



*Westmoreland
Conservation
District*

**2017
ANNUAL REPORT**



On the cover

Clockwise, beginning upper left-hand corner

Sherrick Run, Mount Pleasant Township

One thousand feet of this stream was naturalized and will be monitored for the next five years (see pages 5 and 11).

Conservation Campus, Hempfield Township

Landscaping improvements included planting additional trees and a 1,000-foot-long unifying landform along Donohoe Road (see page 25).

Ann Rudd Saxman Nature Park, Hempfield Township

District Forester Tony Quadro and County Parks Planning Coordinator Jeff Richards worked together on a stewardship plan to manage this passive recreation area (see pages 14-15).

Annual Awards Reception, Hempfield Township

Hundreds joined us for the District's annual Awards Reception/ Open House, which honored Jamison Farm and Bove Engineering (see pages 19-20).

Cherry Creek, Youngwood

We began regularly monitoring the aquatic life and other elements of this creek to assess the effectiveness of the conservation measures installed there in 2016 (see page 5).

Coal Hollow Road, Bell Township

A layer of Driving Surface Aggregate was added to previous improvements along a one-mile stretch of this road, and a monitor was placed in the stream nearby to measure any changes in water quality (see pages 5 and 9-10).

Integrated Water Resources Plan, Countywide

Green Infrastructure Specialist Matt Zambelli gives Westmoreland County Commissioners Gina Cerilli, Chuck Anderson, and Ted Kopas a tour of a new map, created as part of the IWRP, that identifies various land uses in the county (see pages 2, 5, 16-17).

Conservation Campus, Hempfield Township

Pre-cast permeable concrete panels created several needed hardscape sidewalks on our campus, while creating virtually no runoff (see page 25).



Dear Friend of Conservation,

By any measure, 2017 stacked up to be a very good year for conservation.

- We successfully closed out our \$1.7-million “*Sustaining Conservation*” campaign and had in place and on the ground most of the campus improvements, conservation demonstrations, client service enhancements, partnership efforts, and capacity-building programs that it helped to fund.
- We were well on the way to completing an Integrated Water Resources Plan – a guide for managing Westmoreland County’s water resources – thanks to input from hundreds of partners and real-world data gathered about streams and waterways in our county.
- We worked with the Bayer Center for Nonprofit Management at Robert Morris University and developed a new strategic plan that will guide the District’s operations for the next few years.
- We established a firm base for our new scientific monitoring program and were poised to begin sharing measurable data on the effectiveness of conservation measures by mid-2018 – something that only a few conservation districts provide.
- We continued to successfully procure grants to do “above and beyond” conservation projects throughout the county – from best management practices on farms to restoring natural stream habitat.
- We assumed responsibility for the West Nile virus monitoring program in Westmoreland County.
- We transferred responsibility for compliance – formerly a board/staff committee function – to our very capable erosion control specialist.
- We hired our first-ever AmeriCorps service member, who has been a welcome support for our core programs as well as for area watershed groups.

None of these accomplishments happened without the commitment of many dedicated people, and we thank all those who have worked with us to make these and other important projects a reality.

Together, we are helping to ensure clean streams, healthy forests, stable soils, productive farms, and sustainable communities throughout Westmoreland County.

Sincerely,

A handwritten signature in black ink that reads 'Ronald J. Rohall'.

Ronald J. Rohall
Board Chairman

A handwritten signature in black ink that reads 'Gregory M. Phillips'.

Gregory M. Phillips
District Manager/CEO

Program Accomplishments

SCIENTIFIC MONITORING

2017 was the second year of **our pioneering efforts to gather real-world data on conservation practices.**

Prior to undertaking this work in 2016, we, like most conservation districts, relied heavily on information provided by national and state conservation organizations and on anecdotal evidence from users to judge the effectiveness of various measures.

Now, we have 25 scientific monitors in place, gathering real-world data on various conservation practices on our campus and in the local community, measuring such things as soil moisture, volumetric water content, temperature, and electrical conductivity.

Our next steps are to determine how to translate this wealth of data into a format that will be helpful to engineers, developers, architects, and others who may be looking to install a particular conservation practice.

One approach we are looking into is a real-time dashboard that will take information from the server, analyze it, and make it accessible in graphs, animations, trigger notes, and other formats (see page 3). Historical data also could be available for each sensor.

To our knowledge, we are one of only a few conservation districts gathering this kind of data. We feel this effort is important because it quantifies the effectiveness and benefits of conservation practices and so, we hope, will encourage even more installations.

We are grateful to the Richard King Mellon Foundation for providing the initial funding that allowed us to begin this important work.

Our green infrastructure specialist **applied our**



Do stream conservation practices really make a difference?

We've always believed so, but now we're gathering scientific data at locations such as Cherry Creek in Youngwood to know for sure.

We first monitored this stream in 2014 – before any conservation measures were installed.

Then, in 2017, after we installed rock deflectors and stabilized walls, and added trees and shrubs, we began monitoring those same metrics at Cherry Creek again.

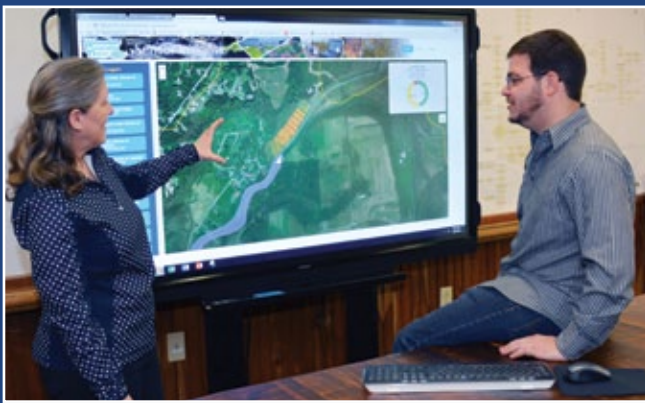
We'll continue monitoring for five years to scientifically quantify any long-term beneficial effects of these conservation practices.

new monitoring capabilities in support of the Integrated Water Resources Plan (see pages 16-17).

He conducted field measurements and installed flow meters in Sewickley, Loyahanna, and Mill creeks as well as in Jacks Run to gather information on how these streams behave, including capturing

data from actual storm events.

The scope of this monitoring is the most extensive we've ever conducted, and it provides insights into the hydrology of about half of Westmoreland County – where the water is, where it is going, its quality, the major pollutants, and so on.



Kathy Hamilton, landscape architect/stormwater technician and Matt Zambelli, green infrastructure specialist

Remote Scientific Monitoring

While our watershed specialist physically visits Cherry Creek to monitor the conditions there (see page 2), other locations throughout the county are being monitored remotely, with telemetry providing data right to our desktops.

Twelve locations have remote monitors that supply real-time information about soil moisture, volumetric water content, temperature, and electrical conductivity.

Shown in the photo to the left is the map location of one of these remote sensors in Sewickley Creek at Lowerber.

