



# **ARMSTRONG**

## **CONSERVATION DISTRICT**

### **2022 Annual Report**

#### **Directors**

**Andrew Kimmel** – Chairman  
**Michelle Hickman** – Vice-Chair  
**Spurgeon Shilling** – Secretary/Treasurer  
**Jason Renshaw** – Commissioner  
**DeJay Claypoole**  
**Dennis Hawley**  
**Mike Daquilante**

#### **Associate Directors**

**John Linkes**  
**Ben Kimmel**  
**Rocco Ali**  
**Jay Hogg**  
**John Bennett**

#### **County Commissioners**

**Don Myers**  
**Pat Fabian**  
**Jason Renshaw**

#### **Staff**

**Holly Laird** – District Manager  
**Jessica Schaub** – Resource Conservationist – ACT/NM  
**Kodie Rearick** – Resource Conservationist – E&S  
**Maria Sorce** – Resource Conservationist – Watersheds  
**Gregg Smith** – Dirt, Gravel and Low Volume Roads Specialist  
**Brooke Emmonds** – Conservation Educator  
**Laura Sue Stewart** – Mobile Environmental Display Coordinator  
**Dave Rupert** – Armsdale Building Coordinator  
**Rachell Rottman** – AmeriCorps Member

**District Manager****Holly Laird – [halaird@co.armstrong.pa.us](mailto:halaird@co.armstrong.pa.us)****Phone: 724.545.3626**

The start of 2023 marks the one-year anniversary of my becoming the official District Manager of ACD. I wish I could say I didn't make any mistakes in 2022, but I sure did. I've also learned a great deal too.

In 2022, ACD made the switch from an Office Manager position to a Conservation Educator position. Brooke Emmonds was hired in May of 2022 as ACD's Conservation Educator. Brooke's main job focus is to promote ACD and conservation efforts through educational outreach such as library events, school events, social media, technical program outreach, Envirothon, and our annual tree sale.

Due to a Director vacancy, the Armstrong County Commissioners appointed Associate Director Mike Daquilante to a Farmer Director position on the Board. Jay Hogg, a farmer in North Buffalo Township was also appointed by the ACD Board of Directors as an Associate Director.

The District continued to participate in the AmeriCorps program in 2022. Two Corps Members assisted in District operations throughout the year. Rachell Rottman, a Youngstown University graduate, is completing a 1,700 hour AmeriCorps position with ACD. Tanner Daquilante, a current student of Paul Smith's College, served a 300 hour summer AmeriCorps term. Both Rachell and Tanner assisted staff with daily activities as well as promoting the MED, technical programs, and maintaining the GeoTrail.

**MED:**

The Mobile Environmental Display (MED) was showcased at thirteen events through Pennsylvania in 2022. Laura Sue and Don Stewart, MED Coordinators, worked diligently to accommodate the needs of schools, festivals, fairs, and libraries to ensure the MED was utilized in 2022. The total number of people that went through the MED in 2022 approached 4,000 attendees.

**ARMSDALE:**

The ACD Board of Directors made a decision in 2017 to find a site to construct the future home of ACD. In 2020, ACD received the Armsdale Property from Armstrong County and demolished the former Armsdale Administration Building. Throughout 2021 several steps towards this goal were accomplished including: appropriate permits were obtained, the sanitary sewer line servicing the property was replaced, initial designs for the building and property were completed, and a PennVest grant was applied for and obtained for green infrastructure practices at the property. In 2022 the building design was finalized and work was begun on the PennVest green infrastructure practices. A very important announcement was made in 2022 that ACD received a Redevelopment Assistance Capital Program (RACP) Grant. This grant provided substantial funding for

the project and allowed ACD to solicit bids for the project. ACD is looking forward to finalizing the agreements for the RACP Grant and breaking ground for the new Armsdale Center for Agriculture and Conservation in 2023. Former District Manager, Dave Rupert, has been retained by ACD to continue working on the Armsdale project. Now that funding has been secured for the project, Dave's role will shift from fundraising to construction management.



Rendering of the new Armsdale Center for Agriculture and Conservation

Jerry Longwell served on the ACD Board for 57 years, beginning in 1965 as an Associate Director. Throughout those 57 years Jerry was a source of leadership and guidance for the organization. Unfortunately, Jerry passed away in 2022. Although ACD will not be the same without Jerry, we will continue to flourish into the future because of the strong foundation he helped to establish.



ACD is very optimistic looking into 2023. In early 2023, ACD was awarded two Growing Greener Grants for streambank stabilization projects and entered into a new program, the Agricultural and Conservation Assistance Program (ACAP). ACAP is intended to provide additional financial assistance to farmers to implement best management practices. We look forward to updating you on our 2023 projects!

