

2019

UNION COUNTY

CONSERVATION DISTRICT

Annual Report



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Our mission is to strive to promote voluntary conservation and good stewardship of Union County's natural resources while being a leader in balancing environmental responsibility with economic opportunities.

From the District Manager

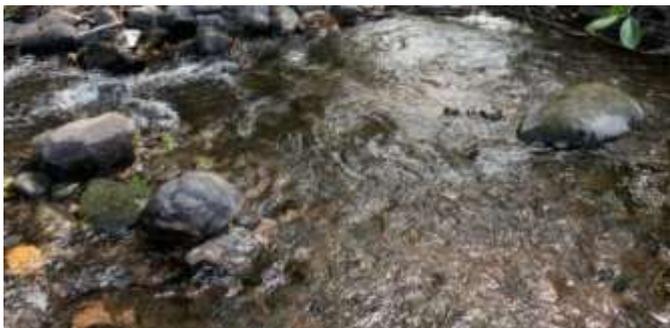
Dear Union County,

2019 has been filled with a lot of change for the Conservation District. At the end of 2018 the previous manager retired after 29 years with the district and I came on board in January 2019. We also had a new public director join the board, Dr. Jessica Newlin from Bucknell University, in May 2019. Previous to becoming the District Manager I served as an Intelligence Officer in the United States Air Force and as a Winemaker in Northern Virginia. I have a degree in Crop Science and originally hail from Northern Ohio.

The past year has been exciting learning about the role of the Conservation District in the community and getting out to meet the residents of Union County. It has also been exciting and interesting working with our veteran staff understanding all the programs the district runs like Agland Preservation, Environmental Education, Nutrient Management, Stream Restoration projects and issuing permits for the Chapter 102/105 programs.

As our team looks to the future we are hoping to find new ways to connect with the community, to bring more technology to the field and to build upon our past successes to continue serving the people, animals, and environment of Union County.

Sincerely,
Eric Nyerges



Board of Directors



Lee Spangler	Farmer Director	Chairman
Lucas Criswell	Farmer Director	Vice Chairman
Glenn Troester	Public Director	Treasurer
Preston Boop	Commissioner	
Donald Fogle	Public Director	
Dennis Spangler	Farmer Director	
George Hauck	Farmer Director	
Duane Kling	Farmer Director	
Jessica Newlin	Public Director	

Associate Directors



Mark Dershem

Ben Marsh

Tyler Jarrett

District Staff



District Manager	Eric Nyerges
Environmental Educator and Ag Conservation Technician	Greg Bonsall
Watershed and Program Specialist	Shanon Burkland Stamm
Chesapeake Bay Regional Engineer (January-August)	Caleb Bruhn
Chesapeake Bay Regional Engineer (September-Present)	Patrick Cullen
Erosion & Sediment Pollution Control Technician	Eric Ernst
Nutrient Management Technician	Randall Ross
Ag. Preservation Program Mgt & Administrative Assistant	Cindy Kahley
Resource Conservation Technician	Dan Wagner
Summer/Winter Student Intern	Caroline Benfer



Rapid Run – Forest Hill

Annual Awards Banquet

The Union County Conservation District Board of Directors held their 59th Annual Awards Banquet on Friday, June 21, 2019 at the Ard's Farm Market Lewisburg, Pennsylvania. Attendees had the opportunity to recognize individuals who have shown a strong commitment to the environment and conservation. The evening consisted of a fine meal, good fellowship, and numerous awards.

COOPERATOR OF THE YEAR
Carl H and Gregory C Brown

OUTSTANDING CONSERVATION PARTNER
Jason Fellon

DISTINGUISHED SERVICE AWARD
William Deitrick

OUTSTANDING EDUCATOR AWARD
Emil Stenger Jr

F.F.A. PUBLIC SPEAKING AWARDS
1st PLACE – Katie Reeder
2nd PLACE – Paige Rhyne
3rd PLACE – Carrie Reich

Annual Awards Banquet



Carl H and
Gregory C Brown



William H.
Deitrick



Emil Stenger Jr.



Jason Fellon



Carrie Reich



Ag-Land Preservation

The Union County Agland Preservation program has continued to protect prime and statewide important soils. Through the combined efforts of the Union County Commissioners, Union County Conservation District, Gregg Township, Commonwealth of Pennsylvania and landowners we protected 498.49 acres in 2019.

