Our Volunteers Do

As an Earth Team Volunteer, you'll work with professionals on conservation activities in your community. Whatever your talents or interests, there is a volunteer opportunity for you. Technical assistance is needed to plan, lay out, and design conservation practices; to make natural resource inventories; and to improve wildlife habitat. Schools and community groups benefit from the conservation tours and exhibits that volunteers can organize. Taking photographs writing articles, speaking to community groups and producing artwork and publications are some of the opportunities available. Office support services include opportunities in computer data entry, typing, filing, computer programming, and conservation information. There are opportunities for everyone.

For more information contact Janette Leshner, NRCS District Conservationist at 570-286-7114 ext. 102 or Janette.Leshner@pa.usda.gov.



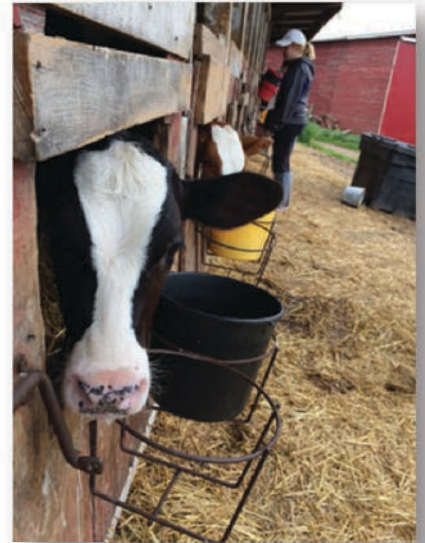
Shamokin High School Students Partake in Agricultural Field Day

By: Bryanna Kenno, Agricultural Conservation Technician

For many of us, agriculture is second nature in Northumberland County. Agriculture is the number one industry in the county, as well as the state. But for many Northumberland County residents, agriculture isn't so common. Central Northumberland County is very urban, while Southeastern Northumberland County is part of the "Coal Region." For one group of Shamokin High School students, farming and agriculture has now hit a little closer to home.

On Tuesday, May 23rd, a group of Shamokin High School students participated in an agricultural inspired field day, in part with staff from Northumberland County Conservation District. The five high school students were all part of this year's Shamokin Envirothon Team and have a strong interest in agriculture and the environment. None of the students came from a family farm and most had never stepped foot on a farm before the field day.

Students first visited the Leshar Dairy Farm in Northumberland County. At the farm, students had their first exciting encounter with dairy cattle! Students viewed calves, heifers, dry cows, and milking cows, totaling 180 animals. Morning milking and feeding were finishing up at the time of the visit. Students learned how cows are sanitized, milked, fed, and bedded while watching milk run from the milkers to the pipeline to the tank. The operator discussed daily chores, schedules, and general procedures of the farm while answering questions and displaying his farm to students.



Students also viewed the crop fields, bank barns, and other feed storages on the farm. Mr. Leshar gave a great description and showcased conservation practices he, as well as most farmers in the county, utilize to ensure pollution and runoff events do not occur. Mr. Leshar explained how farmers value their natural resources and want to be good stewards of the land. This first part of the tour was very educational, interactive, and eye opening! Besides, who doesn't love to pet a young calf?!

The second stop of the day included a visit to a neighboring crop farm and soil pit dug specifically for the educational field day. At the soil pit, students had the opportunity to characterize and classify soil with help from Bryanna Kenno, Agricultural Conservation Technician. Students learned about the different soil horizons, soil textures, and soil colors using actual tools utilized by soil scientists. Students learned the value of soil conservation practices including crop rotations, cover crops, and soil sampling. Students gained knowledge of taking soil samples, understanding crop nutrient requirements, and how animal manure is a great way to provide these necessary nutrients!



After enjoying lunch at the Himmel's Church grove park and pavilion in Rebuck, students put on their rubber boots and stomped in the Schwaben Creek to partake in a biological assessment stream study! While students enjoyed spending time in the water, they gathered a great assortment of aquatic macroinvertebrates. Jaci Harner, Watershed Specialist, assisted students in collecting and properly identifying macroinvertebrates. Students learned about the three main classifications of macroinvertebrates in relation to water pollution: sensitive, facultative, and tolerant. Students found a variety of macroinvertebrates including mayflies, water pennies, tubiflex worms, hellgrammites, and crawfish.

After inventorying the macros and determining the stream appeared to be in good health, students released the macros back into the creek. The field day wrapped up with a discussion that demonstrated what farmers and landowners do upstream

Agricultural Field Day, *continued*

through conservation practices, manure storages, etc., affects those living downstream. This was evident through the diversity of collected macros and an appearance in improved stream quality and health. This finding was encouraging to NCCD because Schwaben Creek is listed as Ag Impaired in Northumberland County.