Resource Conservationist – Erosion and Sedimentation

Kodie Rearick – [klrearick@co.armstrong.pa.us](mailto:klrearick@co.armstrong.pa.us)

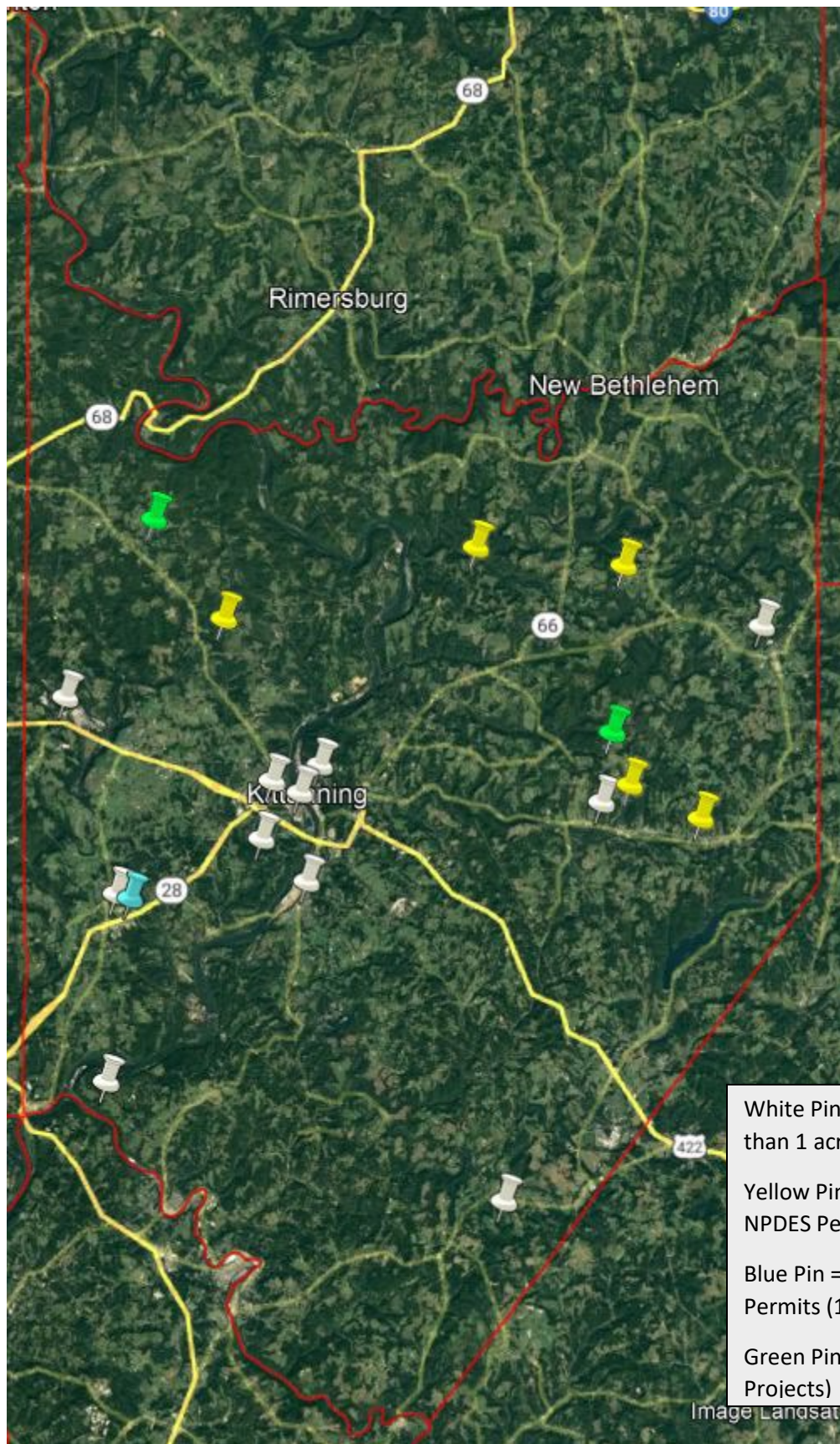
Phone: (724) 548-3737

The Armstrong Conservation District has Level III delegation from the PA Department of Environmental Protection (DEP) to administer the erosion and sediment pollution control program. PA Code, Title 25, Chapter 102 of the Pennsylvania Clean Streams Law requires that steps be taken to control erosion during regulated earth disturbance activities. Under this delegation agreement, the Armstrong Conservation District administers the National Pollutant Discharge Elimination System (NPDES) Program, reviews E&SPC plans for adequacy to prevent accelerated erosion, provides technical assistance, conducts site inspections, reviews plans, and holds education workshops for plan preparers and the regulated community.