To maximize funds and increase acreage the Union County Agland Preservation Board changed their regulations to offer 85% of the appraised easement value. We also had 2 generous donations in 2019 that showed the true desire of landowners to protect Union County farmland.

The Mike and Jamie Noll farm ranked 1st out of 45 in 2018. This farm is a crop and poultry operation located in Buffalo Township. The process of preserving this farm started in 2018 but was not completed until 2019 which created a contiguous preserved block of 1,075 acres.

The Elvin and Molly Stoltzfus farm was also preserved in 2019. This farm ranked 3rd out of 45 in 2018. This is a crop operation located in Kelly Township. The Stoltzfus farm consists of 104.89 acres. Their farm adjoins land that is already preserved and will make a block of 795.41 acres.

Ag-Land Preservation

We were also privileged enough to receive 2 donations in 2019. The first donation was located in White Deer Township from Mr. John Clemens. He wanted to ensure his 93.862 acre crop farm would always be protected from development. This is the second farm in White Deer Township to donate the development rights to their farm. The Agland Preservation Board would like to thank John for his generous donation.

The second property donated in 2019 was the Mark and Matthew Dersham farm. Their farm is located in Lewis Township and consists of 104.028 acres. They are a crop and poultry operation but have branched out to grow 2 acres of hemp for CBD oils. They are also hoping to expand next year by producing hemp fiber on the farm. The Ag Preservation Board would like to thank the Dersham's for their very generous donation and support of this program.

As you can see the Union County Agland Preservation program continues to grow and is within reach of their 10,000 acre goal. We are currently at 8,978.91 acres, but with continued donations and generous funding we hope to reach our goal in the next 2 years.

Board Members

Dave Epler - Chairman

Dennis Keefer – Vice Chairman

Dave Masser

Ivan Yoder

Terry Snoddy

Wayne Stahl

Dennis Hess



Annual Tree Sale



The Union County Conservation District has been holding a tree seedling sale for as long as anyone can remember. The sale is an important way to encourage county residents to plant more trees.

In 2019 there were eight species of seedlings available to purchase Scotch Pine, Canaan Fir, Sycamore, Shagbark Hickory, Osage Orange, Ginkgo, and Common Lilac.

The sale yielded 63 orders in 2019 and sold a total of 3,140 seedlings.

The sale has remained successful year after year because it offers county residents locally grown and native species. Customers seem to appreciate that they can buy small quantities of trees and use it as an opportunity to increase the diversity of their woodlands.

Since the program's start in 1994 nearly 58,000 tree seedlings have been sold to area residents. Proceeds from the annual tree sale are used to support conservation programs and educational activities. Seedlings from the sale are also donated to local school districts for their Arbor Day programs.



