Changing Landscapes

2023 Annual Report



On The Cover - Westmoreland Conservation District Staff



- 1. Christina Edwards-McCune West Nile Virus Program Technician/ Conservation Technician
- 2. Mark Jackson Visual Communications Specialist
- **3.** Allie Shreffler *Agricultural Conservation Technician*
- 4. Christie Sebek Technical Programs Administrator
- 5. Chelsea Walker Watershed Program Manager
- 6. Tammy Woodward Technical Programs Secretary

- 7. Kelly Brestensky Water Resource Specialist
- **8.** James W. Pillsbury, MS, PE *Hydraulic Engineer*
- **9.** Kylie Schultz Watershed Specialist
- **10.** Robert D. Cronauer District Manager/CEO
- **11.** Chelsea Gross Non-Point Source Manager
- **12.** Hank Bradish Stormwater Program Technician

- **13.** Laura Guskiewicz Accounting and Human Resources Administrator
- **14.** Brandon Basinger Erosion Control Specialist
- **15.** Janette Novak-Mitchell *Education Program Coordinator*
- **16.** Ryan Peckheiser Erosion Control Specialist
- **17.** Tammy Marsh *Administrative Assistant*

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Westmoreland Conservation District 2023 Annual Report Team

District Staff members - Rob Cronauer, Christina Edwards-McCune, Mark Jackson and Consultant Andrea Halfhill. Sincere thanks to the entire District Staff for their contributions to this year's report.

"People are our most important resource."

- J. Roy Houston Westmoreland Conservation District 1969-2010 Board Chairman



Rob Cronauer District Manager/CEO



Ron Rohall Board Chariman

The theme this year for the Westmoreland Conservation District is *Changing Landscapes*. While this is something we have been doing for 74 years, never before has it been more evident as we reflect back on the changes we have experienced this past year. That is why we chose these images for the cover (back/front) of this annual report. These pictures illustrate the constant changes we implement as we strive to improve our promotion of conservation.

Both our office building and the staff within it have gone through significant changes. The picture of the two-tone barn depicts the need for change. As a result of its 23 years of service, the barn needed a makeover which included installing new siding and adding a fresh coat of paint. The image of our staff and their attire depicts a group of individuals who are ready to serve in whatever capacity is needed to continue on with our mission.

Many familiar faces retired from service. The retirements of former District Manager Greg Phillips and Assistant Manager Tony Quadro brought about the most significant of staff turnover. Greg and Tony both had decades of experience with the District and their absence has left a void of institutional knowledge which goes well beyond Westmoreland County. They were instrumental in the procurement of many state-wide programs, and they also provided input on multiple national conservation initiatives.

Despite the staffing changes, the Westmoreland Conservation District is well poised to tackle future conservation challenges. We have added many new faces to our staff who will complement the remaining staff that have significant tenure. As we look toward celebrating our 75th anniversary, I am excited to mentor the new staff and educate them about the previous years that have made us so successful at tackling our conservation issues.

We continue to change landscapes by implementing conservation practices through our core programs such as Growing Greener and the Dirt, Gravel and Low Volume Road Program. This year we adopted the Agriculture Conservation Assistance Program (ACAP). This new state-wide program will have a tremendous impact on changing the landscape of Westmoreland County farms. This program is one of the largest investments to improve water quality on agriculture operations and we are excited to add this to our portfolio of programs we offer to our partners.

It certainly is an exciting time! While we are always forward-facing, it is still beneficial to reflect on the past. What quickly becomes evident to me is how far we have come. This does not happen without purposeful planning and the help of our many partners. We can't thank all of you enough for your past support and for your continued support in the future.

On behalf of all of us at the Westmoreland Conservation District, THANK YOU!

Robert D. Cronauer District Manager/CEO

Ronald & Rohall Ronald J. Rohall

Board Chairman

The following pages of our Annual Report provide updates on our programs and accomplishments for 2023.

Erosion and Sediment Control overview

By Ryan Peckheiser, *Erosion Control Specialist* and Chelsea Gross, *Non-Point Source Manager*

estmoreland Conservation District's (WCD) Erosion and Sediment (E&S) Control Program focuses on preventing accelerated erosion and sedimentation from earth disturbance activities. Erosion and sediment control plans for earth disturbance activities (5,000 square feet (s.f.) or greater) are reviewed at our office for adequacy to prevent sediment laden water from discharging to our waterways. Our E&S staff also reviews National Pollution Discharge Elimination System (NPDES) permits for discharges of stormwater associated with construction activities (disturbances equal to or greater than 1 acre). During construction, our staff inspects earth disturbance activities for compliance with their approved permits, erosion and sediment control plans, and post-construction stormwater management (PCSM) plans. Additionally, the E&S staff investigates complaints pertaining to earth moving activities.

Solar Farm

Our office reviewed and approved a NPDES permit for the installation of what will be the largest solar panel farm to date in Westmoreland County. A 13 megawatt ground-mounted principle solar energy system is being installed on 230 acres in Cook Township, with a total earth disturbance of 102 acres. Earthwork on the project commenced

Solar Farm in Cook Township

in the fall of 2023. The project engineer requested the use of Siltron Fence for perimeter E&S control. This project will be one of the first large projects in the county to utilize this E&S control. Multi-layer geotextile filter fence, such as Siltron Fence, is a Department of Environmental Protection (DEP) approved alternative best management practice (BMP) for compost filter socks. The Siltron Fence provides a higher level of sediment control than a standard filter fence, and is an acceptable BMP for use in High Quality or Exceptional Value watersheds. Additionally, two sediment basins are proposed for E&S control during construction, which will then be converted for permanent stormwater control. Our Erosion Control Specialists inspected the project to ensure proper installation of the approved E&S BMPs and will continue inspecting the project throughout the next year.



This forest of steel posts will soon be supporting the panels for the largest solar panel farm to date in Westmoreland County.



The steel post installation equipment drives posts into the ground at the new solar farm site. The view of the ridge and countryside from here is remarkable. Due to the slope of the hillside, extra caution is needed to help control soil erosion caused by earthmoving during construction.



A view of the 230-acre future solar farm from the bottom of the hill.

Inspecting a skimmer installed in a sediment basin at the bottom of the solar farm hill.

2023 Erosion and Sedimentation Control Inspections

by Municipality

Total 180
Municipalities with three plans reviewed or fewer14
Washington Township4
Sewickley Township4
Mount Pleasant Township4
Cook Township5
Salem Township 6
Rostraver Township 8
South Huntingdon Township9
Penn Township9
Ligonier Township9
New Stanton Borough 10
East Huntingdon Township 10
Derry Township10
North Huntingdon Township 12
Municipality of Murrysville 12
Unity Township15
Allegheny Township19
Hempfield Township20

Commercial Developments

A 1,000,000 s.f. building in New Stanton was announced to be the location of a new Amazon warehouse. Earthwork continued into 2023 on the 176-acre project, and our Erosion Control Specialists completed inspections of the site on a monthly basis. The site utilized multiple sediment basins in combination with compost filter sock to control the large earth disturbance. The building construction wrapped up in 2023. Current work includes converting sediment basins into their permanent stormwater basins and achieving vegetative stabilization across the site to prepare for termination of the NPDES permit.

The construction of a 300,000 s.f. beer and beverage distributor warehouse located off of Route 66 in

Salem Township has been completed. Due to the size of the earth disturbance and because it is located in a special protection (High Quality) watershed, the project required an individual NPDES permit. Final work on the site includes stabilizing the remaining areas of earth disturbance. Three infiltration basins were installed as part of PCSM controls. It is expected that the project will be completed and the permit coverage will be terminated in 2024.

Highway Construction

This was the fourth year of construction for the Interstate 70 improvements. This year's work focused on the interstate's intersection with State Route 51 in Rostraver Township. Our office continued inspecting the project for compliance with their approved E&S plan.



New Beer and Beverage Distributor Warehouse Stormwater Control

Earthmoving at the Spyglass Trails Development



Erosion Control Specialist Ryan Peckheiser inspects the Spyglass Trails residential development site.

Residential Developments

The Spyglass Trails residential development began earthwork on approximately 92 acres in Hempfield Township, at the former location of Cherry Creek Golf Course. Our office reviewed and approved a NPDES permit and Water Obstructions and Encroachment General Permit for the construction of the proposed 154 lots. WCD Erosion Control Specialist Ryan Peckheiser attended a pre-construction meeting in May to discuss NPDES permit conditions, the approved E&S Control Plan, and PCSM Plan. As earthwork commenced, Ryan began inspecting the site for compliance with their approved permits/plans, and will continue inspecting the site into 2024.

Construction on the first phase of the Grand View Senior Residences project was well underway in 2023. The proposed project consists of a multi-story building with 50 senior living units and is located on the municipal line of Irwin Borough and North Huntington Township, behind the Norwin Public Library. The bulk of the earthwork has been completed, with the vast majority of the site stapled with erosion control straw blanket. Multiple sediment traps, to be converted to rain gardens at the completion of the project, are installed to capture and filter loose sediment not handled by the straw blanket.