The accomplishments over the past year include:

1. E&SPC plan reviews were conducted on 19 plans.
2. E&S plan reviews were conducted on 1,166 total acres and 58 disturbed acres.
3. NPDES permits were received, processed, and reviewed for 5 General permits and 1 Individual permit.
4. Two ESCGP permits were received, processed, and reviewed for line replacements.
5. Received and investigated 12 complaints pertaining to erosion and sedimentation.
6. Technical assistance was provided to 55 people during the year.
7. To ensure that E&SPC plans were properly implemented and maintained, 33 site inspections were conducted.
8. Notice of Termination requests for 3 sites were approved.
9. Four news releases were provided to the public. These news releases took the form of social media posts via Facebook and Instagram in addition to Newspaper articles published by the Leader Times.
10. In 2022, review fees received totaled \$13,000; NPDES permit fees totaled \$5,000; and DEP disturbed acre fees totaled \$5,500.





### DEP/Program Updates:

In early 2022 the PAG-01 General NPDES permit was released for small projects under 5 acres. While we haven't received any PAG-01 permits yet we did get in our first Individual ePermit in 2022. Also, DEP is currently in the process of updating the manuals for the E&S program, as the Stormwater BMP Manual is from 2006 and the E&S Manual is from 2012.

### Training Events:

In 2022 more in-person training events were offered again. Staff was able to attend 102/105 Basic Training in Harrisburg and the NW E&S Roundtable in Ridgeway. Staff also attended 12 virtual trainings including Clean Water Academy trainings and trainings hosted by DEP such as the virtual E&S Technical Training. In addition to my normal E&S duties this year I have continued my cross-training in Nutrient Management. This has involved working on writing one nutrient management plan and reviewing two plans.

### Outreach Efforts:

On April 13<sup>th</sup>, 2022 ACD hosted a Municipal Green Parking Lot & Stormwater Workshop for municipal staff in the morning followed up by a Rain Barrel Workshop in the evening for county residents. At the Municipal Workshop stormwater management practices and MS4 were covered. Both workshops had 20 to 30 people in attendance and each municipality that attended received a rain barrel and rain gauge.



Danielle Rhae, Penn State Extension, presents during the residential rain barrel workshop.

#### Butler County Community College:

Butler County Community College applied for and obtained a General NPDES Stormwater Construction Activities Permit for construction at the site of the former Ford City High School. Construction started in early 2022 and the new BC<sup>3</sup> building is expected to be finished in early 2023 with the first classes scheduled to be moved there in the spring of 2023.

#### McKean Street Housing:

At the site of the former Kittanning Middle School a General NPDES Stormwater Construction Activities Permit has been obtained, and construction has finished on a new multi-unit senior housing facility and parking lot. The building contains approximately 30 1 to 2 bedroom units, at an affordable price.

#### RIDC Armstrong Innovation Park:

RIDC is in the process of obtaining an Individual NPDES Stormwater Construction Activities Permit for two lots at the new RIDC Armstrong Innovation Park (formally Northpointe Industrial Park). Construction will consist of two new 30,000 SF office/light industrial buildings.

#### Future Plans for 2022:

ACD plans to continue working with the Armstrong County Planning Commission and municipalities to develop a county-wide Act 167 plan. In addition, we will continue to work with municipalities to enter into new Memorandum of Understanding (MOU). MOUs aid ACD in helping the municipality promote the conservation of natural resources. We are also looking to partner with other conservation districts to host another contractors workshop.



## Resource Conservationist - Watersheds

Maria Sorce

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ACD addresses water quality issues through our Watershed Conservation and Restoration Program. ACD receives Growing Greener funds from the DEP for a Watershed Specialist to focus on water quality improvement. The Watershed Specialist/Resource Conservationist provides landowners and watershed associations with technical support. We also work with municipalities, sportsman's clubs, Trout Unlimited, and any other groups that carry out water quality projects throughout the county.

### **Watershed Projects:**

I apply for grant funding and work with community partners to complete watershed restoration projects in the county. In 2022, ACD was able to substantially complete construction on 2 watershed projects:

- **Huling Run Phase II**

The original Huling Run Phase I project completed in 2018, collected a deep mine discharge to an unnamed tributary to Huling Run and constructed a limestone vertical flow pond to treat the discharge. Due to limited funding, there were seeps in the area that still remained. We received additional grants for Phase II, which allowed for the installation of a large collection drain to pick up the remaining seeps, the reclamation of a 750ft long highwall, and the reclamation of a 40,000 cubic yard spoil pile. We also retrofitted the existing treatment pond with new pipes and limestone material. Construction was completed at the end of the 2022. Reseeding of the area and water quality monitoring will take place during 2023.