Tree Seedlings Sold

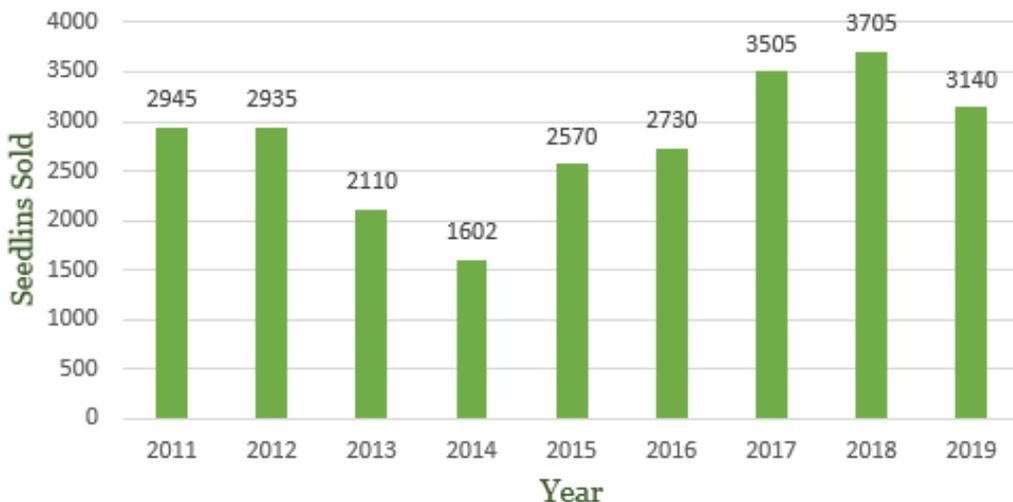


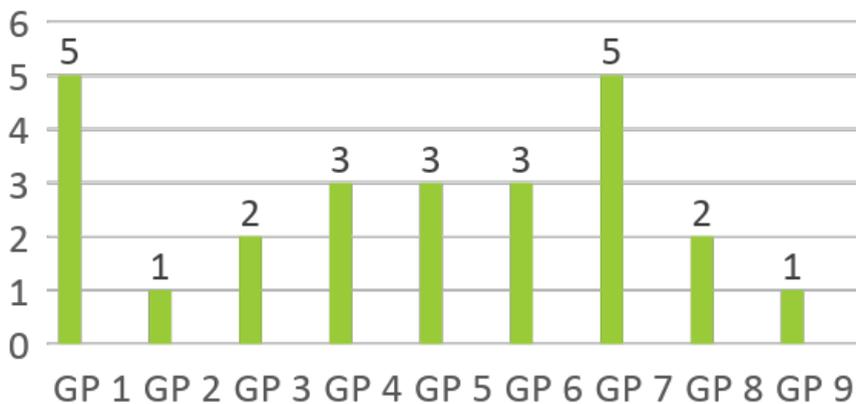
Figure above depicts the number of saplings sold throughout the past nine years.

Chapter 105

General Permits issued under Chapter 105 provide comprehensive regulation of dams, reservoirs, water obstructions and encroachments in Pennsylvania. For UCCD this covers small stream crossings, intakes and outfalls, and stream restoration projects to name a few.



General Permits Issued in FY 2019



Under the program the District issued a total of 25 permits for 2019. The two most common permits to be issued were GP-1s for Fish Habitat Structures and GP-7s for Minor Road Crossings

The GP-1 is an important tool used in our stream restoration projects to stabilize the banks of streams and also produce aquatic habitat. The picture above is a GP-1 project.



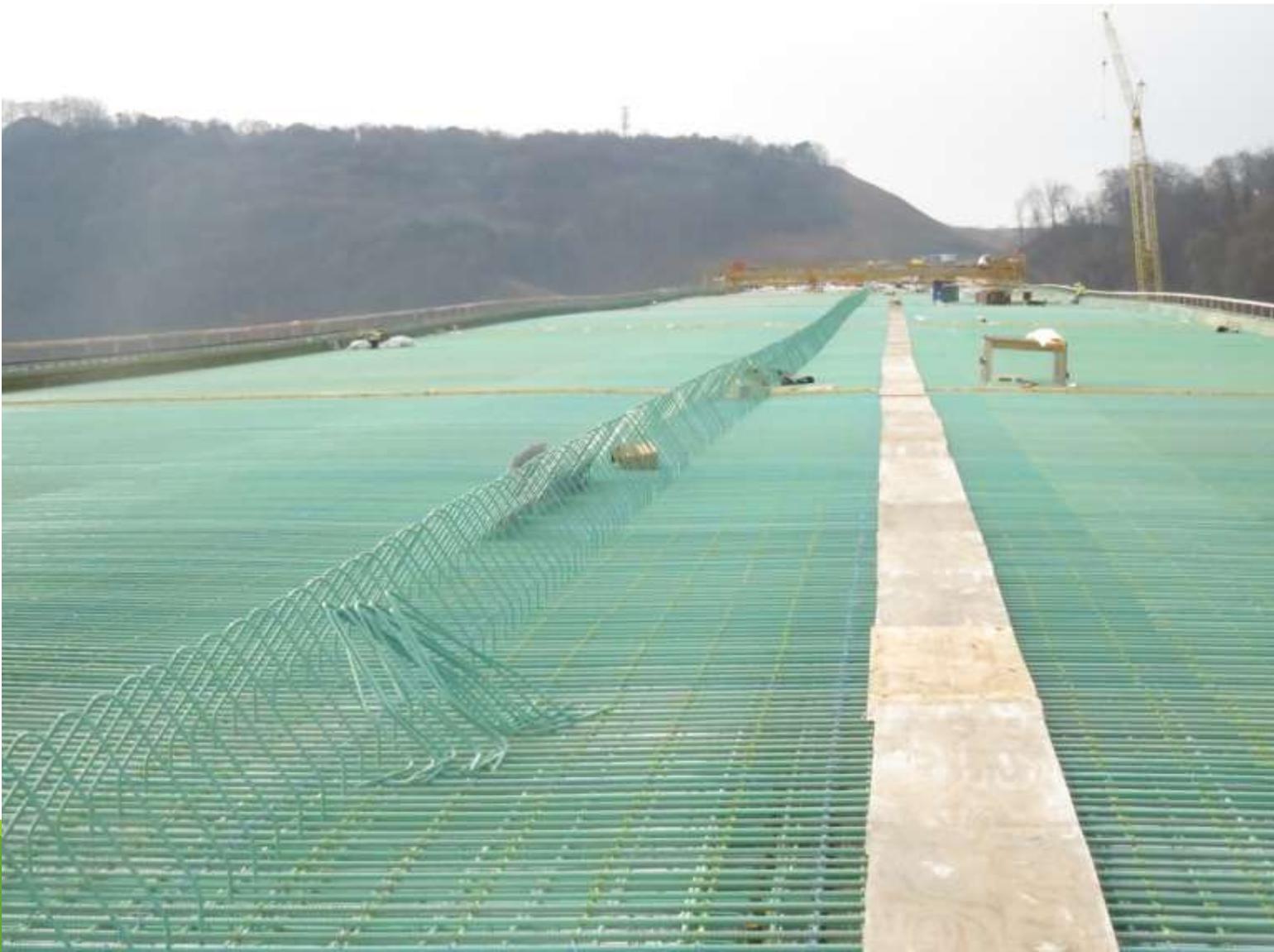
GP-7s are often culverts like the one pictured to the left.