Presentations and Training

Erosion Control Specialists Ryan Peckheiser and Brandon Basinger presented at our Municipal Roundtable and Engineers' Workshop. They covered the common problems and the "dos and don'ts" of utilizing BMPs. They stay up to date on various Chapter 102 topics through attending various online and in-person trainings through DEP.



Agriculture overview

By Chelsea Gross, *Non-Point Source Manager* and Allie Shreffler, *Agricultural Conservation Technician*

The Agricultural Program assists farmers and landowners with developing and implementing agricultural plans to prevent the discharge of sediment and nutrient pollution to waters of the Commonwealth. When not properly controlled, agricultural activities such as plowing and tilling along with the concentration of animals can introduce pollutants to our waterways. These activities can also release excess nutrients from fertilizers and animal manure. The WCD is delegated to inspect agricultural complaints related to Chapter 102 Erosion Control and Chapter 91 Manure Management.

Additionally, WCD's agriculture program administers the new Agriculture Conservation Assistance Program (ACAP), which provides funding for the planning and implementation of agricultural best management practices (BMPs) that can improve water quality.

Nutrient Management Program

Chelsea Gross, our Non-Point Source Manager, completed the requirements to receive her final Nutrient Management Specialist Public Dual Certification. Having a staff member to review nutrient management plans within the county is a requirement of our Nutrient Management/Manure Management Delegation Agreement with the State Conservation Commission and the Department of Environmental Protection (DEP). Our county had four active volunteer animal operation (VAO) nutrient management plans for crop year 2023. Two new VAO nutrient management plans were approved for the start of crop year 2024 (which begins October 1, 2023).

Agricultural Complaints

This year, a total of nine agricultural-related complaints were received and investigated. Agricultural complaints typically involve concerns with an operation's manure management and/or soil erosion and sedimentation. Six of these complaints were resolved by the end of the year, and one complaint was referred to the DEP for additional assistance to reach compliance. Two complaints remain unresolved prior to the end of the year. At these locations, inspections will continue into 2024 to document efforts to achieve compliance.

Agriculture Conservation Assistance Program (ACAP)

ACAP is funded from PA's Clean Streams Fund to reduce non-point source pollution in Commonwealth streams, rivers, and waterbodies. Westmoreland County was allocated \$2,525,648 for the ACAP program to implement BMPs on agricultural operations. BMP's are conservation practices that operators/landowners can use to reduce pollution from sediment and nutrient runoff from agricultural activities. In 2023, all of the Westmoreland County ACAP funding was allocated to 11 projects. There is a reserve of funding for possible project cost overruns that we will use for future projects if it becomes available.

Kitz Farm Agriculture Conservation Improvement Project

The Kitz Farm Project was Westmoreland County's first ACAP project. The total project cost was \$157,600 including the significant match contribution from the farmer. This project consisted of installing streambank fencing along 2,400 feet of stream and planting 385 trees and shrubs to create a riparian forest buffer. A stabilized animal heavy use area (AHUA) was installed to improve an animal concentration area (ACA) that was discharging nutrients and sediment directly to the stream. A stabilized stream crossing was installed for cattle to access additional paddocks and for supplemental water access. Subdivision fencing was installed to create an additional paddock for rotational grazing, which will allow the paddocks more time to recover from the grazing pressure. Within the newly created paddock, a livestock access watering ramp was installed. A spring development with a watering trough provides water located between the stabilized AHUA and the adjacent paddock. A grassed waterway was installed along the edge of the stabilized AHUA to keep clean water directed around it. Subsurface drainage was also installed to help direct surface runoff and underground drainage around the AHUA.

Approximately 2,400 feet of stream was improved with the additions of agriculture BMPs. These were imperative to reduce the accelerated erosion and sedimentation occurring at this farm. Additionally, limiting cattle access to the stream and installing a riparian forest buffer will reduce nutrient loads to



WCD staff designed an ACAP road sign at the Kitz Farm.

Agricultural Conservation Assistance Program (ACAP) on the Kitz Farm



Contractor installing the stabilized AHUA.



WCD staff ensuring the stabilized stream crossing is installed properly.



Cattle enjoying the newly finished stabilized AHUA.



Spring development with a watering trough between the stabilized AHUA and pasture.



Planting a riparian forest buffer.



A stabilized stream crossing installed that allows cattle to cross and access drinking water.

2023 Southwestern PA Soil Health Conference



This panoramic photo shows approximately 100 regional farmers comfortably attending the 2023 Southwest PA Soil Health Conference presentation in the state-of-the-art conference room in the Fred Rogers Center at Saint Vincent College, Latrobe.



WCD Associate Director Tom Sierzega presents retired WCD Nutrient Management Specialist/Agricultural Conservation Technician Dan Griffith with a certificate of appreciation for his 19-year service to the Southwest PA Soil Health Conference.

the stream. This project is located within the Jacobs Creek watershed which is classified as a Cold Water Fishery (CWF) by the DEP. Improvements to the stream were important for maintaining the CWF status and meeting goals within the watershed's implementation and restoration plan. In addition to reducing erosion and sedimentation, this project also improved the health of the cattle by providing more drinking water options, improving pasture quality, and decreasing mud.

SW PA Soil Health Conference

The 2023 Southwest (SW) Pennsylvania (PA) Soil Health Conference took place at the Fred Rogers Center at Saint Vincent College in January. Chelsea Gross, our Non-Point Source Manager, was involved with planning and preparing the annual regional event. Approximately 100 farmers and agricultural agency personnel participated in the one day event. The conference covered topics such as planting green, pesticide/fungicide spraying, rotational grazing, and selling carbon credits. Many of these practices help to enhance the soil health in agricultural lands. Committee members quickly began plans for the 2024 SW PA Soil Health Conference with committee meetings occurring all throughout 2023. The committee consists of representatives not only from WCD, but also Washington, Indiana and Fayette County Conservation Districts, the U.S. Department of Agriculture's Natural Resources Conservation Service, the State Conservation Commission, and Penn State Extension.

Presentations and Training

Chelsea Gross and our Agricultural Conservation Technician Allie Shreffler attended the very first ACAP Administrative Training held by the new Center for Agricultural Conservation Assistance Training and State Conservation Commission (SCC). This training helped to guide staff in developing our county's ACAP policy and accompanying program documents. The SCC has given the county conservation districts the ability to design their ACAP program based on what they believe is best for their specific county priorities. In addition to program training, our agricultural staff meets with our Agricultural Advisory Committee for feedback on program related materials before presenting information to our Board of Directors for consideration.

Chelsea Gross attended the Agricultural Conservation Technical "Boot Camp" Training-Level II Engineering track held at Fort Indiantown Gap in April. This was a five day in-person training and one virtual training day. Topics covered included agricultural waste planning, engineering-hydraulics, soil properties, concrete testing, economic resources, and urban agriculture. The training also included a farm visit to identify resource concerns. Additionally, Chelsea presentated at our Municipal Roundtable covering manure management plans, agricultural E&S plans and an introduction to ACAP.

Allie Shreffler attended the Agricultural Conservation Technical "Boot Camp" Training-Basic Level held at Fort Indiantown Gap in March. This six day training covered topics such as pasture management, plant identification, soil survey basics, biosecurity, cropland conservation, laser level setup, hydrology, and included visiting a farm to observe the day to day farming operations.

Stormwater overview

By Hank Bradish, *Stormwater Program Technician* and Jim Pillsbury, MS, PE, *Hydraulic Engineer*

ur Stormwater Management Program focuses on mitigating the effects of land development on our county's streams and waterbodies. Land development can increase the volume and velocity of stormwater leaving a site, as well as add pollutants to the runoff. Land developers are required to implement practices to control the stormwater runoff from their projects in order to protect adjacent properties and streams. The Westmoreland Conservation District (WCD) provides technical assistance to designers, landowners, municipal officials, and land developers; reviews stormwater management plans to verify compliance with the state's rules and regulations; and follows up with site visits and inspections to ensure that contractors are implementing their stormwater management plans.

The program staff also applies for grant funds through the Department of Environmental Protection's (DEP) Growing Greener Program to complete stormwater projects within the county. These grant-funded projects are previously identified by WCD staff as areas in need of repair to help limit further negative impacts to the environment. Project sites are selected based on environmental needs, as in if the area is prone to flooding, or if the nearby waterway is impaired with pollutants. There is also a desire to eliminate impermeable surfaces such as asphalt and concrete, and replace them with permeable surfaces like lawns and rain gardens, so that water can infiltrate into the ground in more areas. Additionally, private foundations may also provide funding for projects.

Streambank Stabilization and Educational Opportunities at Hempfield Park



Recreational stream access ramp at Hempfield Park.

Hempfield Park Stormwater Retrofits Project

WCD was awarded grant funding from the Katherine Mabis Mckenna Foundation to complete stormwater projects within the county. With this funding, in a coordinated effort between WCD and Hempfield Township, a project was implemented to construct stormwater retrofits at Hempfield Park. WCD participated in meetings with representatives from Hempfield Township to discuss what areas of the park were prone to flooding and how education could be implemented with recreation. WCD developed the design, competitively bid the project, and managed the project through completion.