The field day overall was educational, beneficial, and interactive. This great partnership was formed because the Envirothon advisor Mr. Haupt reached out to NCCD for assistance in preparing his students for Envirothon. Through in class presentations and demonstrations, this partnership grew and evolved into a hands on educational experience. NCCD and Shamokin High School plan to continue this educational field day in the future with hopes of reaching many more students. Through opportunities like this one, NCCD hopes to show Northumberland County residents the importance of agriculture and the great strides farmers are taking to promote and protect natural resources and our food supply.



Water Quality Quiz Answers

from pages 8 and 9

1. B – A watershed is an entire land area that drains into a stream or river. Anything on the land (exposed dirt, trash, oil, manure, coal dirt, road treatment) has the potential to wash into a stream/river during rain or snow melt events.
2. A – Water can't flow uphill or over a mountain. The highest elevation points will create the boundaries of a watershed.
3. A, True - Water that soaks into the ground, or infiltrates, will pass through a natural filter, the soil, which will remove any pollutants the water may be carrying. Rain water or snow melt that flows over the land can pick up various pollutants and carry them into our local streams. Methods to decrease runoff include the use of rain barrels, rain gardens, green roofs, and stone walkways/driveways.
4. C – The main nutrients in fertilizers and manure are nitrogen, phosphorus and potassium. If not applied or stored appropriately, nitrogen is easily picked up by water runoff and carried into our streams.
5. A, True- Farmers are not the only folks that use fertilizer. Homeowners also need to know the proper fertilizer application rates to prevent stream water pollution.
6. D - The iron problem is easily seen in AMD streams which causes a distinct orange color. The iron coats stream bottoms, suffocates macroinvertebrates, and clogs fish gills. Other challenges also exist that cause problems for stream life including excess amounts of aluminum and manganese and low pH levels.
7. A – Limestone rock adds alkalinity to stream water and increases the pH levels of acidic environments.
8. B – Creating a sloped bank will allow water to spread out as it rises which will reduce the water's energy and decrease erosion. Many folks ask to straighten a stream channel, but it is useful to have some meanders and turns throughout the channel to help slow water flow during high water events.
9. B, False – Allowing grasses, shrubs, and/or trees to grow on streambanks improves water quality. The plant roots hold soils in place and reduce erosion. The roots and low vegetative growth also filter water runoff before it enters a stream or river. Finally, shrubs and trees provide shade which keeps stream temperatures cool.



(continued on next page)

Water Quality Quiz Answers, *continued*

from pages 8 and 9

10. A, True – There are 3 categories of temperature for fish species:
- a. Warm Water Fish require water temperatures higher than 75 degrees F to grow and reproduce; they include:
 - i. Largemouth Bass
 - ii. Bluegill
 - iii. Rock Bass
 - iv. Catfish
 - b. Cool Water Fish require water temperatures higher than 65 degrees F but less than 75 degrees F to grow and reproduce; they include:
 - i. Smallmouth Bass
 - ii. Common Shiner
 - iii. White Sucker
 - iv. Creek Chub
 - c. Cold Water Fish require water temperatures less than 70 degrees F to grow and reproduce; they include:
 - i. Brook Trout
 - ii. Rainbow Trout
 - iii. Brown Trout
 - iv. Blacknose Dace
 - v. Longnose Dace
 - vi. Slimy Sculpin

It is important to limit wide open stream sections that are over exposed to sunlight and areas where large open (hot) parking lots contribute warm rain runoff to streams.

There are many aspects to maintaining clean stream waters, but with some basic information we can make informed decisions about our land use practices, integrate some simple changes, and do our part to ensure we have clean streams and live in a healthy environment.

Farmland Protection Options

by Judy Becker, District Manager

The Northumberland County Agricultural Land Preservation Program is available to farmers interested in preserving their farmland in perpetuity. There is widespread interest, but very little funding to reach out to more than one to two farms per year. With a wait list of 56 farms, some landowners are finding themselves waiting what seems like forever to have their farm preserved. There are other options available you may not be aware of.

Most landowners would prefer to have their easement purchased, which is certainly understandable. However, there is an option available to donate your farm easement to have it preserved. Donating your easement may include federal tax benefits. Please check with a tax professional for advice on your specific situation. If this is something you may be interested in, you have several options. You can contact our office to inquire about donating it into our county farmland preservation program. You can also contact the Merrill Linn Land and Waterways Conservancy, which is a private, non-profit organization based in Lewisburg with a mission to protect and preserve the natural qualities of our environment.