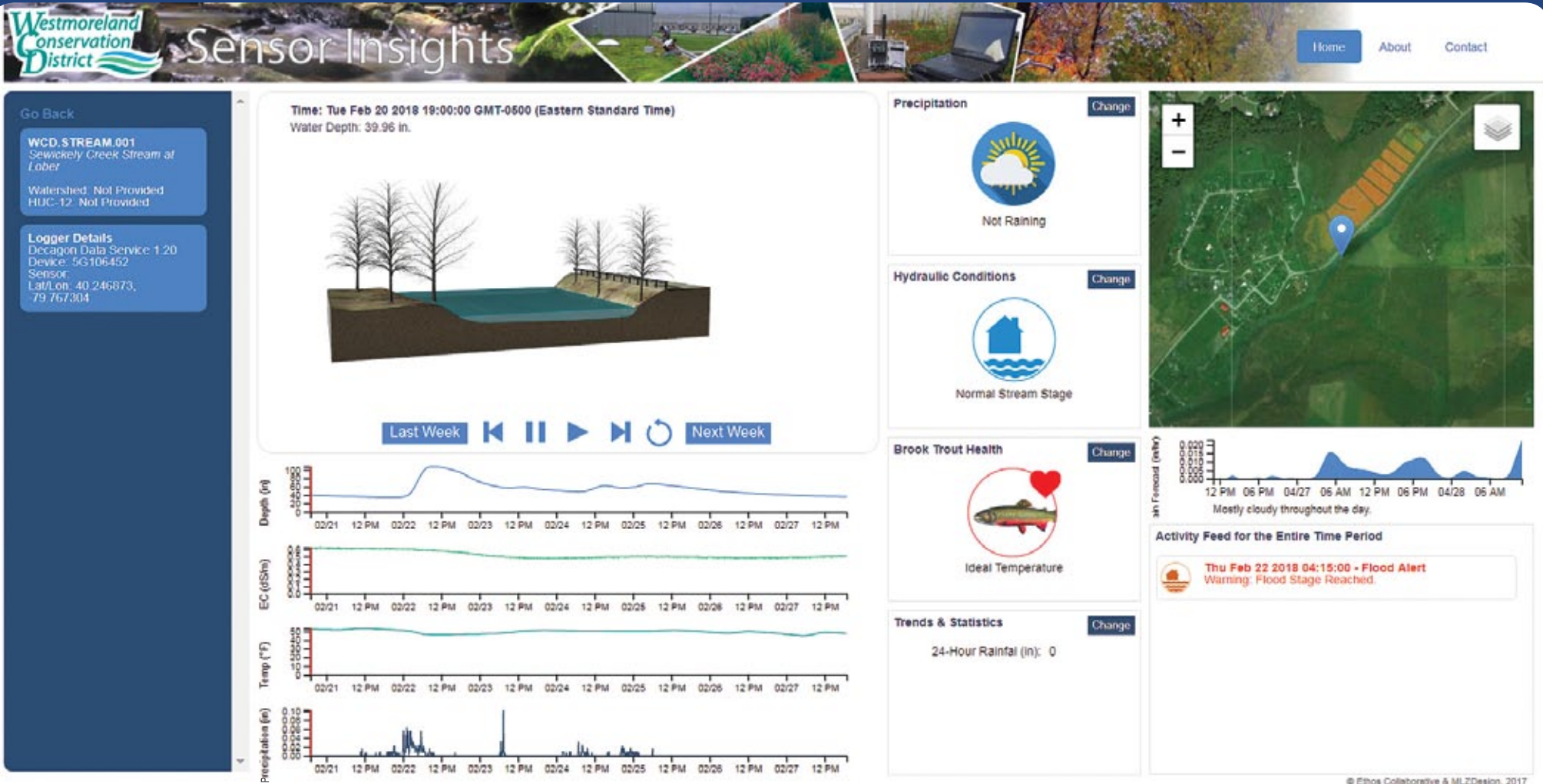
The image below is a computer screenshot of the data provided by the sensor at Lowerber, with individual graphs showing how deep Sewickley Creek is here, its electrical conductivity (e.g., indicating the presence of salts and the

overall water health), its water temperature, and the local precipitation.

These individual graphs are correlated and interpreted into a few “quick insights” of key conditions, shown as icons in the center of the screenshot. In this instance, the viewer can quickly see if it’s raining, if the stream is at flood stage, and the impact of current conditions on brook trout.

Finally, the right side of the screen shot gives predictive information about upcoming weather conditions.

After a testing phase of this monitoring software, the District plans to make the information from these remote sensors accessible to everyone through a link on its website.



Monitoring Sites in Westmoreland County

Watershed Program

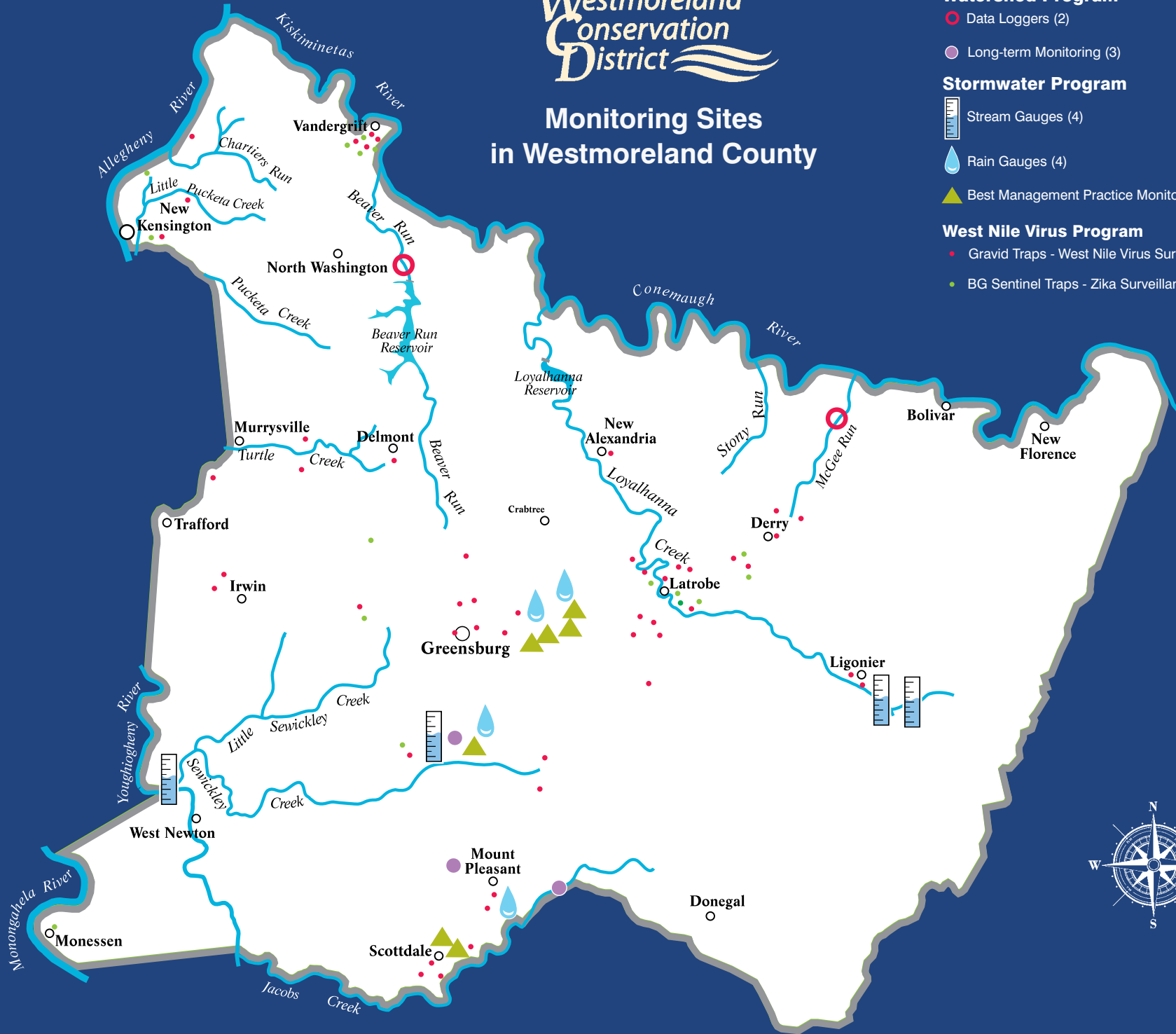
- Data Loggers (2)
- Long-term Monitoring (3)

Stormwater Program

- Stream Gauges (4)
- Rain Gauges (4)
- Best Management Practice Monitors (7)

West Nile Virus Program

- Gravid Traps - West Nile Virus Surveillance (50)
- BG Sentinel Traps - Zika Surveillance (15)



This information is being used to create an accurate model of our county's watersheds. This model will be the basis for making decisions about water use and management throughout the county.