One of the primary issues at Hempfield Park were the eroding streambanks along the unnamed tributary to Brush Creek. Because of this erosion, sediment and other pollutants, such as nitrogen and phosphorus, would make their way into the stream and cause harm to the aquatic life. To help alleviate this issue, approximately 400 feet of streambank was stabilized. The streambanks were graded, riprap rock was placed to stabilize the streambanks to reduce erosion, and gravel bars within the stream were removed to help reduce sedimentation.

Pavilion A was prone to flooding due to the topography and impervious area surrounding it. In order to help reduce flooding here, two rain gardens were installed to capture stormwater runoff. These oval shaped gardens are roughly 3.5 feet in depth, and have an engineered soil mix in them which is designed to store and infiltrate stormwater. Native plants such as winterberry, beautyberry, and Saint John's wort were planted in the rain gardens to help with infiltration. Concrete outlet structures were also installed in both rain gardens and are designed to drain them during intense rain storms. With the addition of these rain gardens, runoff is now able to be controlled and pollutants are able to be trapped, as opposed to them

2023 Stormwater Control Plans Reviewed

by Municipality

Hempfield Township13
Penn Township12
North Huntingdon Township11
Unity Township11
Municipality of Murrysville6
Salem Township6
East Huntingdon Township5
Rostraver Township5
City of Greensburg4
South Huntingdon Township3
Washington Township3
City of Latrobe2
Derry Township2
New Alexandria Borough 2
Upper Burrell Township2
Municipalities with one plan reviewed11
Total 98

reaching the stream and harming aquatic life.

A 40,000 square foot (s.f.) native pollinator garden was also created near Pavilion E. The ground was tilled twice and wildflower seed mix was spread overtop it. As the pollinator mix begins to grow, butterflies, bees and other pollinators will be able to utilize the habitat for their ecological needs. Additionally, twenty-three trees were planted at the park for not only aesthetic value, but also to help improve infiltration at the site and stabilize the streambanks. Some species planted included Tulip Poplar, Red Maple, White Oak, and River Birch.

Lastly, a concrete ramp was installed by the playground as a way to combine recreation with education. Now, children will be able to access the stream safely and play in it. An educational sign was also designed and will be placed near the concrete ramp. The sign describes what macroinvertebrates look like and will encourage children to look for them in the stream.

The total project cost was \$64,152 including match contributions from Hempfield Township and WCD. We thank Mills Excavating for their assistance on this project.

Ligonier Valley School District Basin Retrofits Project

The purpose of this project was to modify the three existing stormwater detention basins on Ligonier Valley School District property in order to improve their efficiency. This project was funded through the Richard King Mellon Foundation.

The goal of a functioning detention basin is to hold back the water and detain it temporarily to prevent downstream flooding and erosion. However, at these three existing basins, the components of the basins had failed over time, and a large amount of stormwater runoff was not being detained. Prior to construction of the project, runoff would flow into the two smaller basins and leave immediately, running directly into the third, larger basin. In both of the first two basins, WCD installed a new 2-foot by 2-foot outlet structure equipped with a trash rack and a reduced sized orifice hole (where the water enters the outlet structure and then leaves the basin). This reduced hole would equate to less water leaving the basin and allow it to be temporarily stored for a longer period of time.

The third and final basin to be retrofitted involved the most work, which included the removal of the plastic channel that the first two basins directed their water into. This long, plastic channel was dilapidated and not functioning in any capacity. Over time, water had made its way under the channel, causing erosion and making the basin barely able to capture stormwater as intended. WCD's design included removing the plastic channel and adding a rock-lined channel to create a new route of stormwater conveyance. Additionally, sediment that had accumulated was removed and a taller riser was added to the existing outlet structure, allowing water to remain in the basin for a longer period of time. Orifice holes were reduced and a riprap apron was added at the outfall in place of the existing, old gabion baskets. Lastly, a small swale was graded near the second basin to convey water more easily.

Thank you to Ramsey Excavating, LLC for helping us complete this project. The total cost was \$36,526 with match contributions from Ligonier Valley School District, The Markosky Engineering Group, Inc. and WCD.

Monitoring Program

WCD's monitoring program provides a fee-based service to local watersheds, which includes ordering the monitors, preparing them and installation. Each monitor has the ability to measure stream depth, temperature, and electrical conductivity. Stormwater Technician Hank Bradish helped elevate the monitoring program by creating tracking spreadsheets, improving files, and seeking out additional program funding. Various watershed groups and municipalities have utilized this program. This year several monitors were in need of repair/maintenance. Items that were addressed included data loggers, a sensor, and a relocation of a monitor in the stream due to sediment accumulation. Organizations (watershed groups, schools, municipalities, etc.) who would like to utilize this program can reach out to WCD.

Presentations and Trainings

Hank Bradish and Hydraulic Engineer Jim Pillsbury, MS, PE both prepared presentations for our Municipal Roundtable and Engineers' Workshop. Hank discussed stormwater retrofit projects and provided information on WCD's monitoring program. Jim addressed topics including NPDES permit updates, Chapter 105 and Municipal Separate Storm Sewer System (MS4). Together they gave a presentation at the University of Pittsburgh's campus in November for the PITT IRISE Stormwater Symposium Presentation, where they highlighted two of our stormwater retrofit projects.

Additionally, Hank and Jim continue their professional education by staying up to date on various Chapter 102 and PCSM topics by completing DEP's online trainings and webinars.

Ligonier Valley School District Stormwater Basin Retrofit



Dilapidated plastic channel (left) replaced with riprap channel (right).



Watershed Restoration overview

By Chelsea Walker, *Watershed Program Manager* and Kylie Schultz, *Watershed Specialist*

estmoreland Conservation District's (WCD) Watershed Program assists landowners, watershed associations and municipalities with a variety of services to improve the health of our local streams and wetlands. This program reviews and provides technical assistance with completing Deparatment of Environmental Protection (DEP) Chapter 105 Stream Encroachment permits; provides guidance on how to stabilize an eroding streambank; writes and manages grant applications and projects; and completes project monitoring and other work related to protecting and restoring streams and watersheds throughout the county.

2023 Summary

This year, Chelsea Walker, our Watershed Program Manager, managed and completed the Fox's Pizza Distribution Facility Stormwater Detention Improvements Project. She also began planning for the Salina Bridge/Columbia Avenue Pennsylvania Department of Transportation (PennDOT) Mitigation Project. Our Watershed Specialist Kylie Shultz completed two projects this year: The Haymaker Run Stream Habitat Improvement Project and the Winnie Palmer Stormwater Educational Outreach project. Additionally, Kylie and Chelsea applied for multiple Growing Greener grants and an Environmental Education grant, as well as assisted various watershed organizations with mini grant applications. The watershed team also took part in seven

Stormwater Basin at Fox's Pizza Warehouse, Murrysville



Newly constructed detention pond where large rain events will enter the pond and filter out pollutants before entering Turtle Creek.

environmental education events focusing on water quality and stream restoration. They have assisted multiple watershed organizations throughout the county including the Turtle Creek, Jacobs Creek, Loyalhanna Creek, Sewickley Creek, Kiski and the Murrysville Area watershed associations. Assistance was provided through water quality sampling, environmental education, fundraising, and grant management.

Fox's Pizza Stormwater Detention Improvements Project

WCD completed a stormwater project along Route 22 at the Fox's Pizza Distribution Facility. A few years ago, Fox's Pizza asked WCD for technical assistance regarding their stormwater issues. During intense rainstorms, the front lawn of the facility would be inundated with stormwater due to a stream overflowing from runoff. This was not only a flooding concern, but also a concern for pollutants entering the stream from Route 22 runoff. WCD saw this as a likely candidate for a Growing Greener project due to its detriment to water quality and its close proximity to Turtle Creek, where parts of this stream are already impaired. Protecting the Westmoreland Heritage Trail was also a concern as it is located between Turtle Creek and the distribution facility.

When WCD was awarded the grant, Chelsea Walker in cooperation with MLZDESIGN developed a plan to eliminate the flooding and pollutants from entering Turtle Creek. This design would not redirect the stream causing issues, but rather act as a flood control. The project involved lowering part of the embankment where floodwaters would easily exceed the streambank height. Then from the point of the lowered embankment, a swale was installed to carry stormwater over a distance of 100 feet to reach a newly constructed detention pond. At this point, the water would stay in the pond until it either infiltrated or reached an outlet structure where it would slowly leave the pond. The outlet structure would regulate the amount of water leaving the pond with its specifically designed orifice holes. Over time, the pollutants from the water would also settle out in the pond as opposed to making their way into Turtle Creek and harming aquatic life. The area surrounding the pond and swale was strategically graded to allow for a natural look so excavated material would not need to leave the site. A few trees were planted and a retaining wall was constructed to separate the stormwater facility from the parking lot. The completion of this project will bring numerous environmental benefits such as volume control and water quality improvements. The total project cost was \$97,633. Thank you to Earth Shapers, LLC for completing this project.