*Before reclamation showing the spoil pile on the left and highwall on the right*



*Post reclamation showing the area returned to approximate original contour*

- **Rearick Multifunctional Riparian Buffer**

With the help of volunteers, including the landowners, PA Master Naturalists, and Penn State Master Watershed Stewards, ACD planted over 472 trees and shrubs on 2.4 acres along an unnamed tributary to Crooked Creek. The multifunctional buffer will improve wildlife habitat,



filter runoff in Burrell TWP, and provide the landowners with berries and nuts.



*Before Planting*



*After Planting*

We are currently working on the following project:

- Backyard Demonstration Bioswale

A landowner in South Buffalo TWP came to us asking for help with a wet area in her yard. The wet area is in a depression and already acts as a swale, directing extra stormwater runoff through the yard and down into a small spring-fed stream. Many landowners come to us with similar situations and are usually upset that mowing their grass is difficult in wet areas. We secured a PACD NPS Pollution Mini Grant to create a demonstration bioswale and hold an educational workshop. We constructed a modified bioswale in the yard with rain garden seed mix and added some trees in the fall. The workshop will be held the following spring to show landowners what they can do for similar situations in their own yards.



*Looking down at the newly constructed bioswale before vegetation growth*



*Trees and shrubs planted beside the bioswale*

### Other Projects:

We started partnering with Keystone 10 Million Trees, a collaborative partnership with the goal of planting 10 million trees in Pennsylvania by the end of 2025. I work with the group to get trees to qualifying landowners in the county and map them on the website. Trees distributed or planted in Armstrong County by ACD and partners from K10 in 2022 included:

- 150 to landowner in N. Buffalo TWP
- 25 to landowner in S. Buffalo TWP
- 100 at Lenape Tech
- 143 shrubs at the Worthington West-Franklin Fire Hall



*Shrubs at Worthington West-Franklin Fire Hall*



*Trees and shrubs at Lenape Tech*

### Education and Outreach:

ACD continued our robust education and outreach to schools, local organizations, and any other group that contacts us about an educational event.

I presented on various watershed topics for the following organizations/events:

- Penn State Master Watershed Stewards
- PA Master Naturalists
- MWEE Training for teachers
- Armstrong County Libraries Summer Reading Beach Party
- Accompanied the MED to 4 events
- Held 2 stormwater and rain barrel workshops
  - 1 for landowners and 1 for municipalities
  - Gave out rain barrels and rain gauges

We are partnering with the ODC to help with their Youth Water Quality Education & Engagement Project. This will continue into 2023. I gave a presentation on watersheds and different projects that the students can help ACD complete.



Myrtle the Conservation Turtle also had an active year. She attended the following events, providing education on our native box turtles and healthy watersheds:

- Armstrong County Libraries Summer Reading Beach Party
- Kittanning Library
- Penn State Mad Scientist Camp
- Crooked Creek Watershed Association Fish Fry
- Youth Water Quality Education & Engagement Project Kick-off Event

We created another ACD Myrtle Calendar this year. Our 2022 ACD Myrtle Calendar showcases projects and other activities that we have completed in the county over the last year with Myrtle explaining the project.



*Example from the 2023 calendar*

#### **Technical Assistance:**

Technical assistance is a major part of all of our programs. This year, I continued attending meetings, writing grants, and providing general assistance for the following watershed and conservation organizations: Armstrong County Sportsmen and Conservation League, Arrowhead Chapter of Trout Unlimited, Cowanshannock Creek Watershed Association, Crooked Creek Watershed Association, Kiskiminetas Watershed Association, and the Roaring Run Watershed Association. I provided technical assistance to landowners regarding flooding, stream and pond health and erosion, and stormwater problems. Several other landowners are working with me with potential projects.

#### **Other:**

- Collected 5 water samples for agricultural BMP Projects
- Installed and downloaded data from 4 Dataloggers with the help of Armstrong PA Master Naturalists
- Wrote articles for both Kiski and Roaring Run Watershed Association newsletters
- Attended meetings for the Armstrong Conservancy, Armstrong Trail, Penn's Corner RC&D, and WPCAMR
- Continued assisting with the DGLVR program

**Plans for 2023 and Beyond:**

We will continue providing assistance to local conservation and watershed organizations, working with schools and local communities to provide environmental education, and holding workshops to educate homeowners and municipal workers. Several new education and outreach ideas and events are in the works for 2023. We will continue to aid the ODC with their Youth Water Quality Education & Engagement Project and help the students complete watershed projects in the county.

I received two Growing Greener grants for streambank stabilization and fish habitat projects on Buffalo Creek and Glade Run in South Buffalo and East Franklin Twps. These projects will take place over the next couple of years. Our partner organizations also have several projects lined up that we will assist with. Finally, we will be planting a multifunctional riparian buffer at Armsdale in the fall.