Finally, beyond providing permits the district also provides technical assistance on the program and spent over 290 hours of staff time in 2019 helping over 200 residents.

Chapter 102

The purpose of Chapter 102 is to protect surface waters of the Commonwealth from sediment and stormwater pollution through the utilization of best management practices (BMPs). These practices minimize accelerated erosion and sedimentation, and manage post construction stormwater runoff, both during and after earth disturbance activities.

Under this program the Union County Conservation District has been delegated level 2 responsibilities in the Erosion and Sediment Control Program and the National Pollutant Discharge Elimination System Permit Program.



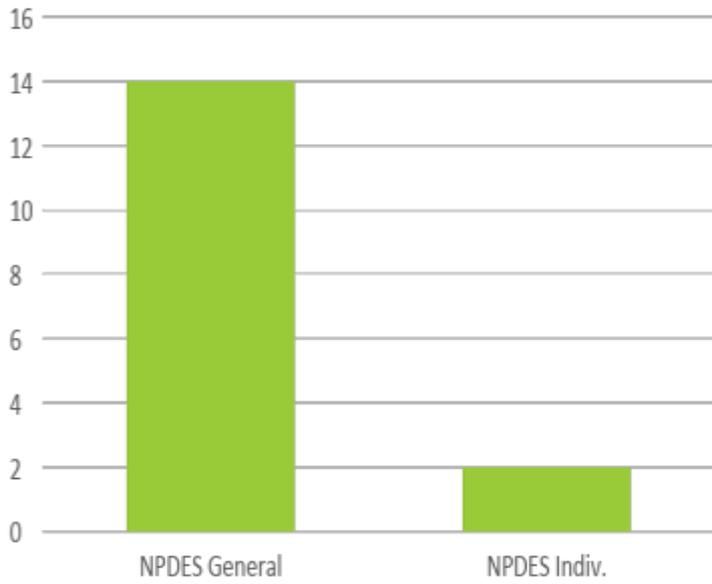
Chapter 102

Work continues on the bridge over the Susquehanna River for the Central Susquehanna Valley Transportation Project. The bridge connects Point Township in Northumberland County and Union Township in Union County. The anticipated time for the completion of the bridge is December of 2020. The anticipated time for the section of the Transportation Project that will be open for vehicular traffic from the Winfield Interchange in Union Township, Union County to the existing State Route 147 in Montandon, Northumberland County is the year 2022. The tentative finish date for the overall Transportation Project, which also involves Snyder County, is the year 2027. The approximate disturbed acres for the Union County portion of the project is 113