After work was completed in 2016 to stabilize some 700 feet of streambank along **Cherry Creek on the campus of Westmoreland County Community College, our efforts in 2017 turned to monitoring the stream**, which is a tributary of Sewickley Creek.

Our watershed specialist collected macroinvertebrates, assessed the stream habitat, and measured the pH and conductivity of the stream in this location to help quantify its quality.

She will continue to regularly gather data from this project location for the next four years as a way to measure the effectiveness of the rock deflectors, stabilized walls, and trees and shrubs planted along the stream on water quality.

In 2014, she monitored the stream before the conservation practices were installed to establish a baseline.

We will be regularly **monitoring the mitigation work done this year along Sherrick Run in Mount Pleasant Township** (see page 11).

Beginning in 2018 and continuing for the next five years, we will be inspecting and documenting the conditions there, including the state of the vegetation, the presence of macroinvertebrates, the condition of the streambed, and the presence and species of fish.

During our work in 2017 to improve Coal Hollow Road (see page 9) we also **installed a data logger provided by the Kiski-Conemaugh Stream Team, in nearby Beaver Run.**

This small, pen-sized device records stream conditions, including conductivity, water levels, and water temperature every 15 minutes, 24 hours a day, 7 days



Program Technician Chelsea Gross collects mosquito samples to send to the state laboratory where they will be tested for signs of West Nile virus.

In 2017, about six percent of the mosquitoes collected tested positive for West Nile, meaning that the risk of contracting the virus was low in Westmoreland County.

Photo courtesy of Tribune-Review

a week.

Our watershed specialist also visits this site about once a month, weather permitting, to record such things as pH, temperature, total dissolved solids, chloride, and alkalinity.

Since 2014, we also have been receiving information from a data logger installed in McGee Run in Derry Township.

In a new partnership, **we are working with Jacobs Creek Watershed Association and Civil & Environmental Consultants, Inc. to monitor green infrastructure sites in Scottdale.**

These previously installed monitors are located in a rain garden and inlets, and will provide an additional layer of information about these conservation

practices and our local hydrology.

Sampling mosquito populations for the West Nile and Zika viruses was a new undertaking for the District this year.

Chelsea Gross joined us as the West Nile virus program technician on May 1 to do this important work, which involves trapping insects and sending them to the state Department of Environmental Protection's laboratory for identification, disease testing, and controls if needed.

From mid-May through fall, she collected insect samples four days a week from a number of static and variable locations throughout the county. Sample sites were chosen based on historical mosquito data, density of human population, and number of mosquito-related complaints.

About six percent of the mosquitoes collected during the year from our county tested positive for West Nile virus, and there was one person who tested positive for the virus.

The mosquito species known to carry the Zika virus was not found in Westmoreland County during 2017, and no human cases of this disease were identified in Pennsylvania.

In late July, we hosted a **free workshop to help people understand how they may be inadvertently putting out the "Welcome mat" for mosquitoes**, as well as some simple steps to reduce the number of these insects living and breeding on their property. Some 35 people attended.

Our West Nile virus program technician also shared this message at a community event in New Alexandria and at the Westmoreland County Fair.

STABLE SOILS

Sunoco's \$2.5-billion, 350-mile-long **Mariner East 2 pipeline** that will carry natural gas liquids from our region to an export terminal near Philadelphia made its way across Westmoreland County during 2017, crossing through our county from Rostraver to Delmont to Derry, and causing 365 acres of disturbance in 11 municipalities.

Both of the District's erosion control technical staff members were heavily involved in inspecting sites and coordinating with conservation district staff members across the state who also were monitoring the project in their counties, as well as with the Department of Environmental Protection.



The Mariner East 2 pipeline (earthen disturbance in center of photo) crosses a tributary to Sewickley Creek on its path through Westmoreland County.

The stream, which can be seen in the lower third of the photo, was protected with a wood mat (foreground) as well as with traditional fiber roll (along both sides of the disturbed area).

An open trench where the pipe will be laid can be seen at the top center. In the middle and lower portions of the photo, the pipe is already in place and the trench has been backfilled.

Even though the pipeline project was staying within the existing right of way of the previously constructed Mariner East 1 pipeline, it was still required to have a variety of permits and inspections, especially when it crossed streams and wetlands and other sensitive bodies of water.

Most of the land disturbed in Westmoreland County for the new pipeline was in the form of open trenches. However, at the Loyalhanna Dam, Sunoco used horizontal directional drilling to go under this Army Corps of Engineers flood control lake.

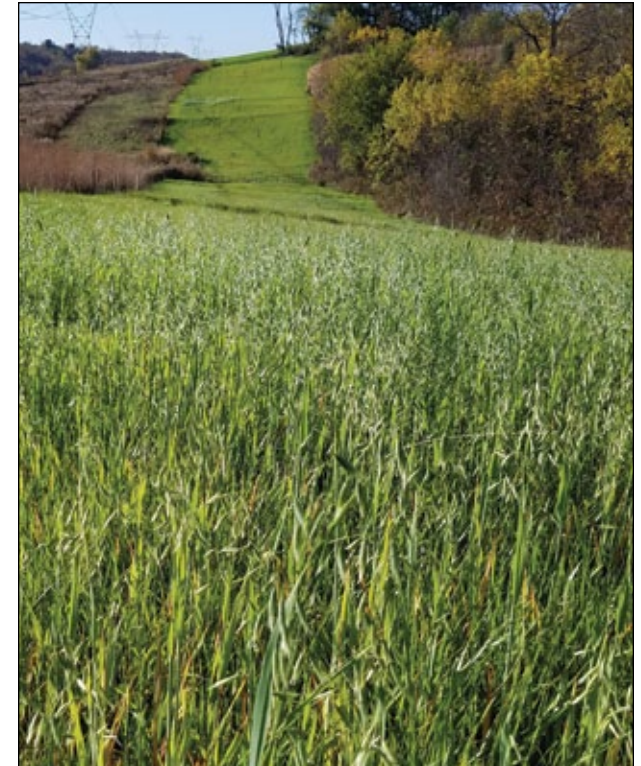
During this process, numerous "inadvertent returns" occurred – meaning that hydraulic fracturing fluid came up through fractured rock or poor fill. These returns prompted many follow-up inspections by our staff.

The company did a good job of containing these returns, and it was allowed to continue construction across Westmoreland County. Unfortunately, this was not the case in other areas of the state where the pipeline was being constructed by different crews of subcontractors, and the state Department of Environmental Protection suspended the pipeline's construction in early 2018.