## **Conservation Educator**

**Brooke Emmonds – [bmemmonds@co.armstrong.pa.us](mailto:bmemmonds@co.armstrong.pa.us) Phone: 724.548.3425**

In 2022 the ACD Board of Directors made the decision to hire a full time education and outreach staff member to promote ACD's mission. The goal of this position is to promote the organization and its work in natural resource conservation through educational programming, events, and social media outreach.

Brooke Emmonds started her role as Conservation Educator May 31, 2022. Her role is to promote the stewardship of natural resources and assist the District Manager with office coordination (purchases, staff time, financial record keeping and grant preparation). Brooke

In 2022, her organization of district outreach events included the Annual Awards Banquet and the Elected Officials Tour in the Fall. The Annual Awards Banquet is an event to highlight outstanding conservationists in several categories. The Elected Officials Tour in the Fall includes a tour of ACD's projects completed in the last year to highlight our work in conserving natural resources with our partners.



Brooke assisted with the coordination of the Mobile Environmental Display (MED) – a traveling exhibit, modeled after Carnegie Science Center’s popular H2Oh! Why Our Rivers Matter exhibit, consisting of a trailer and a compressed natural gas (CNG) vehicle.



She increased local awareness online through promotion of district programs/events and conservation education on social media and email, resulting in an increase in reach and public engagement.

Her plans for Spring of 2023, involve hosting the District’s 50<sup>th</sup> Annual Tree Sale, the Envirothon in partnership with High Schools in Armstrong County and Outdoor Discovery Center at Crooked Creek, hosting and guest-presenting at educational youth classes and outdoor programs and organizing conservation workshops.

## **Resource Conservationist – Agricultural Conservation / Nutrient Management**

**Jessica Schaub** - [jschaub@co.armstrong.pa.us](mailto:jschaub@co.armstrong.pa.us)

**Phone: 724.545.3628**

I coordinate the Armstrong County Agricultural Land Preservation Program, review Nutrient Management Plans, and perform fieldwork as an Agricultural Conservation Technician. I also coordinate the Armstrong County Envirothon, Annual Tree & Seedling Sale, and the Annual Fall Conservation Tour. You can contact me by phone at 724-545-3628 or email me at [jschaub@co.armstrong.pa.us](mailto:jschaub@co.armstrong.pa.us)

### **Nutrient Management**

Armstrong County has 5 agricultural operations that have current Act 38 approved Nutrient Management Plans for a total of 3,587 managed acres.

A farm is required to get an Act 38 Nutrient Management Plan if they are a Concentrated Animal Operation (CAOs). CAOs are defined as operations where the animal density exceeds two animal units per acre on an annualized basis (AEU). An AU is defined as 1,000 pounds of animal live weight. However, farms with less than 8AEUs are not required under this law to have an approved Act 38 Nutrient Management Plan regardless of the animal density on the farm.

### **Manure Management**

Every farm in Pennsylvania that land applies manure, whether they generate the manure or import it from another operation, is required to have a written Manure Management Plan. For farms not defined as Concentrated Animal Feeding Operations (CAFOs) or Concentrated Animal Operations (CAOs), Manure Management Plans can be prepared by the farmer. Manure Management Plans do not have to be submitted for approval but must be kept on the farm and made available upon request to DEP or the local county conservation District.

Pennsylvania Chapter 91.36 addresses pollution control and prevention at agricultural operations. Chapter 91.36 refers to the DEP Manure Management Manual (MMM) as containing standards for development of a Manure Management Plan. The MMM is available to assist farmers to develop a written Manure Management Plan.

The Armstrong Conservation District will continue to work individually with farmers to create Manure Management Plans and hold workshops in the County as needed.

## **ACT Program**

I work with the NRCS staff at the Conservation District to assist producers and landowners with implementing Best Management Practices on their land. Funds from the PA Growing Greener Program, REAP, and other federal programs have provided cost-share incentives to farmers wishing to install Best Management Practices.

## **REAP Program**

The Armstrong Conservation District helped 4 farmers fill out REAP applications in 2022 for a total of \$84,688.50 in tax credits. The Resource Enhancement and Protection (REAP) Program allows farmers and businesses to earn tax credits in exchange for “Best Management Practices” (BMPs) on agricultural operations that will enhance farm production and protect natural resources.

REAP is a first-come, first-served program – no rankings. The program is administered by the State Conservation Commission (Commission) and the tax credits are awarded by the Pennsylvania Department of Revenue. Eligible applicants receive between 50% and 75% of project cost in the form of State tax credits for up to \$250,000 per operation in a 7-year time-frame. The tax credits can be used incrementally (as needed) for up to 15 years to pay PA state income tax. Farmers and landowners can elect to sell the tax credits after 1 year.