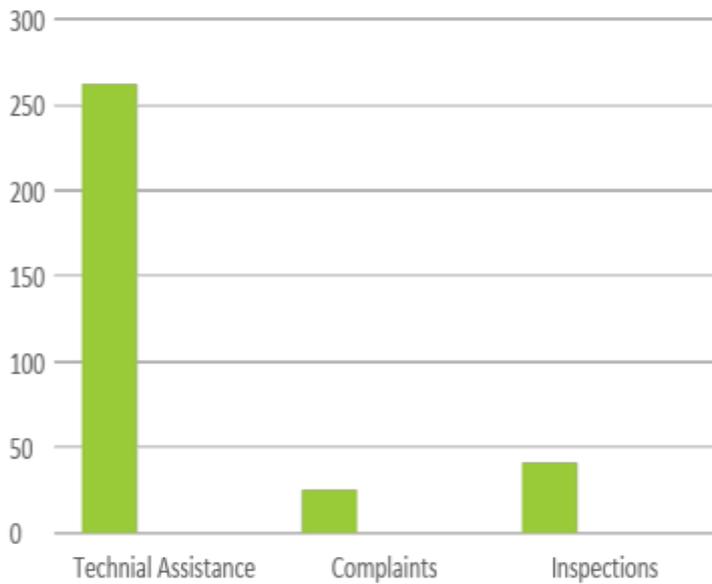


Chapter 102

2019 NPDES Activity



2019 Field Work





NRCS Partnership Conservation Planning

Since October 2017 the Union County Conservation District has partnered with the Natural Resources Conservation Service (NRCS) to perform conservation planning and other related conservation technical assistance in Union County. Conservation plans serve as a vital first step in managing natural resources to help ensure clean water, clean air, healthy soil, abundant wildlife, and productive farms.

Soil erosion is a prominent resource concern addressed in conservation plans. Gully erosion, pictured to the right, can be addressed by planning corrective conservation practices.

As part of our agreement, the UCCD completed the following in fiscal year 2019:

- 19 Conservation Plans covering 991 acres
- Certification of practices for 15 operators
- 9 instances of brief technical assistance
- 19 courses/trainings



Chesapeake Bay Engineer

In August 2019 our Chesapeake Bay Engineer, Robert “Caleb” Bruhn left us to pursue a graduate program at the University of Illinois in Agricultural Engineering. Caleb was with the district just over two years and the staff and board wish him the best of luck in his graduate studies.

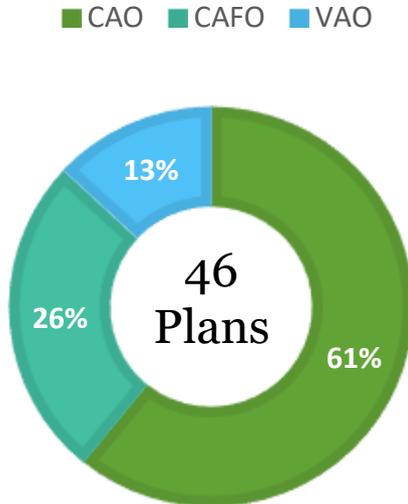
On October 21, 2019 Caleb was replaced by Patrick Cullen, a recent Penn State graduate who grew up on a dairy farm in Central Pennsylvania. Pat brings important skills from his farming experiences and is a great addition to the District staff. Since coming on board he has been training with the Natural Resource Conservation Service (NRCS) in Bloomsburg.

He has completed his first I&E and design while working on projects in Union, Lycoming, Centre, and Snyder County. Pat has also been attending trainings throughout the state and accompanying other staff to become familiar with Union County. We look forward to Pat working on more projects in 2020 as he finishes up his training with NRCS.



Nutrient Management

NUMBER OF PLANS



The Union County Conservation District has delegated authority over 46 Active Nutrient Management Plan holders. Oversight of 28 Concentrated Animal Operations, 12 Concentrated Feeding Operations, and 6 Volunteers with current active Nutrient Management Plans. The UCCD is responsible for annual inspections of these operations, as well as review of updates and amendments made to the plans.