The high number of inadvertent returns on this project has caused the state Department of Environmental Protection to take a closer look not only at topography but also at geology before granting permits for horizontal directional drilling.

Although the mass grading of the **130-acre Tenaska generating and switching station site** was complete in 2016, we continued to inspect this project in South Huntingdon Township during the year to ensure that the site was stabilized, kept in cover, and that the erosion and sedimentation controls were maintained.

In 2017, the company's work at this site primarily focused on the construction of the buildings. In 2018, we anticipate that the project will be in the final,



The path of Mariner East 2 pipeline in Penn Township after restoration efforts.

The foreground has been planted with a special seed mix that provides cover for wildlife.

The background slope has been planted with a different seed mix and constructed with water bar deflectors to slow erosion.

restoration phase.

When operational, the new, natural-gas-fired power plant will be capable of producing 925 megawatts of electricity.

Our erosion control staff **conducted numerous inspections at three highway and one bridge repair projects during the year**, which combined disturbed some 124 acres of soil.

For two years now, our senior erosion control specialist has been regularly **inspecting the major**

highway upgrade work at Center Avenue/Interstate 70 in New Stanton.

During 2017, he noticed a lot of rutting on the road shoulders, which may be attributable to a design flaw that failed to include thick stone underneath the smaller, standard stone surface.

He reported his findings to the contractor and will continue to monitor this and other erosion-related conditions on this major, \$54-million infrastructure project (also see page 10).

Refurbishing of the Route 981/Lloyd Avenue bridge that crosses the Loyalhanna Creek in Latrobe was the most novel project we inspected in 2017.

Originally built in 1896, the concrete-arch bridge was scheduled to have its deteriorated concrete removed and replaced, and improvements made to its sidewalks, guide rails, lighting, and signage.

Traditional methods to remove the deteriorated concrete would involve jackhammers, and letting the concrete fall into the stream, to be gathered up at the end of the work.

But the wide, shallow nature of the Loyalhanna Creek in this area enabled the contractor to use a process called hydrodemolition instead.

With equipment positioned in the stream under the bridge, high-pressure water jets loosened the old concrete and crews were there to catch the falling debris in trucks before it hit the water.

This process significantly reduced the impact on this creek, which has benefited over the past decades from multiple efforts to remove pollutants, chiefly drainage from abandoned coal mines.

Highway work near the Arnold Palmer Regional Airport involved replacing the intersection of Route 981, Charles Houck Road, and Gravel Hill Road with a roundabout and a new road that will connect with Charles Houck Road. Route 981 south of Arnold



A view of the improved Interstate 70.

This eastbound off-ramp at New Stanton was designed so that water from the island (far left), the ramp (center), and the sloped hillside (far right) all will drain into a common infiltration area (low point with rocks).

The island and foreground have been dressed with topsoil reclaimed from the site, and will be seeded just as the slope to the far right has been.

Palmer Drive also was widened to add a middle turning lane.

Our erosion control specialist/compliance coordinator regularly inspected this site, which involved the disturbance of some four acres of soil.

Some 42 acres of land was disturbed for a project to widen **Route 31 near the Donegal interchange of the Pennsylvania Turnpike**, add turning lanes, and improve two intersections.

Our erosion control staff frequently visited this \$20-million improvement project to ensure that erosion was minimized and that nearby Indian Creek was protected.

We have been noticing a **resurgence of residential development** in Westmoreland County in the past two years.

In North Huntingdon on 84 acres off Barnes Lake Road, Phase II of the Tuscan Hills residential development began last year.











2017 Erosion and Sedimentation Control Inspections by Municipality

Hempfield Township.....	34
Salem Township.....	25
Unity Township	21
Municipality of Murrysville.....	17
Cook Township	14
Penn Township.....	14
North Huntingdon Township	13
Ligonier Township	11
City of Latrobe	7
East Huntingdon Township	7
Rostraver Township.....	7
Townships with 6 inspections or fewer ...	48

Total Inspections.....218

2017 Erosion and Sedimentation Control Plan Reviews by Watershed



	Turtle Creek	64
	Sewickley Creek.....	51
	Loyalhanna Creek.....	42
	Kiskiminetas River.....	18
	Youghiogheny River.....	17
	Pucketa Creek/Allegheny River	12
	Jacobs Creek	9
	Monongahela River	5
	Conemaugh River.....	2
	Indian Creek.....	1

Total Plan Reviews221



Resurging residential development in Westmoreland County recently included a 200-home community called Rivendell in Penn Township.

The blue compost socks that line the borders of the lots control erosion from the building sites.



Continuing development of North Huntingdon's Tuscan Hills residential plan included creation of a forebay (right, foreground) and sediment basin (left, foreground) for temporary erosion control and permanent stormwater control.

This project involved a good deal of earthmoving, which our senior erosion control specialist regularly inspected to ensure erosion was being controlled.

Ultimately, this single-family-home development is scheduled to have a total of 400 houses constructed in five phases.

During 2017, we also reviewed plans for a 200-home community called Rivendell, to be built by Ryan Homes in Penn Township.

Almost **\$495,000 in improvements were made to a total of 10 dirt, gravel, and low-volume roads**

throughout the county in 2017.

Three dirt and gravel roads and seven low-volume roads were improved (see map on page 23).

Improvements were specific to the road conditions, but included such things as underdrains, cross pipes, catch basins, conveyor belt diversions, and Driving Surface Aggregate (see item later in this section).

Most improvements involved a portion of the road, not the entire length of the road.

Funding was provided by allocations in 2016 and 2017 from the Dirt, Gravel, and Low Volume Road Maintenance Program.

Hartman Road in Fairfield Township was the site of the first full-depth road reclamation in Westmoreland County, and possibly in the state of Pennsylvania.

This process is very conservation-minded because it rebuilds worn out asphalt pavement by recycling the existing roadway.

The old asphalt and base materials along some 2,800 linear feet of this road were milled to a depth of 11 inches, pulverized in place, then moistened, compacted, and graded.

Dry concrete and water were placed on top of the pulverized asphalt/base, mixed in with a tiller to form a homogenous material with improved structural characteristics, then rolled and smoothed again.

Since this method recycles materials in place, there was no need to haul in new aggregate or haul out old materials. Properly installed, this process can create a surface that has a life cycle of up to 30 years.

Conveyor belt diversions also were added on two private drives that intersect Hartman Road to reduce the amount of water flowing onto it.

By stabilizing this road surface and reducing the amount of runoff, we are **protecting the water quality in nearby Hypocrite Creek**, which is a high-quality stream that flows into Tubmill Creek, a stream whose water quality is of the highest standard (Exceptional



A "reclaimer" mills the existing asphalt and base materials on Hartman Road during the first full-depth road reclamation in Westmoreland County.

The milled materials stay in place and are used to create the new, improved road surface. Improvements here benefit drivers and nearby high-quality Hypocrite Creek.

Value) according to the Pennsylvania Department of Environmental Protection.

Phase II of the Coal Hollow Road improvement project – the addition of a 4- to 6-inch layer of Driving Surface Aggregate – was completed during the year.

Driving Surface Aggregate is a special surface formulation developed by the Penn State Center for Dirt and Gravel Road Studies. It must be mixed at a quarry and independently lab-verified as to its pH, plasticity, and other quality control factors.