Haymaker Run Stream Habitat Improvement Project

The Haymaker Run Stream Habitat Improvement Project successfully improved and stabilized approximately 1,700 feet of streambank along Haymaker Run. Years ago, the Sportsmen & Landowner Alliance of Murrysville (SLAM) constructed four in-stream water jack-dam structures for fish habitat along Haymaker Run in Murrysville. Since then, the increased severity of flooding events have damaged them and also caused a bridge collapse within the stream. An initial site visit was conducted by Chelsea and Kylie along with members of SLAM and the Pennsylvania Fish and Boat Commission (PFBC). A conceptual plan was designed by the PFBC after determining what areas of the stream were in need of improvements. Construction was done by Earth Shapers, LLC and PFBC was on site for all in-stream habitat structure installations. All four water jack-dam structures were retrofitted to meet current PFBC design standards. Additionally, 13 single log vane deflectors, 3 modified mudsills, 1 stone deflector, and 2 additional log framed cross vanes were installed.

The total project cost was \$43,115. The Western Pennsylvania Coalition for Abandoned Mine Reclamation (WPCAMR) Quick Response Emergency

Haymaker Run Stream Habitat Improvement Project, Murrysville



The location of the collapsed bridge before and after its removal with improvements made to the existing in-stream structure.

Repair Grant, Franklin Regional School District, and the Murrysville Area Watershed Association all provided matching funds for the project.

Stabilization and the retrofit of existing structures was imperative to reduce the accelerated erosion occurring at this site. Because Haymaker Run is classified as a High Quality Cold Water Fishery by the DEP, improvements to the stream were important for maintaining this status. In addition to reducing sedimentation, this project also restored fish habitat. This site is now more suitable for fishing and environmental education.

Winnie Palmer Stormwater Educational Outreach Project

The Winnie Palmer Stormwater Educational Outreach Project is Phase II of the Winnie Palmer Stormwater Basin project from 2022. Phase I of this project involved designing and constructing a stormwater basin to help mitigate the flooding at the Winnie Palmer Nature Reserve (WPNR). After this phase of the project was complete, WCD and WPNR saw an opportunity to educate the public on effective stormwater management. Phase II consisted of designing and installing an educational sign on a stormwater basin, planting ten tall native trees around the basin, and constructing a 280-foot trail of limestone that will connect to the existing WPNR trail. This trail will guide visitors along the newly constructed basin's embankment to the education sign, where visitors can view the basin and learn about the importance of stormwater management.

As Pennsylvania continues to experience more frequent heavy precipitation events, it is more important than ever for the public to learn effective methods for managing stormwater. The streambanks of an unnamed tributary to Monastery Run were also eroded due to the uncontrolled stormwater that had been flowing across the landscape and into the stream prior to the stormwater basin being

Stormwater Control Improvements - Winnie Palmer Nature Center, Latrobe



The completed basin with a trail along the embankment.

constructed. The streambank was stabilized using riprap and a native tree planting to help reduce the sediment pollution within the waterway.

The total cost of Phase II was \$20,152. Construction was done by Salandro Excavating. Multiple partnerships were needed to make this project happen. Thank you to: The Pennsylvania Environmental Council, Western Pennsylvania Conservancy, WPNR, and WCD for providing matching funds for the completion of this project.

Salina Bridge and Vandergrift's Columbia Avenue PennDOT Mitigation Project

WCD is working with Vandergrift Borough and PennDOT to mitigate the additional stormwater runoff that will be generated when the Salina Bridge is replaced in 2024. This historic bridge crosses the Kiski River and connects Salina, Bell Township in Westmoreland County with the town of Edmon, Kiski Township in Armstrong County. This partnership was created due to the bridge site's limitations, and Vandergrift Borough's need to improve stormwater



The stabilized unnamed tributary to Monastery Run.

management that also drains the Kiski River.

In 2023, we received an agreement from Penn-DOT and funding of \$467,291 to add stormwater best management practices (BMPs) on a large municipal owned parking lot and sidewalk along Columbia Avenue in Vandergrift. Some of the existing parking spaces within the parking lot will be retrofitted into a series of small rain gardens and planted with native shrubs and wildflowers. The rain gardens will collect precipitation as it flows across the asphalt and proposed curb cuts will allow for the stormwater to enter the garden and slowly infiltrate into the ground. A section of sidewalk will be retrofitted to include permeable pavers that allow for stormwater to infiltrate into the ground and water the newly planted native vegetation. Permit approvals are anticipated in early 2024.

Habitat Creation at Saint Vincent Lake

In 2017, the DEP completed a visual inspection of Saint Vincent Lake. The DEP's report identified maintenance concerns and necessary costly repairs. Due to the severe erosion, the lake's embankment is subject to failure. Several meetings were held with Saint Vincent College and it was agreed to convert the 1920's manmade lake into a wetland. WCD has partnered with PennDOT and Saint Vincent College to design a wetland and streambank mitigation

The Salina Bridge over the Kiski River



Built in 1906 and rehabilitated in 1978, the Salina Bridge in Bell Township will be replaced by PennDOT.

Saint Vincent Lake, Unity Township



Saint Vincent Lake's embankment parallels Fourmile Run and has been eroding, compromising the lake's integrity.

bank, which will include converting the 12-acre lake to a wetland and to stabilize over 1,700 feet of streambank along Fourmile Run, a tributary to Loyalhanna Creek.

Cedar Creek Phase 2B Streambank Stabilization Project

Westmoreland County's Cedar Creek Park near Rostraver has been a focus of streambank stabilization for many years. Phase 1 included an emergency fix of the bridge abutment of the Great Allegheny Passage over Cedar Creek. Phase 2A, completed two years ago, stabilized over 900 feet of eroding streambank from the confluence of the Youghiogheny River upstream to a walking bridge that crosses over to additional hiking trails within the park. Phase 2B is designed and is waiting for permit approvals. It is anticipated that this phase will stabilize approximately 1,800 feet of streambank. This project is scheduled to start in 2024. WCD will partner with PFBC to install several instream structures that will not only provide fish habitat, but encourage sediment to accumulate and rebuild the streambanks. Funding for this project will be provided by

a \$97,000 grant from PennDOT for mitigation work for the State Route 70, Section D10 Arnold City Interchange Highway Project.

Presentations and Trainings

Chelsea Walker and Kylie Schultz provided numerous presentations on various topics to several groups throughout the year. Some of the topics included an overview of WCD and our programs, stream and stormwater BMPs, project updates, tree planting, and macroinvertebrates. The groups included Leadership Westmoreland Youth Academy, Latrobe Business and Professional Women's Association, PA Master Naturalists, Forbes Trail Trout Unlimited, Regional Trail Corporation, and Sewickley Creek Watershed Association, along with various municipalities and engineers.

Chelsea and Kylie continued their education by attending courses and trainings including: United States Department of the Interior, Office of Surface Mining Reclamation and Enforcement- National Technical Training Program: Passive Treatment Program; Pennsylvania Association of Conservation Districts (PACD) - Clifton Strengths Leadership Workshop at Keystone State Park; several PACD and Center for Dirt and Gravel Roads Webinars; a Professional Wetland and Stream Delineation Training; Annual Watershed Specialist Conference, and various DEP webinars.

Cedar Creek Park, Rostraver Township



A severely eroding section of Cedar Creek that will be stabilized during construction.



WCD staff members *(left to right)* Terry Stewart, Christina Edwards-McCune and Kylie Schultz conducting monitoring on Cedar Creek during Phase 2A site post construction.

Treating Abandoned Mine Drainage at the Brinkerton Site





Baffles at the Brinkerton site (the dark orange linear objects in the treatment pond towards the top this photo) help direct discharged mine water through the treatment system. This helps iron oxide pollutants to settle out.

Dr. Robert (Bob) Hedin of Hedin Environmental stands in a basin where iron oxide was pumped to dry for study and harvest.

ABANDONED MINE DRAINAGE (AMD)

Brinkerton Treatment Site

This year brought the completion of a grant-funded project at the 8-acre Brinkerton Abandoned Mine Discharge (AMD) treatment system, located in Mount Pleasant Township. First constructed in 2005, the Brinkerton treatment system had not undergone any significant maintenance or upgrades in nearly eighteen years. Project goals for the site included cleaning out the iron sludge from the settling ponds, managing overgrown vegetation, and installing infrastructure to facilitate future iron removal operations.

In 2022, through a \$273,674 grant provided by the Department of Environmental Protection's (DEP) Growing Greener Program, some maintenance items were addressed along with completion of a first round of iron sludge removal from the settling ponds. This year, the remainder of the grant funds were used to finish additional work at the system, which included extensive maintenance along with a second round of iron sludge removal.