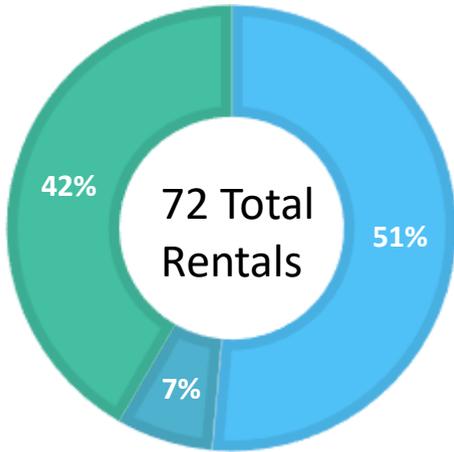


Two additional CAOs were identified in 2019, plans are expected to be submitted early in 2020, program growth is typically around 2 additional CAOs or CAFOs added per year.

Equipment Rentals

NUMBER OF RENTALS

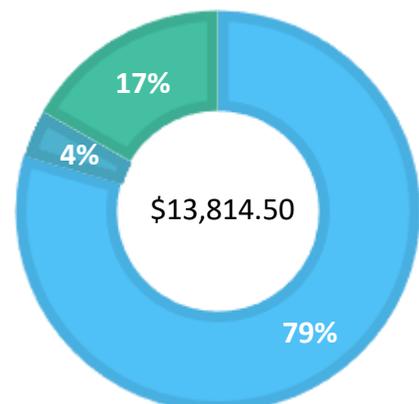
■ Grain Drill ■ Corn Planter ■ Manure Spreader



The Equipment Rental Program provides Union County operators and those from surrounding counties with a low cost option to try no till equipment. The program has 2 no-till grain drills, a no-till corn planter, no-till vegetable transplanter and a manure spreader capable of low application rates. This program encourages farmers to use no-till practices on their operations or to apply manure at lower rates than traditional manure spreaders are capable of achieving. The low cost makes the equipment available to all operators while still providing enough income to maintain the program and build reserves for future equipment purchases.

INCOME

■ Grain Drill ■ Corn Planter ■ Manure Spreader



Environmental Education

Over the summer, intern Caroline Benfer demonstrated the effects of pollution to kids ages 5-8 at the Lewisburg Children's Museum. Caroline used hands on activities and interactive fun with the kids to demonstrate how pollution affects our rivers and streams.



Caroline also created a display for the Union County West End Fair. This years display: Love Your Lawn provided information about alternative fertilizers and ways to manage your garden and yard using more natural means rather than traditional chemicals.

Environmental Educator Greg Bonsall and Caroline Benfer also assisted at the Union County West End Fair Kids Day festivities; making bird calls and giving away conservation materials to children who attended the fair.



Susquehanna Valley Envirothon



Mifflinburg Area High School's team finished as the first place team for Union County. From Left: Envirothon Instructor Mr. Emil Stenger, Levi Showalter, Molly Kerstetter, Lindsay Kieffer, Cade Dressler, Maclenoson Wagner, Envirothon Instructor Mr. Jarod Armstong

The 32nd Annual Susquehanna Valley High School Envirothon was held on Tuesday, April 30, 2019, at the Shikellamy State Park Marina, Sunbury, PA. 51 teams, from 15 schools, competed in the event. Approximately 250 students had the opportunity to demonstrate their knowledge about the environment at the event. Mifflinburg High School's team of Levi Showalter, Molly Kerstetter, Lindsay Keiffer, Maclenoson Wagner and Cade Dressler finished as the winner for Union County. The talented students had the privilege of competing at the 2019 Pennsylvania State Envirothon held at University of Pitt-Johnstown on May 21st and 22nd, 2019.

The 19th Annual Susquehanna Valley Middle School Envirothon was held on Tuesday, May 14, 2019 at the Montour Preserve. 31 teams from Columbia, Montour, Northumberland, Snyder and Union counties participated in the event.

Dirt and Gravel Roads

In 2019 the Union County Conservation District broke multiple personal records for the number of Dirt and Gravel and Low Volume Road (DGLVR) projects started and completed in a year. Statewide there was a big push to spend funds from previous years allocations by the end of the state fiscal year on June 30th causing a flurry of projects in 2019.

This resulted in a total of 7 projects being active in 2019 – 3 Dirt and Gravel projects and 4 Low Volume Road projects providing recipients over \$418,235.37 in funding. By the end of the year 6 of the 7 projects were complete leaving only one project on the books for 2020, Mountain Road in Limestone Township.