The one-mile stretch of Coal Hollow Road in Bell

Township paved with DSA now has a stable surface, making travel better for drivers and significantly reducing the road erosion that was contaminating nearby Beaver Run.

This latest phase of the Coal Hollow Road project was funded by the Dirt, Gravel, and Low Volume Road Maintenance Program. The first phase of the road improvement, completed in 2016, was funded by a grant from Growing Greener.

In anticipation of the roadway work, a cleanup of the area was held in the spring by volunteers from the District, Westmoreland Cleanways and Recycling/Keep America Beautiful, PennDOT, the Bell

Township supervisors and public works crew, Roaring Run Watershed Association, and the Kiskiminetas Watershed Association.

Enough trash – including TVs, electronics, building materials, and tires – was removed to fill a 30-yard dumpster.

We renewed three Conservation Partnership Agreements – with Cook Township, Derry Borough, and Penn Township – and established a new one with North Belle Vernon Borough.

In all, we have 36 of these agreements in place, and each details how we and the municipality will work together to minimize the impact of development on the natural resources in that location.

We regularly renew existing agreements, and work to establish new ones, particularly with municipalities where development is increasing.

We made great progress during the late fall and winter on **completing the final inspections needed to close out plans with National Pollutant Discharge Elimination System permits**, thanks to our West Nile virus program technician.

With her mosquito-related work on hold during the colder months, she has been helping to wrap up this last administrative detail on a number of earth-moving projects by visiting the sites, taking pictures, talking with the erosion and sediment control staff, and writing up the final inspection reports.

CLEAN STREAMS

One of the largest stormwater management plans our hydraulic engineer reviewed in 2017 was related to the **next phase of infrastructure improvements along 1-70.**

Several miles of highway in South Huntingdon Township – from New Stanton west – are scheduled to be widened and reconstructed over the next several years.

Linear projects such as this tend to be complicated, with many pipes and ditches, multiple detention ponds, and outlet points.

PennDOT and its consultants met with the District to discuss the project before preparing and submitting the stormwater plans, and this pre-plan meeting gave our staff an opportunity to offer general recommendations regarding the type, number, and placement of controls needed.

Pre-plan meetings have proven to be beneficial because they usually make reviewing the project plans and drawings faster.

A multi-year partnership project in the Turtle Creek Watershed put additional stormwater projects on the ground in 2017, including four municipal stormwater basin retrofits in Penn Township neighborhoods, two municipal stormwater basin retrofits in Westmoreland County Industrial Development Corporation properties in Penn Township, and one at the Monroeville Senior Citizen Center, the latter of which was constructed by the municipality of Monroeville.

In 2016, this watershed effort also retrofitted four municipal stormwater basins in Murrysville.

A rain garden at the Gateway School District campus and a permeable pavement installation at the Monroeville Library are the remaining elements of



Two of the four municipal stormwater basins in Penn Township that benefited from retrofit efforts during the year. A small tributary to Bushy Run flows between the two basins, which were improved as part of a larger, water-quality effort in the Turtle Creek Watershed.



Senior Erosion Control Specialist Chris Droste (left) and Hydraulic Engineer Jim Pillsbury (right) provided information to engineers, municipal officials, and others throughout the year, encouraging them to adopt conservation practices that reduce erosion and manage stormwater.

The District’s outreach efforts in 2017 included eight workshops for municipal officials and a two-day workshop for engineers that reached a combined total of 450 people.

the project, which was undertaken with the Allegheny County Conservation District and funded by a \$283,000 grant from Growing Greener.

Our watershed specialist wrote a successful grant to **retrofit some six stormwater basins owned by the municipality of Murrysville.**

The \$64,420 award from Growing Greener will be used for the design and construction, both of which are set to begin in 2018.

Our watershed program manager prepared the design and provided the oversight for a mitigation effort to **improve Sherrick Run in Mount Pleasant Township.**

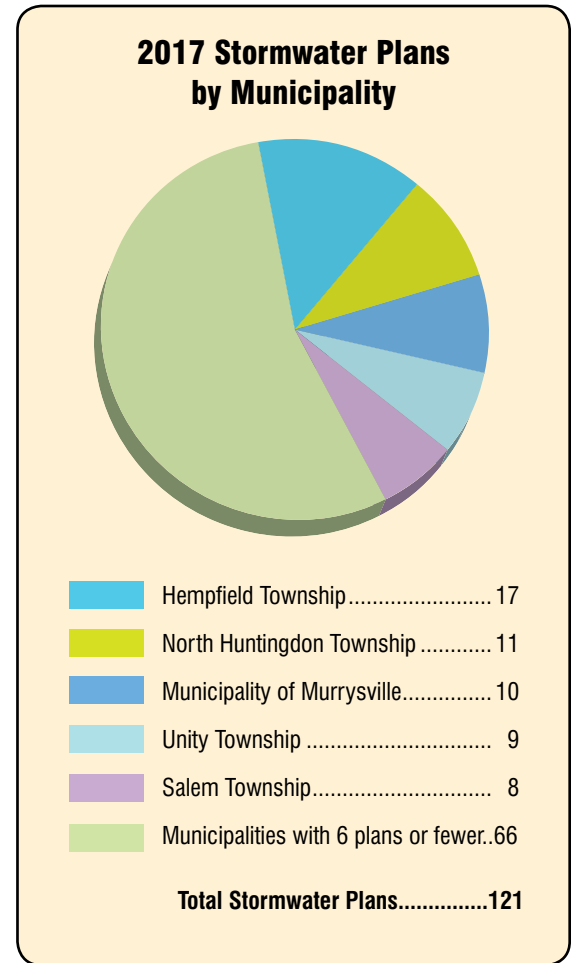
A concrete channel that had lined some 1,000 feet of this stream since the 1970s, when nearby Route 119 was built, was removed.

Nine rock vanes and two J-hook vanes were installed to reduce streambank erosion and some 25 trees, 25 shrubs, and 200 live-stake willows were planted to help naturalize this stream, which runs parallel to new and old Routes 119, and is a tributary to Jacobs Creek.

Small concrete dams also were installed in a nine-foot pipe that runs under the highway to create a more natural stream bottom for aquatic life (also see page 5).

This work was completed thanks to a grant from PennDOT.

During their field inspections, our technical staff observed that **underground pipes that convey stormwater are not always properly sealed** with substances such as non-shrink grout. Lack of proper seals can result in failure of the system and the



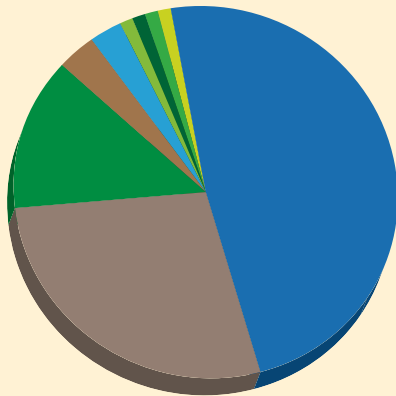
creation of problems such as sinkholes.










In addition to increasing education about this matter, our technical staff is making these stormwater seals a “critical stage of construction,” which means an engineer or designer has to physically be at the site, witness that this was done properly, and attest to it in their final report.

We believe this will lead to better practices and reduce damage to the surrounding resources.