In past years, volunteers with the Sewickley Creek Watershed Association (SCWA) assisted with vegetation management at the site. However, due to the vast area of the site and the amount of thick, woody vegetation that was taking over, this year, contractors were brought in to employ chemical and mechanical methods of control. Going forward, now that the larger vegetation has been removed, the site will be more easily maintained, and destructive roots will not compromise the settling ponds and their ability to retain water.

The second round of iron sludge recovery proved successful, with over 1 million gallons of sludge removed from the settling ponds after just three days. The sludge was pumped into the existing storage basin, where it dried this summer, leaving behind iron oxide. Staff from Hedin Environmental assisted with managing the iron oxide, which was excavated



The Brinkerton and Lowber AMD treatment sites are located in the Sewickley Creek Watershed in central and southwestern Westmoreland County. They remove AMD pollutants, helping to maintain water quality in Sewickley Creek, which flows into the Youghiogheny River and from there into the Monongahela River. from the storage basin and piled on site, where it will continue to dry until it can be transported off-site. Due to the lack of capacity of the storage basin, not all of the iron sludge was able to be removed from the settling ponds. To remedy this issue, SCWA purchased property adjacent to the site from the Mount Pleasant Sewage Authority. The addition of this property will provide a larger space to accommodate future iron recovery and transfer needs.

The extensive work completed at the site this year has set up the entire treatment system for future success by making maintenance tasks going forward easier and less costly.

The Brinkteron Treatment System is a project of the SCWA supported by our technical staff and Mount Pleasant Township. Organizations that assisted with completion of this year's work include Earth Shapers, LLC, Hedin Environmental, Vegetation Managers, Inc., Santella Excavating, LLC, and Gibson-Thomas Engineering.

Lowber Treatment Site

WCD and our partners were also very active at another AMD passive treatment system this year the Lowber system, located in Sewickley Township. Constructed in 2005 through a partnership between SCWA and Hedin Environmental, this system consists of a series of six settling ponds and a wetland. Similar to the Brinkerton AMD site, the Lowber site was also due for iron sludge removal and vegetative maintenance.

The initial work planned at Lowber this year included recovering iron sludge from the first three ponds in the system. However, during routine maintenance, staff noticed that the last ponds, ponds 5 and 6, were completely full; therefore, we focused our efforts on cleaning out the sludge in those ponds. For these two ponds, it was their first cleanout since the system was constructed. The iron sludge was first agitated and then pumped into geotubes (large geotextile bags that are used to store and dewater the sludge).

Despite removing approximately 950 tons of sludge this year from the ponds, more sludge remains to be recovered from the system. A challenge at this site is the lack of storage space available once the sludge has been removed from the ponds. This system has been functioning extremely well and is very effective, accumulating considerable amounts of iron sludge over the years. Since its creation, the system has removed approximately 8 million pounds

Harvesting Iron Oxide for Industrial Sale at the Lowber Site



Pumping iron oxide sludge from the Lowber settling ponds to the giant containment bags.



Recovered/removed iron oxide sludge pumped into these giant bags will be dried and prepared for sale to industries.

of dissolved iron from the mine discharge, with about 8,000 tons of iron oxide solids settling into the ponds and wetland, according to a 2021 report provided by Hedin Environmental. Prior to this year's sludge recovery, removal efforts have occurred twice in previous years. Each time, the amount of sludge able to be recovered from the system was limited by the space available for the sludge storage. Adding to the spacing issue is a large pile of dried iron oxide that remains on site from a past sludge cleanout operation performed in 2020. Nearly 1,000 tons of this dry iron oxide was trucked away this year and distributed to Hoover Color to be used as pigment for their products. However, due to delays in the market for iron pigment, some dry iron oxide remains piled on site until it can be hauled off. WCD, SWCA and Hedin Environmental are exploring various options to remedy the spacing concerns at Lowber. Efforts are underway to apply for additional grant funding for future sludge removal and to provide financial assistance to address the spacing concerns.

Lowber is another SCWA project that is supported by our technical staff. Partners and organizations that aided in Lowber's success this year were: Sewickley Township, Hedin Environmental, Santella Excavating, LLC, Earth Shapers, LLC, and SCWA. This project was funded by the DEP's Growing Greener Program for \$148,300.

Education at Lowber

This fall brought the return of "Lowber Field Day". On September 15, 2023, nearly 150 high school students and teachers visited the Lowber system to learn about conservation topics from educational stations set up throughout the site. School districts in attendance included Yough, Mount Pleasant, Greater Latrobe, Kiski and Trinity Christian School.

Lowber Field Day



The weather cooperated beautifully at the 2023 Lowber Field Day sponsored by the Sewickley Creek Watershed Association at the Lowber AMD Treatment Site.

(left) With early morning mist rising from the AMD settling ponds, presenters, including WCD Staff members, prepare one of several education stations for the students and teachers.

(below) Lowber Field Day participants pose for a photo op by the pavilion. A large pile of orange iron oxide is visible in the background on the left. It was harvested from the treatment system for sale to industry, which helps make the Lowber AMD site sustainable.



Photos - Sewickley Creek Watershed Association

Dirt, Gravel and Low Volume Roads OVERVIEW

By Kelly Brestensky, Water Resource Specialist

he Dirt, Gravel and Low Volume Roads (DGLVR) program provides funding to municipalities and other public entities to reduce sediment pollution to streams while improving the quality of low-volume (low-traffic) and unpaved public roads. The funding from this program comes from the Pennsylvania Transportation Fund. The program directs funding to "worksites" where road runoff is affecting water quality. This is accomplished by implementing Environmentally Sensitive Maintenance (ESM) practices that are designed to reduce sediment pollution, encourage infiltration and reduce long-term maintenance costs on public roads.

2023 Grant Round

During the 2023 grant application round the WCD received 11 applications: three for dirt and gravel roads and eight for low volume roads. The total requested amount for the application period was over \$781,000 for both dirt and gravel and low volume roads.

2023 (DGLVR) Funding

In 2023, there were nine projects funded in seven different municipalities. Of the nine projects, seven low volume road projects were funded totaling over \$253,000. Two were dirt and gravel road projects totaling over \$73,000. Five of the nine projects were completed in 2023 and the remaining four have received extensions and will be completed in 2024. The five projects that were completed received over \$192,000 in grant funding. This does not include the municipal in-kind match which totaled over \$198,000. Grant funding and municipal in-kind match together totaled over \$390,000 spent on road projects in 2023.

Completed Projects

- Shaner Road, Allegheny Township;
- Sewickley Creek Road, Mount Pleasant Township;
- Rowe Road, Manor Borough;
- Todd Farm Road, Rostraver Township; and
- Green Valley Road, Hempfield Township.

Trainings and Presentations

This year, Kelly Brestensky presented at a Regional Trail Cooperation meeting, educating attendees on environmentally sensitive maintenance practices for trails. Kelly also presented at WCD's Municipal Roundtable and Engineers' Workshop highlighting the projects she has been involved with and explaining the DGLVR program. Additionally, she has presented at the Laurel Highlands Land Surveyors meeting and the Municipal Authority of Westmoreland County Beaver Run protection meeting. Kelly continues her professional education by attending various training and workshops including: DGLVR Admin Training, Environmentally Sensitive Maintenance course, Wetland Determination, and the DGLVR

Dirt, Gravel and Low Volume Road Project Review Board



WCD's Water Resource Specialist Kelly Brestensky presenting the 2022 DGLVR applications at the 2023 Quality Assurance Board (QAB) meeting. This meeting is where the applications are ranked and recommended for funding by the QAB. Annual Maintenance Workshop.

Additionally, she organizes and holds an annual Driveway Workshop for the public on how to repair and maintain gravel driveways and unpaved lanes.

Green Valley Road, Low Volume Road Project

One of the low volume road projects WCD completed this year was on Green Valley Road in Hempfield Township. Previously, multiple springs and runoff flowed down the roadside ditch to a cross pipe leading directly to the stream. Approximately 200 feet of the streambank was eroding and threatening the road's integrity. This section of streambank was stabilized to prevent further erosion. In order to disconnect the road drainage from Township Line Run, four new cross pipes were installed and one existing cross pipe was replaced.

Through the installation of the additional cross pipes, the amount of water entering directly into the stream was greatly reduced. The additional controlled outlets allowed the water to drop out the sediment and infiltrate back into the ground, limiting the amount of sediment that enters the stream. The streambank stabilization protects the stream adjacent to the road. This reduced the amount of sediment that was entering the stream due to erosion. These installed practices will help the township by reducing the amount of maintenance that must be performed on the road, ultimately saving the township money, while also improving water quality. Low volume road grant funds in the amount of \$42,517 were used along with an in-kind contribution from the township in the amount of \$13,042. The total cost of the project was \$55,559.

Green Valley Road, Hempfield Township



Multiple springs and road runoff causing water to flow down the road edge creating unstable and eroding ditches.



Multiple cross pipes were installed diverting the springs and road runoff under the road to a stable outlet.