Turtle Creek Road – East Buffalo Township

Dirt and Gravel Roads

In 2019 the Union County Conservation District started or completed projects with the Game Commission on 44 Pond Road in Gregg Township, Turtle Creek Road in East Buffalo Township and on Mountain Road in Limestone Township.

These projects put in high water bypasses, added fill to bring the roadway up and improve drainage, added underdrain, new cross pipes and included vegetation management to keep sediment out of the streams.

Looking ahead to 2020 the District hopes to cultivate projects with even more townships and get a number of projects on the books to be completed in late 2020 or early 2021.



Left: 44 Pond Road, Gregg Twp., Top Right: Mountain Road, Limestone Twp. pre construction, Bottom Right: Mountain Road during construction

Invasive Species

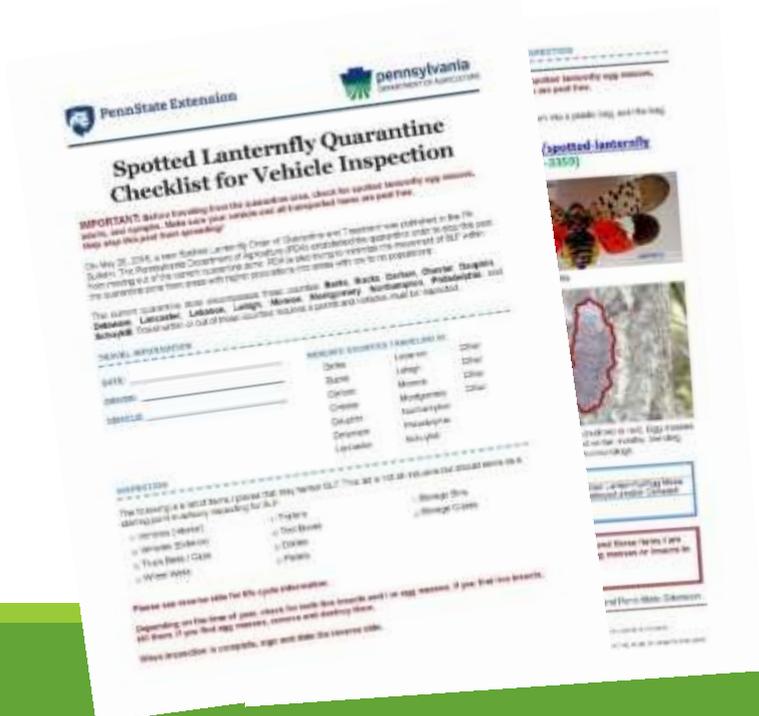
In an effort to combat the spread of the invasive Spotted Lanternfly the Union County Conservation District underwent the process of obtaining spotted lanternfly quarantine zone vehicle permits in 2019. The District also provided presentations on the insect to several local community groups.

The spotted lantern fly is an invasive insect, native to China, first found in Pennsylvania in Berks County. Currently, a quarantine zone consists of 14 counties in southeast PA surrounding Berks County.

Spotted lanternfly poses a threat to many Union County industries such as agriculture, wine, hops, and hardwoods. UCCD staff are doing their part to prevent the spread to Union County by participating in the vehicle permit process, which includes education, and a vehicle inspection protocol when traveling in to or out of the quarantine zone.



Quarantine Zone – March 2019
Penn State Extension



Adult Spotted Lanternfly
Picture: Pennsylvania
Department of Ag



Watershed Work



The District Watershed Specialist has been working with the Northcentral Stream Restoration Partnership on stream projects in Union County for the last 10 years. The Partnership is made up of NCRO DEP (Growing Greener Grant Program), the Northcentral Pennsylvania Conservancy, PA Fish and Boat Commission, and Conservation Districts.

The groups have shared goals and combine resources to implement Best Management Practices (BMP) within the stream corridor. The BMPs can include streambank fencing, animal crossings and associated walkways, streamside buffer plantings and in-stream habitat structures to stabilize streambanks.

In 2019 three in-stream projects were completed totaling ~5,000 feet of stream restoration, including a 1,000-foot special protection area for kids-only fishing. Additionally, sixteen acres of trees and shrubs were planted at these sites along with backlogged sites from previous projects. A display is being planned to educate the public about the benefits of the restoration in 2020.



With the planting complete all Partnership restoration sites in Union County now have forested riparian buffers helping to improve the landowner's farms and local water quality. Landowners have allowed the groups to study and showcase the work to the public, advisory committees, state officials, and local representatives by hosting educational events and tours on their land.