We co-hosted eight stormwater management

2017 Stream Encroachment Permits by Category



	Utility Line Stream Crossings.....	87
	Temporary Road Crossings	50
	Minor Road Crossings.....	24
	Intake and Outfall Structures.....	6
	Bank Rehabilitation, Bank Protection & Gravel Bar Removal....	5
	Fish Habitat Enhancement Structures.....	2
	Agricultural Crossings and Ramps..	2
	Agricultural Activities.....	2
	Small Docks & Boat Launching Ramps	2

Total Permits.....180

workshops for municipal officials and the public in Rostraver and Penn townships, the Municipality of Murrysville, and New Stanton and Youngwood boroughs.

The workshops provided basic information on how to manage stormwater, the benefits of green infrastructure, and guidelines for implementing and maintaining these measures.

Under the Municipal Separate Storm Sewer Systems program, certain municipalities in Westmoreland County are required to provide this type of information to three audiences: homeowners, public works employees, and homeowner associations/commercial building owners.

Four of the eight 2017 workshops were directed to public works employees, three to homeowners, and one to homeowner associations/commercial building owners.

The ultimate goal of all workshops is to help people take actions that will reduce stormwater runoff and, along with it, the sediment and other pollutants that it can carry into streams and waterways.

In all, 90 people attended these information events in 2017.

Our stormwater and communications staff worked to produce seven easy-to-follow **guides for managing stormwater and reducing pollution**.

Each guide focuses on one thing home and property owners can do, such as creating a streamside buffer, planting trees, creating a rain garden or grassy swale, installing permeable paving, and using rain barrels and dry wells.

The guides' step-by-step format helps ensure success, and they can be printed or downloaded from the District's website, www.wcdpa.com, for reference by clicking on the large, quick link icon, "Homeowner's Stormwater Guide BMP Toolkit" on the homepage.

Funding for this project was provided by a \$3,000

Environmental Education grant from the Pennsylvania Department of Environmental Protection.

Our **annual two-day Engineers' Workshop in March** attracted a combined total of **360 design professionals from the Pittsburgh region**, who came to hear the latest erosion control and stormwater management advances.

Topics ranged from the purpose of and progress on the countywide Integrated Water Resources Plan to designing controls for function, aesthetics, and future design changes.

Speakers included Damon Weiss of Ethos Collaborative, the company that developed specific watershed models for Westmoreland County's Integrated Water Resources Plan, and other design professionals who provided examples of community-based stormwater management strategies.

We gladly shared our expertise with neighboring conservation districts.

Allegheny County Conservation District hired a dedicated stormwater management staff member during the year and our hydraulic engineer met and talked with him often, helping to get a stormwater program like ours up and running in the region in and around Pittsburgh.

Indiana County's stormwater management working group, which includes its conservation district as well as local municipal officials and others, came to the District for a tour and discussion of best management practices.

PRODUCTIVE FARMS

Either because of the number of animals they have, or because of the number of pounds of animals per acre, most of the farms in Westmoreland County no longer need to have a Nutrient Management Plan.

They are required, however, to have a Manure Management Plan if they generate manure on the farm or import it.

The good news is Manure Management Plans are much easier to prepare – the landowner often can do them with just a little guidance – and they do not have to be submitted or approved (just kept on hand).

Our nutrient management specialist/agricultural conservation technician has been holding workshops in various locations throughout the county for the past several years to help farmers understand this new change in requirements, and to help them prepare a Manure Management Plan for their farm.

During 2017, he held five such workshops – in Donegal, Loyalhanna, Mount Pleasant and Washington townships, and at the District headquarters. **Thirty-nine farmers completed their plans at these half-day workshops, and 12 more finished theirs later during the year.**

Since the workshops began in 2015, some 150 Westmoreland County farmers have developed Manure Management Plans for their operations.

The Pennsylvania Association of Conservation Districts has provided a grant each year to support these workshops.

In addition to a Manure Management Plan, the only other requirement that area farmers may have to meet is to have an erosion and sediment control plan for their farm.

An erosion and sediment control plan is necessary only if a farm operation disturbs more than 5,000 square feet of soil (note: the state considers no till as a



Jamison Farm is a highly successful example of niche farming in Westmoreland County.

For 40 years, this Unity Township operation has grown grass as its only crop. That fact, combined with a system of rotational grazing, means this 212-acre farm may produce the least amount of sediment of any working farm its size in the county.

In 2017, Jamison Farm was named the Conservation Farmer of the Year (see pages 19-20).

soil disturbance, even though its impact is minimal).

To help farmers understand this requirement and complete their plans, we **hosted a workshop in March in conjunction with Fayette County Conservation District**. Six farmers attended and completed their plans.

Farmers who need to complete a plan but have not can do so through a website called PAOneStop (www.paonestop.org). The District's nutrient management specialist/agricultural conservation technician is available to provide guidance, if needed.

Our nutrient management specialist/agricultural conservation technician **provided information and assistance more than 720 times to area farmers** throughout the year via email, telephone, visits to their farms, and meetings with farmers in his office.

Assistance is almost always personalized to the needs of the farmer and can involve a wide variety of subjects, including agricultural stream crossing permits, the best time to seed a pasture, and managing stormwater runoff.

We received **14 complaints related to agricultural operations in 2017**, and our nutrient management

specialist/agricultural conservation technician was able to work with the farmers involved to **find satisfactory solutions to all of them**, closing out a dozen and carrying over two for completion into the new year.

Most agricultural complaints have to do with manure and sediment negatively affecting water quality, such as when cows have unrestrained access to a stream. Resolution usually involves the farmer voluntarily making some adjustments to the operation.

The District does have authority to take enforcement action if the complaint is related to erosion issues and not addressed in a reasonable amount of time.

In 2017, the State Conservation Commission **changed the formula it uses to determine how much money will be allocated to county conservation districts for nutrient management work.**

The new formula resulted in a cut of some \$10,500 in the annual funding we receive for this program.

To compensate for this loss of financial support, our nutrient management specialist/agricultural conservation technician had to shift how he spent some of his time during the year, replacing some of his nutrient management efforts with floodplain work.



District Board Member Paul Sarver, an organic and Community Supported Agriculture farmer, is our liaison with those communities as well as with other specialty and niche farmers who are members of the Westmoreland County Farm Market Association, for which Paul serves as manager.

The name of the annual southwest regional farming conference has evolved over the years, and last year become known as “**The Soil Health and No Till**

Conference” to reflect its broadening emphasis on all aspects of soil health, including cover crops and grazing.

Fun features included a discussion of how the use of drones can help increase crop awareness, yield, and profitability; and a display showing how rain water runs at different rates through a section of field planted with different crops.

Main speakers were Jim Hoorman, cover crop and soil health specialist for Ohio-Michigan with the Natural Resources Conservation Service; Nicole Wood, plant industry agronomic products inspector with the Pennsylvania Department of Agriculture; and Russ Wilson, a small family farm owner who practices no till and small rotational grazing.

Attendance held the same as in past years, with some 135 people attending the late January event at Fred Rogers Center, Latrobe.



Russ Wilson, a farmer who practices no till and rotational grazing, was one of the speakers at this year’s “Soil Health and No Till Conference.”

Some 135 people attended this event, which is cosponsored by the District.

HEALTHY FORESTS

When changes were made to the Pennsylvania Code that governs erosion and sediment control (Title 25, PA Chapter 102), it set in motion the need to also **update a document that helps timber harvesters be in compliance with that code.**

Our forester and board chairman were part of a broad-based consortium of state agencies and private forestry organizations that met to create the new guidance document, which includes the new code changes, such as the use of new technologies (including conveyor belt diversions) and new considerations (such as thermal impacts on streams).