## **The Regional Conservation Partnership Program (RCPP): Buffalo Creek Watershed Conservation Alliance**

The Armstrong Conservation District is proud to partner with Audubon Society of Western Pennsylvania, the Western Pennsylvania Conservancy, the American Chestnut Foundation, and the Butler Conservation District to carry out conservation planning, implement conservation practices, and purchase easements to support the long-term goal of delisting Buffalo Creek, currently designated as an impaired water body. The RCPP program is administered by the USDA's Natural Resources Service (NRCS).

The Armstrong Conservation District is looking to join with agricultural producers and non-industrial forest managers to undertake conservation projects to address natural resource concerns and deliver environmental benefits.

Some of the Benefits Include:

- Reduction of contamination from agricultural sources, such as animal feeding operations.
- Improve cattle and pasture management.
- Enhance wildlife and pollinator habitat.
- Develop and implement forest management plans.
- Provide streambank stabilization and riparian buffer projects.





- Incorporate management practices such as cover crops and no-till farming to support healthy soils and cropland sustainability efforts.



Interested producers and landowners of agricultural land and non-industrial private forestland located in the Buffalo Creek Watershed should visit their local Conservation District or USDA Service Center for information on how to enter into conservation program contracts to receive financial assistance under the RCPP partnership agreement.

### **Armstrong County Agricultural Land Preservation Program**

The Armstrong County Agricultural Land Preservation (ACALP) Board consists of seven board members that reside in Armstrong County; Bill Kronen, John Bennett, Paul Stubrick, Spurgeon Shilling, Terry Bowser, Marlene Kammerdiener, and Troy Goldstrohm.

The purpose of the program is to protect viable agricultural lands by obtaining agricultural conservation easements, which prohibit the development or improvement of the land for any use other than agricultural production. This program provides up to \$2,000/acre compensation to landowners in exchange for them to voluntarily give up the right to develop their private property.

The ACALP Board and the County Commissioners purchased 7 agricultural conservation easements from the following landowners; Suzanne and Edgar Bruce (Burrell Township), Meredith Patterson (Kiskiminetas Township), Scott Morrison (South Buffalo Township), George and Marsha Kepple (Sugarcreek Township), Richard Shirey (Redbank Township), and Clayholm Farms (West Franklin Township) for a total of 688 preserved acres. The ACALP Board is currently working on purchasing an additional agricultural conservation easement from Clayholm Farms located in West Franklin Township.

### **Annual Fruit Tree and Seedling Sale**

As a service to the area landowners, the Armstrong Conservation District conducts an annual fruit tree and seedling sale in April. The fruit trees and seedlings offered each year are dependent on the availability at the nurseries. We sold 443 fruit trees and 6,375 seedlings in 2022.

## **Armstrong County Envirothon**

The 17th Armstrong County Envirothon was held at the Outdoor Discovery Center on April 27, 2022. Ten teams of high school students from Armstrong High School, Apollo-Ridge High School, Leechburg High School, Lenape Tech School, and West Shamokin Jr. Sr. High School competed against each other in the event.

The Envirothon is designed to give students an opportunity to acquire and demonstrate their knowledge of environmental resources and their connection to each other and human activities. The students are challenged in the areas of aquatic ecology, forestry, soil / land use, wildlife, and a current environmental issue. The 2022 current environmental issue was “Waste to Resource.”

Technical expertise was provided by the following individuals: Mandy Smith (PA Fish & Boat Commission) at the Aquatics station; Christopher Bence and Denton Schellhammer (PA Game Commission) at the Wildlife station; Laurel Hoffman (Kittanning NRCS) at the Soils and Land Use station, Dr. Holly Travis (IUP) at the Current Issue station; and Holly May and Jessica Pierce (DCNR) at the Forestry station.

Financial sponsors of the 2022 Envirothon are the Arrowhead Chapter of Trout Unlimited, Young & Associates, Jescar, LLC, Elderton State Bank, Armstrong Sportsman League, Crooked Creek Watershed, Bankson Engineers Inc., Kiskiminetas Watershed Association, J. H. Hickman Surveying, Redmill Drilling, BLX, Inc., MECALL Services, and Apex Energy, LLC. Ford City Subway donated lunches to the students and volunteers.

The Lenape Tech School winning team represented the Armstrong County at the Pennsylvania State Envirothon at Camp Mt. Luther on May 25, 2022.

## **Dirt, Gravel & Low Volume Roads Specialist**

**Gregg Smith** - [agsmith@co.armstrong.pa.us](mailto:agsmith@co.armstrong.pa.us)

**Phone: 724.545.3610**

The Dirt, Gravel & Low Volume Roads Program (DGLVR) is a statewide program passed into law in 1997, as Section 9106 of the PA Vehicle Code. The program is to reduce sediment and dust pollution by utilizing Environmentally Sound Maintenance (ESM) practices generated by unpaved roads. A local Quality Assurance Board (QAB) consisting of members from the PA Fish & Boat Commission, USDA Department of Conservation and Natural Resources (NRCS) and the District review and score project proposals received from the road owning entities and recommend which projects the District should fund. The District makes grants to the municipalities to perform ESM work on their roads. In 2015, the Program was expanded to allow paved or tar and chipped roads that have an average daily traffic count of less than 500 vehicles become eligible for funding as well. The DGLVR Program funded 26 projects throughout Armstrong County during the 2022 construction season.