Local universities have also been using these projects as examples for students studying watershed restoration. Additionally, USGS has created a 3 year pilot study in Turtle Creek to assess how the BMPs are resulting in sediment reductions that can hopefully be used to create better credits in the Chesapeake Bay model for the Commonwealth.

To capture the extensive work done by the Partnership in the Turtle Creek Watershed the partners created a story map to highlight the accomplishments made on Turtle Creek. The story map is at <https://www.depgis.state.pa.us/TurtleCreek/index.html>

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SECRETARY PATRICK McDONNELL
dep.pa.gov

DEP Secretary Visits Turtle Creek in Union County Restoration Success Story Featured in Updated DEP Story Map
by Patrick McDonnell, Secretary

One of the most rewarding parts of my job is visiting DEP's regional offices to learn about environmental restoration successes firsthand and gather lessons to replicate good work. Recently, I was pleased to view the latest in a series of stream restoration projects on a small, impaired rural stream in Union County. This stream has a common name in our state, but a decidedly uncommon story: Turtle Creek.

The long-term, piece-by-piece restoration of Turtle Creek is a

Turtle Creek

This is a story about the long-term, piece-by-piece restoration of Turtle Creek in north-central Pennsylvania.

It's also a story about the power of partnerships, innovation, the environmental stewardship of landowners, and the resiliency of natural systems.

It's a success story suggesting broader opportunities for Pennsylvania's water, and for the Chesapeake Bay.

Watershed Work

In 2019 the District also partnered with the Lewisburg Area School District's Eichhorn Middle School to re-establish a native wetland habitat (pictured below) using a Growing Greener Grant. The project's goal is to filter stormwater runoff pollution and provide hands-on education for students at the school. According to Department of Environmental Protection Secretary Patrick McDonnell "The living laboratory will teach the next generation about the science of wetlands, stream health, and how our land and water stewardship choices impact our waterways."

The U.S. Fish and Wildlife Service constructed the project for the grant and also supplied wildlife boxes to bring in other birds and animals. Native wetland and pollinator seed mixes were used on the project and trees and shrubs will be planted in Spring 2020 by the students to closeout the project.



Watershed Work

Field lanes can have a big impact on streams, especially for those farms that use steel wheel tractors. For that reason Mr. Martin, a local plain sect farmer, sought out technical assistance from UCCD.

Through our Partnership, the District implemented a fix on his farm that requires little maintenance. Diverters for his field lanes were created using old quarry conveyor belt material and treated lumber.

The diverters were placed at strategic locations on the slope to stop concentrated water flow that resulted in sediment getting into the stream. His stream crossing was then stabilized with geotextile fabric and limestone aggregate.



UCCD was also awarded a Growing Greener grant to implement BMPs to address nutrient and sediment issues on a plain sect dairy farm in the Turtle Creek Watershed. Mr. Zeiset was experiencing problems with a past NRCS project that utilized a distribution manifold and filter area. The filter area ending up receiving more nutrients than it could handle. Mr. Zeiset had a strong desire to improve nutrient management implementation on his farm by utilizing the liquids for hay field/permanent sod application. Therefore, a liquid manure tank was installed and the distribution/filter area was restored to a hayfield. Additional work will be performed on field lanes in 2020 to further reduce sediment impacts.

10th Anniversary of Treatment System



Acid Deposition Remediation System brought indicator species including Brook Trout back to the headwaters of Buffalo Creek.



10th Anniversary of the Acid Rain Remediation Site September 14th, 2019.
District Manager Eric Nyerges and Watershed Specialist Shanon Stamm Pictured



Buffalo Creek – Above Mifflinburg
Courtesy of BCWA

Our Partners in Conservation



USDA Natural Resources Conservation Service

USDA Farm Service Agency

Northcentral Pennsylvania Conservancy

Department of Environmental Protection

PA Association of Conservation Districts

State Conservation Commission

PA Fish and Boat Commission

PA Game Commission

DCNR Bureau of Forestry

PA Department of Transportation

PA Department of Agriculture

Union County Planning and Zoning

Penn State Cooperative Extension

Union Co. Assoc. of Township Supervisors

Nonprofits and Watershed Associations

Trout Unlimited