West Nile Virus Monitoring overview

By Christina Edwards-McCune, West Nile Virus Program Technician/Conservation Technician



ur West Nile Virus Program is a part of the Department of Environmental Protection's (DEP) Mosquito-borne Disease Control Program. The goal of the program is to reduce public health risk from mosquitoes in Westmoreland County. We do this using integrated vector management principles. These include educating the public, monitoring mosquitoes and associated pathogens, implementing preventative practices and using biological, chemical and physical control measures.

West Nile virus is the most common mosquito-borne disease in the U.S. The virus is transmitted when an infected *Culex* mosquito species passes on the virus through a mosquito bite. This species of mosquito prefers to bite birds, however, on occasion and out of opportunity, they will bite and transmit the virus to humans, horses and other animals. This year in PA, there were 20 reports of people who contracted West Nile virus.

WCD conducts monitoring from May through October for larval and adult mosquitoes. Typical locations include urban areas, sewage plants, and public use areas. Mosquitoes require only a bottle capfull of standing water to breed and can emerge into an adult in less than one week. Our monitoring targets areas where standing water near residents is likely to occur. All mosquitoes are sent to the state



A set mosquito trap for collection of specimens

lab where they are identified to the species level and tested for viruses. This year our technician, Christina Edwards-McCune, had 11 West Nile virus positive mosquito samples at eight unique site locations. A total of 62 different sites were surveyed yielding 13,580 mosquitoes trapped and tested. While conducting monitoring, Christina attempts to eliminate any potential breeding habitat she may see, for example, turning over buckets, outdoor containers, tarps, etc. When it is not possible to dump water out to eliminate mosquito breeding habitat, for example, standing water in catch basins, tires, etc., she is able to apply bacteria-based control products that the mosquito larvae will eat, and then die, preventing them from emerging as biting adults.

Annually, this program holds a tire recycling event where we partner with Westmoreland Cleanways. The event offers residents a discounted tire recycling rate at the recycling center and helps with source reduction of mosquito habitat. This year, 411 tires were collected and recycled! Christina also sets up a booth at the Westmoreland County Fair each year where the public can receive informational pamphlets on mosquitoes and ticks as well as free mosquito dunk samples.

You can prevent mosquitoes in your yard, by eliminating any potential breeding grounds, such

as litter, tires, buckets, kids toys, tarps, clogged gutters, pet dishes, bird baths, and flower pots, using Enviromental Protection Agency (EPA) approved repellents, such as DEET, Picardin, and IR3535, and wearing long sleeves and pants - especially around dusk and dawn.

Ticks in Our County



In addition to mosquitoes, the program is also responsible for conducting tick sampling. The purpose of this program is to protect public health against tick-borne diseases. We do this by monitoring ticks and what pathogens they may carry. This takes place from April through August in public use areas like parks and trails. Ticks collected are sent to the state lab to identify their species and potential pathogens. Part of the program includes educating the public on how to protect themselves from tick bites and how to reduce tick habitat around their homes.

In Westmoreland County, 40-49% of Blacklegged ticks are infected with Lyme disease. Lyme disease is the most common vector-borne disease in the U.S. It is transmitted to humans through the bite of infected Blacklegged (Deer) ticks. Typical symptoms can include fever, headache, fatigue, and a rash. If left untreated, infection can spread to the joints, the heart, and the nervous system.

Prevent ticks in your yard! You can reduce tick activity near you by keeping playground equipment, decks and patios away from yard edges and woods. Ticks prefer wooded areas, tall grass or brush, the edges where woods and lawns meet, leaf litter, and wood piles where small mammals live. Protect yourself further by treating your clothing with permethrin or using DEET as a repellent for your bare skin.

Additional Monitored Viruses

Jamestown Canyon virus

This year, DEP received its first positive mosquito sample for Jamestown Canyon virus (JCV). Though

it has been detected in neighboring states and other parts of the country, this is the first it has been documented in PA. This year, JCV was documented in ten PA counties. JCV is transmitted to people through the bite of infected mosquitoes, but from different species of mosquitoes than West Nile virus - notably those in the genus Aedes. PA is home to 30 mosquito species that can possibly transmit the virus, which prefer to bite mammals such as deer, elk, and people. These mosquitoes favor wetland habitats, grassy, woodland pools, and floodplains. JCV is a neuroinvasive pathogen. Many people infected with it do not have any symptoms, but rare symptomatic cases do occur. These symptoms may include fever, fatigue, and headaches, or severe disease including encephalitis or meningitis. JCV was not detected in Westmoreland County to date, but WCD and DEP will continue to monitor for this virus in 2024.

Deer Tick Virus

Deer Tick virus (DTV) is a tick-borne pathogen that can be transmitted by the Blacklegged (Deer) tick. This is the same tick that may transmit Lyme disease. DTV was first detected by DEP staff in PA in 2019 and it has been detected in ticks in 26 PA counties. This virus can cause severe neurological symptoms and can be transmited from an attached Blacklegged tick in as little as 15 minutes. Approximately 1 out of 10 people with severe disease die. Half of the people who survive severe disease have long-term health problems such as recurring headaches, loss of muscle mass and strength, and memory problems. DTV was first detected in Westmoreland County in 2021.

Please visit DEP's Vector Management website for more information: <u>https://www.dep.pa.gov/Business/Program</u> Integration/Vector-Management/Pages/default.aspx

FACT: Mosquitoes are the world's deadliest animals. Vector-borne diseases account for more than 17% of all infectious diseases, causing more than 700,000 deaths annually. Centers for Disease Control and Prevention (CDC)

Municipal Roundtable

Education and Outreach overview

By Jen Novak, *Education Program Coordinator* and Mark Jackson, *Visual Communications Specialist*

uring 2023, Westmoreland Conservation District (WCD) provided several educational opportunities for natural resource professionals, municipal officials, and staff. The annual Municipal Roundtable updated participants from 19 different communities on conservation topics that impact their residents, including stormwater management, permitting, and agriculture. The Engineers' Workshop continued to be a big draw with more than 350 participants over the two-day event. Many of WCD's staff presented at the workshop, highlighting stormwater management projects, our stormwater monitoring program, and erosion control in the field, among other topics.

WCD staff also provided education for Municipal Separate Storm Sewer System (MS4) communities. These events included a classroom-style workshop on stormwater and streambank stabilization in Derry Borough and a stream walk highlighting green infrastructure and streambank stabilization in the Municipality of Murrysville.

Envirothon

Twenty-three teams from ten local high schools converged at Twin Lakes County Park in April for the annual Westmoreland County Envirothon. In addition to the standard wildlife, forestry, land use, and aquatic testing stations, students also answered questions related to the current issue topic: Adapting



WCD Assistant Manager/Technical Programs Director/Forester Tony Quadro reviews timber harvesting requirements with municipal staff. This was Tony's last Municipal Roundtable presentation before his retirement.

Engineers' Workshop



Engineers from more than five counties attend WCD's Annual Workshop at Fred Rogers Center, Saint Vincent College.

to a Changing Climate. Members from the Forbes Trail Chapter of Trout Unlimited volunteered their time at the Envirothon by showing the 115 students in attendance how to tie a fly and how to cast a fly rod. WCD is able to provide this event to local schools at no cost due to the generous support of the event sponsors: Smithfield and Apex Energy, LLC.

The top three teams were:

First Place

Greensburg Salem High School – Team 1 Second Place Derry Area High School – Team 1 Third Place Norwin High School – Team 1

Pedaling for Conservation

WCD spearheaded a non-traditional conservation education program called Pedaling for Conservation. This was held along the Westmoreland Heritage Trail in Murrysville and featured a leisurely 9-mile bike ride with a variety of resource conservation presentations from WCD staff and partners stationed along the trail. Topics included stormwater management, invasive species, and streambank stabilization.

Education Grants

WCD received a grant from the PA Association of Conservation District's Nonpoint Source Pollution Minigrant Program to create a virtual tour of our Stormwater Trail located outside of the WCD grounds. With this funding, our intern Sarah Fetter, interviewed staff members and produced a video highlighting the trail. The video will be shared with the public in 2024.

WCD also received funding from the DEP's Environmental Education Grants Program to develop a stormwater education program and demonstration project for an afterschool program in the City of Jeannette. Staff will be working in 2024 to complete this project.

Westmoreland County Envirothon at Twin Lakes Park



2023 Envirothon First Place - Greensburg Salem Team 1, (*left to right*) Lorelei Damico, Jonas Harkcom, Richard Christeleit, Angelo Testa (Advisor), Paytan Henry, Nicholas Kurincak



Thanks to The Forbes Trail Chapter of Trout Unlimited, Envirothon students got the chance to experience and learn about proper fly rod casting techniques and how to tie flies for successful trout fishing.

Premier Educational Event - "Pedaling For Conservation"



Pedaling For Conservation tour participants stop along the Westmoreland Heritage Trail for a photo op with the creator of this fun, healthy, educational event, WCD Director Emil Bove, who is on his bike at the right end of this group shot.



WCD Hydraulic Engineer Jim Pillsbury explains the importance of stormwater control BMPs by a stormwater retention basin under construction along the Westmoreland Heritage Trail in Murrysville.