The new guidance document built on the erosion and sediment control plan that was part of the “Timber Harvesters’ Action Packet,” which timber harvesters formerly used for guidance.

The new document also includes the typicals and tables that were formerly shown separately in the action packet.

The new document is being reviewed by the Pennsylvania Department of Environmental Protection.

Art Gover, a highly respected vegetation management expert in Pennsylvania, spent four working days in **Ann Rudd Saxman Nature Park to control invasive plant species** in 12 of the park’s 65 acres.

Privet (*Ligustrum vulgare*) and various exotic bush honeysuckle (*Lonicera* spp.) were the most common non-native plants in this section of the park. Other undesirable species treated included Tree of Heaven (*Ailanthus altissima*), Norway maple (*Acer platanoides*), multiflora rose (*Rosa multiflora*) and Oriental bittersweet (*Celastrus orbiculatus*).

Invasive plant species are those that are not native to a specific location and that have a tendency to grow and reproduce quickly and spread aggressively. They



A large landing area (foreground), covered in wood chips, helped to prevent erosion and sediment pollution during a landowner's forest clear cut (background) in Mount Pleasant Township.

Although clear cuts are not frequently done in our county, our forester believes this area should regenerate fairly well because of the many stumps remaining as well as the seed bank in the soil.

are pervasive in western Pennsylvania and have the potential to harm the forest ecosystem, the economy, or even human health.

Additional work in Nature Park for 2018 will include fencing a portion of the treated area, planting with native seedlings in protected tubes, and making trail improvements.

All work is being done in accordance with a stewardship plan developed for the property by our forester.

This three-year effort to improve Nature Park is made possible by grants from the Dominion Foundation (\$15,000), the Community Foundation for the Alleghenies (\$5,000), and the Pennsylvania Department of Conservation and Natural Resources (\$29,500).

The amount of timbering in Hempfield Township has increased noticeably over the past few years, with some 10 property owners in and around

Middletown Road, Henry Road, Mt. Thor Road, Dunn Road, and Route 136 recently having their properties timbered.

Likewise, a healthy number of sites in Ligonier Township and Cook Township have been harvested, along with a large site in Mount Pleasant Township (pictured above).

Our forester inspected these and other timber-harvesting sites – which combined affected some 700 acres – 36 times in 2017 to ensure that controls were in place to limit the amount of erosion and sedimentation.

He also **met 14 times to provide technical assistance** to those who needed to prepare an erosion and sedimentation plan, and reviewed site plans six times.

Our forester **prepared basic forest management plans for six woodlot owners** in the county, providing

management guidance for a total of more than 400 acres.

A basic forest management plan includes an inventory of the site; an evaluation of the tree species present, along with their age and condition, and number per acre; the stand density and its regeneration potential; the presence of invasive species (an increasing concern throughout the county); and basic recommendations for managing the woodlot.

Our forester **did inspections on a record number of acres – close to 600 – that are part of the Pennsylvania “Clean and Green” program** in 2017.

This program helps protect forest by taxing the land according to its use, rather than its prevailing market value.

Based on annual reports conducted by the Pennsylvania Department of Agriculture, the average reduction in fair market assessed value for enrollees is nearly 50 percent.

Our forester spoke to a group of 25 people in late summer on **how to use the web soil survey to do**



Winged euonymus, also known as burning bush, is one of the undesirable, invasive plants treated in Ann Rudd Saxman Nature Park.

SUSTAINABLE COMMUNITIES

Our stormwater staff as well as other members of our technical staff continued to be very involved in the ambitious work to **develop an Integrated Water Resources Plan for Westmoreland County**.

The purpose of the plan is to provide guidance on how to manage water resources with respect to land use and development, as well as how to address water-related problems such as flooding and sewage overflows.

The plan is looking at all aspects of water – stormwater, drinking water, sewage, lakes and streams, and groundwater.

During 2017, ten priority watersheds, representing about 50% of Westmoreland County, were identified: Conemaugh River (Derry Borough area), Loyallhanna Creek, Jacobs Creek, Kiskiminetas River (Delmont Borough area), Monongahela River*, Pucketa Creek, Allegheny River*, Sewickley Creek, Turtle Creek and Youghiogheny River.*

All or some of each of these priority watersheds was modeled to obtain such data as water quality, rate of runoff, volume of water, and so on (also see pages 2-3).

This real-world information is being used to update land-development design standards, to identify areas of stream pollution and stormwater problems, and to guide the development of stormwater ordinances.

Also being developed is a flow chart that will take local decision makers step-by-step through different water resource scenarios.

The detailed flow chart will present a series of very specific questions to determine what actions are needed to protect nearby water resources.

The ongoing, two-year effort to develop an Integrated Water Resources Plan has been very participatory,

** Including only the Westmoreland County areas of these watersheds.*



On a field trip to Champion Lumber Company, Champion, our forester (center) showed participants how to evaluate the bottom end of a potential veneer log for defects.

This log is usually the most valuable part of the tree when sold and converted into wood products.

erosion and sediment control plans for timber harvesting sites.

His talk, given in State College, was sponsored by the Pennsylvania chapter of the Association of Consulting Foresters.

The District helps support the Westmoreland Woodlands Improvement Association, a nonprofit group of citizens whose mission is to encourage good management of woodlands.

During the year, our forester and visual communication specialist worked with WWIA members to

create a full-color tabletop display about the organization that can be used at meetings and various public events. They also helped to update the group's brochure and website.

Our forester serves as treasurer and our fiscal administrator provides accounting services for the group, which has some 80 members, most of who own a woodlot.



The large disturbed area is the former site of Monsour Hospital. This four-acre, prime commercial location along Route 30 in Jeannette was reclaimed and prepared to accept new development. District staff helped with permit reviews and site inspections.

involving some 100 members of relevant area organizations including watershed associations, municipal authorities, local governments, and the general public.

Our District staff hosted meetings during the year to obtain input.

The plan is projected to be complete in 2018. It will be available in a number of ways, including on its own dedicated website.

Our erosion control and stormwater staff reviewed the plans and helped obtain the permits needed to **facilitate the ongoing reuse of brownfield sites throughout the county.**

For a proposed reuse of the **former Jeannette Glass** site, we were able to improve the review process by

requesting a joint review with the state Department of Environmental Protection.

Our senior erosion control specialist and our hydraulic engineer traveled to Pittsburgh to join with DEP officials in concurrently reviewing the plans for this 13-1/2-acre site. This resulted in a better and more unified review that allowed the applicant to receive project approval in a more timely fashion.

Also in Jeannette, the four-acre site where **Monsour Hospital** once stood was reclaimed and made pad-ready for future development.

We helped in this process by reviewing permits needed to do the reclamation work, and by doing field walks to identify different stormwater discharge points.

The restoration work also benefitted nearby residents by addressing natural springs found on the site and by installing a retention pond so that uncontrolled runoff water is no longer getting into their yards.

Near the junction of Harrison City/Export and Watt roads in Penn Township, an area that was once a coal mine is slowly being reclaimed.

Development first began in this area in the 1980s. In the 1990s, a shopping center with a Giant Eagle and restaurant were built and, most recently, a three-level senior living apartment building called **Penn Crossing Senior Village was constructed in 2017.**

Our erosion control specialist inspected this reclaimed site regularly during the year, with the final inspection completed in December.

“Reimagining Our Westmoreland” is an effort by county planning officials to develop a plan for creating a more livable and prosperous region.