The Dirt Gravel & Low Volume Roads Specialist is responsible for administering the Dirt, Gravel & Low Volume Roads (DGLVR) Program within the County. I have a degree in Civil Engineering Technologies and certified as a DGLVR Specialist through multiple trainings and workshops. I work with applicants to develop plans for projects and assist with the logistics of project work whenever possible. I am responsible for keeping all records of projects and maintaining an inventory of all completed and current work sites using a GIS system. As part of my outreach efforts, I provide municipality's technical assistance with their day to day road maintenance issues. This service lets me include environmentally sensitive road maintenance techniques in these solutions as well. Multiple project inspections take place to design a project prior to work beginning, then during the construction process, and after site work is complete to evaluate functionality.

### **DGLVR Lend/Loan Program**

A portion of the annual DGLVR Program funding allows the District to provide training & education to road owning entities. These funds also allow the District to purchase equipment for the municipalities to borrow and perform environmentally sensitive road maintenance techniques. Currently the District provides a Plate Tamper and a Jumping Jack Tamper for the ESM certified road owning entities. The workers use the machines to provide proper compaction when installing their drainage pipes.



Common municipal ditch cleaning procedures are to use a grader which cuts the earth and pulls it onto the roadway to be picked up and hauled away to be dumped at another location. This practice allows for increased erosion and soil deposits into the streams. Workers may also inadvertently increase the spread of invasive species when dumping the material at another location. The District's Buffalo Turbine Leaf and Debris Blower is used to clean the road ditches without disturbing the earth or vegetation in the ditch by directing strong air currents to push the debris away from the drainage system.



Pictured below is a seeding & mulching machine to stabilize the disturbed earth areas the municipalities create when working on their projects. The even distribution of the seeder/mulcher provides a more efficient and economical way to stabilize the disturbed areas and allowing for maximum germination and vegetative growth rates. This machine can be converted to a leaf vacuum during the fall to remove dry leaves from the drainage ditch system.



These machines provide a hands on education, allowing the operators the ability to see and experience these environmentally sensitive maintenance practices.



The DGLVR Program focuses much of its efforts toward installing proper drainage with its funding of road projects. Getting water away from our roads is one of the biggest factors in maintaining a better road. The program uses the installation of Underdrains, French Mattresses, Multiple Cross Pipes, Turn Outs, Grade Breaks, Road Crown and Road Fill to achieve this. Pictured below, Valley Township workers install underdrainage along Rosenberger Road.



**The first step in creating a solid road is to address the the ground water in the sub-base. Installing under drains to remove sub-surface water is key to accomplish this.**

**Sub-surface water is the main cause for pot holes, alligator cracking, dips and waves in the road surface.**



After years of vehicle travel and municipalities using road graders to maintain their dirt roads, the roadways can become entrenched. Entrenched roads do not allow drainage to escape which causes road and ditch erosion to occur. By filling the roadway up to the surrounding profile, water can sheet flow off the road, this reduces erosion damage and keeps sediment from entering our streams. Municipalities use aggregate from local quarries to fill in these embedded roadways providing a cost effective method to add 75 to 100 years to the life of the road and provide economic benefits to the regional economy. The road profile can also be raised in low lying areas which allows for the use of French Mattresses which prevents flooding of the roadway and provides safer travel during flooding events. French Mattresses allow flood water to flow back and forth under the roadway. The larger size stone used to build the structure provides open space so the water doesn't become trapped and cause issues to the driving surface such as potholes and cracking. The installation of Multiple Cross Pipes especially on steep hills allows us to divide and conquer the road drainage before erosion can occur.





**A Before & After Picture of a Road Fill Project on Mac Road in Wayne Township adding years of wear to the road**



**An example of the Sub-Surface water found under a road in Washington Twp. while installing Underdrains**



**A French Mattress installed while building up the road profile in flood prone area of Rayburn Twp.**



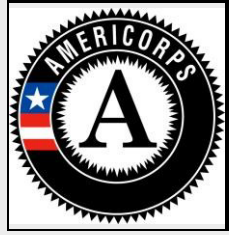
**The installation of Multiple Cross Pipes on a steep hill to not allow water to build velocity and cause erosion in Parks Twp.**



## **AMERICORPS SERVICE MEMBER**

Rachell Rottman – [americorps@co.armstrong.pa.us](mailto:americorps@co.armstrong.pa.us)