Director Emil Bove holds a photo of a trail section along the Turtle Creek before the streambank was stabilized, while WCD Watershed Program Manager Chelsea Walker tells the tour group how and why those streambanks were stabilized.

With grant money from the Laurel Foundation, WCD made some facility upgrades to our meeting and education space. New lightweight conference chairs replaced the existing worn chairs, making it easier to organize the space for events and clean up afterwards. The grant also allowed us to purchase a second projector to allow for double projection during large events.



This new WCD document will help landowners who are interested in building a pond.

A Guide to Building Dams and Ponds Document

WCD published an official document to provide to landowners who are interested in building a pond. This document entitled <u>A Guide to Building Dams</u> <u>and Ponds</u>, explains the preparation and construction of ponds including permits needed, erosion control measures, site selection, types of ponds, and more. Included in the document are resources from several different agencies which provide information regarding installing and maintaining ponds. These resources include: Ponds-Planning, Design, Construction; Fish Ponds – Construction and Management in Pennsylvania; Management of Fish Ponds in Pennsylvania; and the Natural Resources Conservation Service (NRCS) publications Conservation Practice Standard for "Pond", Algae in Ponds and Lakes, Vegetation and Erosion Control on Dams, and Application to Draw Off Water from Impoundments Permit.

Summer Internship Program

WCD's Internship Program provides an intern with the opportunity to explore, network, and gain real world work experiences within the natural resources field. Interns assist WCD staff with their day-to-day responsibilities and projects. In 2023, we partnered with the Westmoreland-Fayette Workforce Investment Board's Experience Works! PLUS Internship Program. This program coordinates internship opportunities and exposure for young adults to the growing local workforce in Westmoreland County. This past summer, a Penn State University student studying Earth Sciences became our Conservation Intern.

Sarah Fetter helped our staff and other partnering organizations with a variety of tasks. Her video creation and editing skills using the Adobe Premiere program played an important role producing a <u>12-minute video on the interpretive Stormwater</u> <u>Trail</u>, which winds through the Donohoe Center campus near our headquarters. Sarah also produced several short interview videos with WCD staff. She even left us with a user friendly guide on video production that she put together to help us with future video projects.

Sarah also registered our pollinator meadow located near our headquarters and Ann Rudd Saxman Nature Park as a Monarch Waystation. The Monarch Waystation Program is an initiative to create, protect, and preserve monarch butterfly habitat and ensure that these butterflies can complete their life cycles and sustain themselves during migration. A goal was set by the Westmoreland Pollinator Partnership to register 250 waystations throughout the county for Westmoreland County's 250th anniversary. Our meadow became one of more than 260 waystations

Stormwater Trail Video Production



Intern Sarah Fetter seated at a WCD communications work station editing the Stormwater Trail Video with Hank Bradish and Jen Novak.

that were registered as part of the initiative. Thank you for everything Sarah!

Communications and Outreach

WCD has long been committed to high quality communication and outreach efforts with consistent branding. Our in-house communications toolbox includes the Adobe Creative Suite programs on two high caliber workstations, a professional grade color copier that can fold and staple publications, and a large format color printer. Visual communications specialist Mark Jackson works closely with WCD Education Program Coordinator Jen Novak to promote events and programs by producing attractive and professional digital and print outreach pieces. In addition, our entire staff keeps pace with current communications technology trends so they can effectively contribute to our outreach efforts.

As a new year begins, WCD is required by law to publish an Annual Report covering the previous year. <u>Our 2022 Annual Report</u> summarized program accomplishments as well as related news and future directions. The full color report was 32 pages plus cover. A PDF version was published on our website in early May, then distributed to over 2,800 individuals in a Constant Contact email campaign. We also commercially printed 500 reports, which were mainly distributed at various WCD workshops and events.

WCD also completed the annual update of the <u>Westmoreland County Conservation Directory</u> in early 2023. This helpful publication contains contact information for people, organizations and agencies dedicated to the conservation, restoration and wise



The front cover of our 2022 Annual Report

use of our county's natural resources. WCD Technical Programs Secretary Tammy Woodward reached out to each of the public officials and organizations listed to check for any changes and updates. She then worked with WCD's Visual Communications Specialist Mark Jackson and Administrative Assistant Tammy Marsh to produce the final, updated directory in house. The updated directory was published on the WCD website with a link provided in an email campaign. Full color booklets were also printed and bound in-house as needed.



2023 Westmoreland County Conservation Directory

In 2023, WCD branding extended onto three of our five vehicles with the in-house design and application of full color door decals and wraps. These feature the WCD logo, our slogan, "Helping People Use Resources Wisely" and a section from a beautiful Stephen Simpson photo of Jacobs Creek taken in southeastern Westmoreland County. These door graphics will attractively identify our vehicles in public. Special thanks to Signs By Tomorrow for printing and applying the door graphics.

WCD's then staff AmeriCorps member Allie Shreffler worked with Mark Jackson and Hank Bradish to develop and produce an interpretive sign describing stormwater BMPs WCD recently



New attractive door signs identify WCD vehicles.



Hank Bradish by the interpretive sign on stormwater BMPs installed at a Manor Borough parking lot.

completed in a Manor Borough parking lot. Hank and WCD Manager/CEO Rob Cronauer then installed the sign on a historic, concrete railroad "stopper" at the parking lot.

Moving forward in 2023, our social media platforms were very active. We sent out a total of 12 email campaigns using the Constant Contact email service. These included e-newsletters, event registrations, calendars and special announcements.

Our WCD Facebook page was revamped in late 2022 by volunteer Madison Raviart. By the end of 2023 the followers for this new page grew to over 200 and continues to climb due to regular engaging and informative postings.

In 2023, our YouTube channel was further populated by new videos on The Stormwater Trail, Westmoreland County Chamber of Commerce's WCD Non-Profit of the Year Award and Dirt and Gravel Road Improvement in Cook Township.

WCD's LinkedIn page helps with professional recruitment and other information.



WCD was able to extend communications support to some of our partners in 2023. Mark Jackson helped produce the Five Star Trail's *Five Star News*. *2023 Overview* and the *Westmoreland Woodlands Improvement Association Newsletter*. He also helped produce promotional items and awards for the Sewickley Creek Watershed Association's 5th Annual Cruise for Conservation fundraiser held at Donohoe Center by the WCD headquarters. Additionally, Mark served as a content consultant for the Five Star Trail's new railroad tunnel mural by Lynch Field in Greensburg. This colorful mural adorns two 520-foot long walls depicting activities and sights along the trail, and elements from the trail corridor's history.





The *Five Star Trail News 2023 Overview* and the 2023 Cruise for Conservation dash plaque.

Organizational Development

Retirements



WCD Manager/CEO Greg Phillips retired in February 2023. For over 40 years Greg's creative vision and leadership drove WCD to extraordinary accomplishments through initiative and innovation. Greg also established many new partnerships to promote conservation values at home, regionally and nationally.



WCD Assistant Manager/Technical Programs Director/Forester Tony Quadro retired in March 2023 after 38 years of service. Tony's friendly, diplomatic leadership fostered legions of conservation advocates and supporters.

District Staff Updates



Having worked 20 plus years on the WCD staff helping put hundreds of conservation projects on the ground, former Assistant Manager and Project Coordinator Rob Cronauer began serving as the new District Manager/CEO in February 2023.



Tammy Marsh was hired in 2023 as the WCD's Administrative Assistant. She comes to WCD from Saint Vincent College where she worked for 18 years as an Administrative Assistant in the Science Department. Tammy and her husband Ron have a horse farm and enjoy riding and caring for horses with their family.



Allie Shreffler was hired as the WCD Agricultural Conservation Technician after working as an Ameri-Corps member for a year. She will now assist farmers and work closely with ACAP.

AmeriCorps



WCD is a host site for the Pennsylvania Mountain Service Corps (PMSC) AmeriCorps program. Terry Stewart was hired as the WCD's new AmeriCorps member in August 2023. He is a graduate of PennWest California, where he majored in fisheries and wildlife biology. Terry supports projects that improve water quality and enhance outdoor recreation opportunities. Terry also assists our non-profit organizations that promote environmental stewardship.

District Recycling Revamp

WCD revamped its recycling program in April 2023 by partnering with Westmoreland Cleanways and Recycling. All of the WCD's recycling is collected by our AmeriCorps staff and is taken to the Westmoreland Cleanways and Recycling center. By the end of December, WCD had recycled 74 boxes of paper, 268 cardboard boxes, 41 large garbage bags of plastic, 129 glass bottles, 11.5 large garbage bags of cans, and miscellaneous items such as plastic bags, batteries, computer parts, and Christmas lights. Thank you to our AmeriCorps staff members Allie Shreffler (August 2022-2023) for reinventing the program and to Terry Stewart (August 2023-Present), for continuing to carry out program duties.



Terry Stewart takes a load to Westmoreland Cleanways.