The Conservancy encourages land owners in the northern “arm” of Northumberland County with an interest in protecting their land to visit their website where you can read the Q&A section, (in the drop down menu under Protecting Your Land), to learn more about some conservation options available to landowners. Alternatively, contact their office by phone or email for further information. For more information, contact Geoff Goodenow at linn@ptd.net, 570-524-8666, or visit their website at linnconservancy.org.

2017 District Awards

by: Judy Becker, District Manager

On August 3rd, the NCCD held our 63rd annual awards program, recognizing individuals for excellence in conservation. Below find detailed information on each of the awards and award winners.

Swank Outstanding Conservation Organization Award

Winner: *Our Lady of Lourdes Regional Middle School STEM Team*

About the award: This award is sponsored annually by David and Judy Swank of Elysburg in honor of their granddaughter, Shelby Palmer. It is presented to an outstanding conservation organization which has done exceptional conservation related work in the county.

About the winner: Our Lady of Lourdes faculty members are committed to offering integrated STEM (Science, Technology, Engineering, and Mathematics) experiences to Our Lady of Lourdes students. Three of the faculty involved are University of Notre Dame STEM Teaching Fellows. They have created a STEM Impact Plan that strives to make STEM opportunities available to all students at Our Lady of Lourdes with a particular focus on ecology in grades 5-8.



One of the test gardens for vermicomposting.

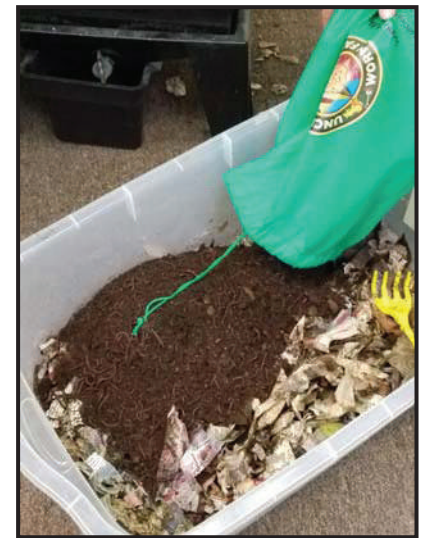
In the last year, students from Our Lady of Lourdes have worked with the Shamokin Creek Restoration Alliance (SCRA), the Northumberland County Conservation District (NCCD), and Landscape Services, Inc. to plant trees along Quaker Run and fulfill the requirements of the Kulpmont Borough Quaker Run Stream Quality Education grant from the PA Department of Environmental Protection. Additionally, students in the fourth through sixth grades have initiated a vermicomposting project that seeks to reduce the food scraps entering the solid waste stream in the school's cafeteria. The students began this project with 1,000 worms from March through May. In June, over 20 students engaged in an 8-day Worm Camp with the goal of creating a system large enough to compost one lunch period's scraps each day of the 2017-2018 school year. Students hope to reduce solid waste and enrich the soil in test gardens that have also been created by middle school students on the school's campus.

Photo credits: The photos shown on this page are from the group's (STEMS Worm Camp) photo page.

You may contact us at any time by email or phone to be added to, or removed from, our mailing list. Simply call 570-495-4665 or email info@nccdpa.org. If you would rather "Go Green," email us with the words "electronic newsletter" in the subject line and we will send our newsletter to you electronically.



Public Director Dave Crowl presents representatives from the Our Lady of Lourdes STEM Program with the Swank Outstanding Conservation Organization of the Year Award.



Lots of worms!

(continued on next page)

2017 District Awards, *continued*

Don Cotner, Sr. Memorial Scholarship

Winner: *Alexis Bassett, Sunbury*

About the award: We are proud to present this scholarship for a ninth year, which is sponsored by Don Cotner, Jr. in memory of his father. The award is given to a senior pursuing a degree in agriculture or an environmentally related field in the fall 2017 semester. Don Cotner, Sr. was a director for the Northumberland County Conservation District from 1960-1979. Cotner Farms began implementing a soil conservation program in the mid-1930s and has been actively conducting and promoting soil conservation practices ever since. In 1936, Cotner Farms became one of the first farms in central Pennsylvania to implement 'contour' farming. In recognition of over 50 years of practicing soil conservation, Don Cotner, Sr. was named Pennsylvania Conservation Farmer of the Year in 1988. Mr. Cotner was a top ten finalist for the National Conservation Farmer that same year. Soil conservation continues at Cotner Farms today. All acreage is still farmed using no-till methods, cover crops are planted each fall, and diversion ditches, waterways, and terraces are maintained and improved upon annually. Employees of the farm routinely participate in soil conservation meetings and panels which provide information to legislators.