[Phone: 724-548-3470](tel:724-548-3470)



My name is Rachell Rottman, and I am currently serving my first 1700-hour term as a Pennsylvania Mountain Service Corps Member (a local initiative of AmeriCorps) at Armstrong Conservation District from September 2022 to August 2023. AmeriCorps is a program through the Corporation for National and Community Service that engages thousands of Americans of all ages and backgrounds, in a domestic Peace Corps. The members serve their communities in the areas of education, environment, public safety, and human needs, and receive a living stipend, educational scholarship rewards, and a wealth of experience. Located in Southwest and Southcentral Pennsylvania, PMSC provides service opportunities through nonprofit and government organizations across a 16,000 square mile region.

As an AmeriCorps Service Member I have assisted with many of Armstrong Conservation District's programs and associated programs. These include the Agriculture Program; Erosion & Sedimentation Program; Watershed Program; Mobile Environmental Display; Dirt, Gravel & Low Volume Road Program, ACD W.A.T.E.R. GeoTrail, Education Program, and other associated groups.

### **Agriculture Program:**

Since starting with ACD, I have assisted Jessica Schaub with multiple aspects of the agriculture program. This has allowed me learn a lot about agriculture conservation. I have helped Jessica with surveying for the implementation agricultural best management practices, measuring and marking for fencing around waterways, and discussing options with farmers. Beyond assisting Jessica, I have observed Inventories & Evaluations with Dennis DiOrio and other NRCS staff members. In addition, I completed the Agriculture Conservation Level 1 – New Staff Training (2022) on PA's Clean Water Academy website.

### **Erosion & Sedimentation Program:**

This year, I have assisted Kodie Rearick with various aspects of the program including construction inspections, complaints, and preconstruction meetings. Through these experiences, I have learned about many of the erosion control BMPs implemented on active construction sites. We learned about mining activity on-site with Mark Evans. I also completed Chapter 102 Level 1 – New Staff Training (2022) on PA's Clean Water Academy Website.

### **Watershed Program:**

This year, I have assisted Maria Sorce with various watershed-related activities. This has included technical assistance for landowners with streambank stabilization issues and riparian buffer implementation. We have sampled Huling Run for the DEP and monitored construction there. We collected water samples for pre- and post-construction checks at farms, as well, to help with Jessica's Growing Greener Grants. We also, with the help of two PA Master Naturalist volunteers, planted trees at the Worthington Fire Hall. We have also been working closely with Rachel from the Outdoor Discovery Center to do a storm drain stenciling project with her Youth Water Quality Education program. With Maria, I have met with various other organizations, including Western Pennsylvania Coalition for Abandoned Mine Reclamation (WPCAMR), Tree Pittsburgh, DEP, and BAMR.

### **Mobile Environmental Display (MED):**

During summer 2022, I worked with Laura Sue and Don Stewart with the MED. I attended a community event where I was able to assist in education both children and adults. I also assisted with the MED at a school and educated children about watershed conservation and water quality and characteristics. During 2023, Laura Sue and I plan to create a survey to assess students' thoughts about the MED.

### **Dirt, Gravel & Low Volume Road Program:**

While serving at ACD, I have worked with Gregg Smith and helped operate and deliver the leaf blower. We also delivered checks and contracts for the upcoming year. I have watched many hours of DGLVR webinars hosted by the Penn State Center for Dirt and Gravel Road Studies.

### **ACD W.A.T.E.R. GeoTrail:**



In 2016, AmeriCorps members were awarded a grant to fund a series of Geocaches to be placed throughout the county at locations where the ACD has completed conservation projects. At each geocache, there is a project description and a little bit about the ACD program that completed it. Since 2016, the GeoTrail has grown to 24 individual sites all over the county with plans to add more in the future. Since my term started, I have continued to maintain all the caches via the website and replaced one.

### **Education/Outreach:**

I have been working closely with Brooke Emmonds during this year. I assisted her and Jessica with the Fall Tour and have also been helping with the tree sale. I also assisted with preparation for the Annual ACD Christmas Dinner. Brooke and I attended an Envirothon Coordinators meeting and have regularly been collaborating and discussing potential upcoming projects. During the upcoming year, Brooke and I plan to work with Cheyenne from Experience Armstrong to create an Agritourism Project to highlight some of the local farmers and what they have to offer.

### **Other Associated Groups:**

In the early fall 2022, I assisted the Crooked Creek Watershed Association with maintaining blazes and cleaning the Baker Trail. I also attended an electrofishing event at Roaring Run with Dr. Brady Porter from Duquesne University and the Roaring Run Watershed Association. I observed a mussel survey by the Western Pennsylvania Conservancy in Roaring Run as well. I also assisted with and attended the celebration at the Kiski Station.