New Hemlock Barn Siding Receives Fresh Red Stain

The WCD headquarters is a repurposed 1880s era bank barn, which was originally located in Penn Township. Over 24 years ago, it was disassembled by Amish craftsmen and reconstructed at Donohoe Center in Hempfield Township. Here it was transformed into an energy-efficient, green office building and conservation center. The new WCD headquarters opened to the public in 2000. In 2022, we noticed deterioration on the barn's exterior poplar wood siding. That year some poplar siding on the barn was replaced with new hemlock



Applying red stain to the new hemlock barn siding.

wood siding, which should be more durable. This included siding on the barn roof cupolas. The new bare hemlock siding had to cure and weather before any new red stain was applied. Hence, WCD had a two-tone barn for several months. In 2023, all the barn siding received a fresh coat of red stain, which returned it to its single color red barn beauty.

Trail Resurfaced Beside WCD Headquarters at Donohoe Center



Resurfacing the stone trail beside the barn.

A walking trail beside WCD's barn headquarters at Donohoe Center was restored and resurfaced thanks to Adam Eidemiller, Inc. The trail extends past the pollinator garden and connects with a trail to Ann Rudd Saxman Nature Park. This new crushed limestone surface makes it much more visible and easier to use.

Westmoreland County Chamber of Commerce Youth Academy

For the third year in a row, our WCD headquarters was the host site for Leadership Westmoreland Youth Academy, a five-day program of the Westmoreland Chamber of Commerce that gives outstanding high school juniors and seniors a chance to meet and observe area business, government, and community leaders. This has been a beneficial partnership for us, as it gives the students and the leaders who come to speak to them the opportunity to learn more about WCD and the benefits of conservation. Our Watershed Specialist Kylie Schultz, provided a program on tree planting and the students worked together to plant several trees on our campus. Allie Shreffler, Agriculture Conservation Technician, presented on WCD's agricultural program and Chelsea Walker, Watershed Program Manager, gave an overview of WCD and its programs.



Youth Academy students participate in a tree planting program planned by Kylie Schultz.

2023 Westmoreland Conservation District Awards Presented



(left to right) WCD Farmer Directors Bill Doney and Fred Slezak present John D. Kitz with the 2023 Conservation Farmer of the Year Award, a photo montage featuring his farm and family.



(left to right) WCD Directors Jay Bell and Emil Bove present the 2023 J. Roy Houston Conservation Partner award to Dr. Robert (Bob) Hedin of Hedin Environmental.

Conservation Farmer of the Year

John D. Kitz of Mount Pleasant Township was presented with our 2023 Conservation Farmer of the Year award. John and his late father (John G. Kitz) have more than a decade long partnership with WCD. John operates a beef cattle operation on 140 acres, alongside his wife, Kelly, and four sons - Johnathan, Joshua, Jeremiah, and Jacob. Over the years, their family has implemented multiple conservation measures on their farm such as the addition of streambank fencing, stabilization of stream crossings, installation of forested riparian buffers, and the addition of water troughs for his cattle. John recognizes that reducing mud on the farm not only improves water quality, but also reduces health-related concerns for his cattle. The Kitz family's stewardship of their land continued in 2023 when John entered our very first ACAP agreement (see Kitz Farm Agriculture Conservation Improvement Project). John

ends 2023 with collectively having improved approximately 4,200 linear feet of stream on his farm from the installation of these conservation BMPs. <u>Click here to view the interpretive Award banner.</u>

J. Roy Houston Conservation Partnership Award

Dr. Robert (Bob) Hedin of Hedin Environmental was awarded our 2023 Conservation Partnership Award. Bob's relationship with WCD began in the early 2000s when he was approached by Sewickley Creek Watershed Association (SCWA) about AMD at a site in Lowber. Over the years, Bob and his team have used their expertise to design and implement multiple passive treatment systems to address AMD throughout our county. These passive treatment systems treat AMD naturally without the use of chemicals and also provide habitat for wildlife. Hedin Environmental has worked with several of our partners over the years including the Kiskiminetas Watershed Association, Turtle Creek Watershed Association, Loyalhanna Watershed Association, Sewickley Creek Watershed Association and Saint Vincent College. <u>Click here to view the interpretive</u> <u>Award banner.</u>



Guests at the Awards Reception study the interpretive banner display tributes to the John D. Kitz Farm and Bob Hedin's work with abandoned mine drainage.

District Awards Received





Accepting the Westmoreland County Chamber of Commerce's 2023 Non Profit of the Year Award for the Westmoreland Conservation District *(left to right)* Board Chairman Ron Rohall, WCD District Manager/CEO Rob Cronauer, Vice Chairman Charles Duritsa, Director Fred Slezak and Director Westmoreland County Commissioner Douglas Chew.

In her office at WCD headquarters, Watershed Specialist Kylie Schultz proudly displays the PACD First Place Conservation District Video Award for the video she produced, "Improving Driveways and Access Lanes".

Westmoreland County Chamber of Commerce Non-Profit of the Year Award Presented WCD

Westmoreland Conservation District was honored with the Westmoreland County Chamber of Commerce's 2023 Non-Profit of the Year Award; recognizing our 74-year vested interest working with people and partners to help conserve Westmoreland County's soil and water. A video made by production company Skene19 Films, featured WCD District Manager/CEO Rob Cronauer. He stated, "As water continues to flow downhill, we try to make it a little bit cleaner every day." Rob also said, "We work with soil, water, nature and people. Without the people and our partnerships we can't do any of our work with soil and water. Three main points I want to make are: 1-we exist; 2-we're there to help you; 3-we're going to follow through with you and your project." This award was a high honor considering all of the worthy non-profits in Westmoreland County. It exemplifies the importance of WCD's partnership with the Chamber. We sincerely thank the Chamber for this recognition. <u>Visit the WCD YouTube Channel</u> to enjoy the Chamber's video.

WCD Video Earns First Place Award from the Pennsylvania Association of Conservation Districts (PACD)

WCD received the First Place Award at the Annual Conservation District Video Awards from the Pennsylvania Association of Conservation Districts (PACD) in 2022. The award was presented to us in 2023 at the annual PACD meeting and was received by Board Chairman, Ron Rohall.

WCD Watershed Specialist Kylie Schultz created this video, which focuses on educating homeowners

on the best methods for improving their driveways or access lanes. The video, entitled *Improving Driveways and Access Lanes*, includes detailed information on why maintaining driveways and access lanes is not only helpful for homeowners, but is also beneficial to water quality. It also covers detailed information regarding BMPs including conveyor belt diversions, crosspipes, grade breaks, underdrains, and low maintenance ditches.

This video is posted on our YouTube Channel and Facebook page to view at any time. It also pairs with our *Homeowners Guide to Improving Driveways and* <u>Access Lanes</u> publication to provide homeowners with as much helpful information as possible to make proper improvements.



Finances

2023 Income

State Funding	\$1	,586,039	49%
County Funding	\$	700,000	22%
State Grants	\$	206,002	7%
Grants & Contributions	\$	80,442	2%
Fees for Services	.\$	431,037	13%
Program Administration	\$	134,346	4%
Education	.\$	49,284	2%
Other	.\$	46,031	1%
Total	\$3	,233,181 ²	100%

2023 Expenses

Operations		.\$2	,060,175	80%
Grants		\$	487,597	19%
Education		.\$	23,886	1%
-	Total	\$2	.571.658	100%

2023 Donors and Sponsors

Donors Fundraising Campaign

FRIEND \$2,500 to \$4,999 David Herrholtz - Burnt Chimney Farm Hunt Valley Environmental, LLC Robert Pore

> SPONSOR \$1,000 to \$2,499 Charles and Judy Duritsa Export Fuel Company, Inc.

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ASSOCIATE \$250 to \$499 Commissioner Douglas and Cynthia Chew Clarence Jr. and Sandra Finley Bill and Kathy Mihalco Kim and Dianne Miller Jim and Sarah-Jane Pillsbury

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Allie Shreffler Agricultural Conservation Technician

Tammy Woodward Technical Programs Secretary

ADVISORY COMMITTEES

These committees are made up of community volunteers, WCD board members, associate board members, and staff members. We very much appreciate all the volunteers who provide their professional expertise and give their time to help develop and sustain the WCD's programs.

AGRICULTURE

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Thank you to our state legislators and county commissioners, who allocate funding every year for WCD.

State funding supports many of the core conservation programs we offer, including programs delegated to us by the state in agriculture, post-construction stormwater management, erosion and sedimentation control, and dirt, gravel, and low volume roads.

County funding has been instrumental in helping us attract significant additional dollars for "above and beyond" conservation improvements throughout Westmoreland County.



Pennsylvania State Legislators Representing Westmoreland County

Rep. Jill Cooper Rep. Eric Davanzo Rep. George Dunbar Rep. Abby Major Rep. Eric Nelson Rep. Leslie Rossi Sen. Joe Pittman Sen. Patrick Stefano Sen. Kim Ward



Westmoreland County Commissioners



Westmoreland County Commissioners (left to right) Douglas W. Chew, Sean Kertes, Ted Kopas

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