About the winner: Our ninth annual award winner of this scholarship is Alexis Bassett, a 2017 graduate of Danville Area High School. She is the daughter of Duane and Christy Bassett. Alexis has been accepted to Delaware Valley University for the fall of 2017. Her career plans include pursuing a degree in Agricultural Business with an eye towards opening a greenhouse operation. Alexis received a Certificate of Completion in Production Agriculture from the National Occupational Competency Testing Institute (NOCTI) in 2017. Her extracurricular activities have included FFA, band, 4-H, and tennis. Her Honors Biology teacher, Emily Morgan, stated the following about Alexis, "Alexis shows tremendous potential. In Honors Biology, Alexis demonstrated her strong work ethic, dedication to herself and her peers by striving to do her best each day, and her passion for the content. Alexis has my full support, as I know she will succeed in any area she invests her time and abilities."



Dean James of Cotner Farms presents Alexis Bassett with the Don Cotner, Sr. Memorial Scholarship.

Raymond D. and Mable E. Shaffer Scholarships

Winners: *Garrett Kieffer, Dornsife; Samuel Ferster, Dalmatia*

About the award: The Raymond D. and Mable E. Shaffer Scholarship is provided every year by Sandra Shaffer-Mattern of Dalmatia to a Line Mountain High School senior who will attend college in the fall. It was instituted in 1996 in memory of Raymond and Mable Shaffer, who were among the founders of the Northumberland County Conservation District. Raymond was on the original steering committee and was appointed to the Board of Directors of the Conservation District in 1955.

About the winner: The first 2017 winner of this scholarship is Garrett Kieffer of Dornsife, the son of Heather and Shane Kieffer. Garrett's extracurricular activities included wrestling, baseball, and football. He has been accepted to Lock Haven University. His career plans are work as a game warden or a park ranger or work landscaping with his father. His Chemistry and Forensic Science teacher, Shelley L. Herb Fausey, Ph.D. stated the following, "Garrett possesses the intellectual ability and interpersonal skills necessary to succeed in higher education. Garrett enjoys the outdoors and has a natural curiosity of his world which makes him a great candidate for environmental science. The educational program at the collegiate level will allow Garrett the opportunity to further explore and achieve his career goals."

*Stay up to date on our events
by visiting www.nccdpa.org or
www.facebook.com/nccdpa.*

2017 District Awards, *continued*

About the winner: The second 2017 winner of this scholarship is Samuel Ferster of Dalmatia, the son of Donald and Francine Ferster. Samuel's extracurricular activities included FFA, 4-H, concert band, jazz band, marching band, chorus, and musicals. He has been accepted to Potomac State College in West Virginia. His career plans are to work with his father in Mark Ferster and Sons Excavating and West Malta Farms after receiving an Associate's Degree in Sustainable Agricultural Entrepreneurship. His Chemistry and AP Physics teacher, Shelley L. Herb Fausey, Ph.D. stated the following, "Sam exhibits the qualities necessary to be successful in college. Sam enjoys a challenge and exhibits great potential for academic success. He demonstrates the qualities necessary to be successful in an agriculture field. After college, Sam plans to return to this community and work in the family business and continue his involvement with his church."

NCCD congratulates all award winners and wishes them much success in the future!



Vice Chairman Leon Wertz presents Sam Ferster and Garrett Kieffer with the Raymond D. and Mable E. Shaffer Memorial Scholarship.

Support the NCCD!

There are many ways to get involved with our organization. We welcome your involvement, as well as your ideas and input! Visit our website at www.nccdpa.org to see how you can get involved with NCCD today, either through volunteering or becoming an affiliate member. We recognize our 2017 Affiliate Members and thank them for their support!

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Northumberland County Anthracite Outdoor Adventure Area

In Honor of Raymond D. Shaffer by Sandra Shaffer Mattern,
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**Northumberland County
Conservation District**
441 Plum Creek Road
Sunbury, PA 17801
Phone: (570) 495-4665
Website: www.nccdpa.org



**Northumberland County
Conservation District**

The NCCD, formed in 1943 under the Conservation District Law, is a subdivision of state government and is one of 66 Conservation Districts throughout the state of Pennsylvania. The purpose of the Conservation District is to promote protection, maintenance, improvement, and wise use of the land, water, and other natural resources.

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Bryanna Kenno: Agricultural Conservation Technician
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Chantel Shambach, Mosquito-borne Disease Control Technician

**NCCD Board of Directors Upcoming Meetings:
September 7, October 5 at 7:00pm; all held at the NCCD EE Center**