They have been analyzing trends in population, economics, housing, environment, infrastructure, and other key aspects of local life.

They also have been gathering input from area citizens with experience and expertise in various areas.

In January, the District hosted three public meetings: one on agriculture (one-third of the county is involved in farming), one on forestry (one-half of the county is wooded), and one on stormwater (this is the number one complaint municipalities deal with).

A total of 60 people attended and their thoughts are being considered as the county prepares its new strategic direction.

We continued to provide support to area watershed associations and trail groups during the year.

For the **Kiskiminetas Watershed Association**, we helped apply a \$2,650 grant toward improving the



REIMAGINING OUR
WESTMORELAND
a plan for a more livable & prosperous county



Area leaders and citizens – including District staff and area specialists in the areas of agriculture, forestry, and stormwater – participated in the development of the new Westmoreland County comprehensive plan.

trailhead at its property, located off West Leechburg Hill Road.

The money was used to remove dense stands of Japanese knotweed and stilt grass, along with concrete and asphalt that had been illegally dumped there. More than 50 trees and shrubs were planted between the trailhead and the stream, not only beautifying the area but also creating a riparian buffer to help water quality.

The grant for this work was provided by the Western Pennsylvania Conservancy and the Dominion

Foundation.

For the **Sewickley Creek Watershed Association**, our watershed specialist wrote a successful grant and received \$2,500 toward construction of a pavilion at the Lowber Passive Treatment System site.

The pavilion, estimated to cost upwards of \$15,000, will provide needed shelter for school groups and others who come to learn about this method of removing contaminants that enter our streams from abandoned coal mines.

The \$2,500 grant was given by the Anthracite Region Independent Power Producers Association. Fundraising for the pavilion is continuing.

Also for this watershed association, our visual communications specialist is helping to design signs for canoe/kayak launches and a case statement presentation.

For the newly re-energized **Turtle Creek Watershed Association**, our AmeriCorps member created a newsletter and applied for a \$1,655 grant to fund the printing and mailing of additional issues of the newsletter and cards, the purchase of a gift for association members, and a banner for the organization.

Success of the grant application will be known in February 2018.

For the TCWA, we also procured a \$1,500 grant to cover the costs and coordinated the printing of three large informational signs about the watershed.

84 Lumber generously donated materials and TCWA board members are building the kiosk that will hold two of the three signs – one with general information about watersheds and one on how to manage a stream on your property.

For the **Westmoreland Heritage Trail**, a scenic bicycle and walking trail covering 8.5 miles from Saltsburg to Delmont, and another 5.9 miles from Murrysville to Trafford, our AmeriCorps member



created a website, the trail's first, with detailed information about each trail access point – from how to get there to what amenities are available.

The new website also features background on the trail (which in 2017 celebrated the grand opening of the Murrysville to Trafford section), major accomplishments, upcoming events, and an opportunity to become a member with a PayPal purchase.

The site also is designed so that the trail group can gather information about the number of visitors, what they viewed, and so on.

For the **Great Allegheny Passage**, quick action by our watershed program manager and a variety of partners helped to avert a potentially serious situation.

In late summer, a county parks manager noticed that a 30-foot-high cut-stone bridge abutment that supported the trail over Cedar Creek was seriously eroded.

The remains of an old water wheel upstream had focused Cedar Creek's velocity against the base of this



Emergency repairs to a bridge abutment that carries the Great Allegheny Passage over Cedar Creek averted a potentially serious situation.

The left photo, taken during repairs, shows how significantly this supporting structure had been undercut.

The center photo shows the layer of concrete poured to build up the stream bottom and fill the voids under the abutment.

The right photo shows the repaired abutment and restored stream.

support structure and, over time, severely undercut its foundation. When the situation was discovered, seven feet of the pillar's foundation was unsupported, leaving it cantilevered precariously over the stream.

Our watershed program manager acted quickly to obtain permits, develop a design, issue construction bids, and identify a construction firm to do the emergency repair, which used concrete to build the stream bottom up to fill the voids under the abutment.

More than 120 yards of concrete were used, and poured in a way that simulated a naturalized streambed.

This \$42,000 emergency work was funded by the Regional Trail Corporation.

Phase II of the project, which will minimize the erosion caused by the water wheel, will take place in 2018.

For the **Latrobe-St. Vincent Trail**, we helped to coordinate a group of 14 AmeriCorp members and worked with them to clear brush from the abutments where a bridge once crossed Monastery Run between

Saint Vincent College and the City of Latrobe.

The site also was stabilized with rock and the goal is to build a new bridge at this location in 2018.

For the **5 Star Trail**, our fiscal administrator provided accounting services, and our visual communications specialist helped to produce, print, and distribute two issues of the organization's newsletter.

Jamison Farm and Bove Engineering were the award recipients at the District's 2017 Awards Reception/Open House on September 13.

Jamison Farm – the Conservation Farmer of the Year – is a 212-acre property in Unity Township that processes some 3,000 lambs each year that are known for quality and sought by some of the finest chefs and restaurants in America.

Sukey and John Jamison attribute much of the quality of their product to the quality of the grass that grows here in southwestern Pennsylvania. And indeed, grass

has been their only crop for some four decades.

That fact, along with an extensive grid of fencing that allows them to keep the sheep in any of 20 paddocks and away from the stream, means that the Jamison farm may produce the least sedimentation of any working farm of its size in Westmoreland County.

In fact, there is so little erosion and such good grass on their property that the Jamisons were recently able to use an animal runway as a paddock.

The Jamisons have a Natural Resources Conservation Service Grazing Plan, a Conservation Plan, and are updating the Manure Management Plan for their farm, which is preserved through the Westmoreland County Agricultural Land Preservation Program.

Bove Engineering, a three-generation firm that currently serves as the municipal engineer for 10 different Westmoreland County communities, and as the sewage enforcement officer for 12 different Westmoreland County communities, was the recipient of the J. Roy Houston Conservation Partnership Award.



Sukey and John Jamison (center), Conservation Farmers of the Year, with their photo montage award and District Board members Conrad Donovan (l) and Fred Slezak (r).



(l-r) Brothers Lucien and Emil Bove of Bove Engineering, with their father and firm founder Michael Bove, receive the J. Roy Houston Conservation Partnership Award for their five decades of support for conservation.

Making the presentation are District Board Chairman Ron Rohall and Vice Chairman Joe Dietrick.

As municipal engineers, the Boves are in a unique position to promote effective conservation practices and to help put them in place in the communities they serve.

Over the years, Bove Engineering has helped to implement a number of important conservation practices, including helping to get stormwater controls on projects and developments as far back as the 1980s in Hempfield Township, before most municipalities were even thinking about managing runoff. In fact, Bove Engineering helped create one of the first stormwater management ponds in Hempfield Township and one of the first Stormtech Infiltration Systems in Westmoreland County.

Over five decades, as elected officials changed, Bove Engineering has been a constant in many Westmoreland County communities. As such, they help newly elected community managers understand the benefits of conservation practices, encourage Conservation Partnership Agreements between municipalities and the District, help to shape and enforce local ordinances, and see that conservation measures are incorporated in the ongoing variety of municipal infrastructure projects – from streets and sidewalks to water and sewer systems.

Both Lucien and Emil serve as advisors on the District's Technical Programs Committee, offering professional expertise to help develop and sustain the District's erosion control and stormwater management programs. Emil also serves the District as an associate director.

Peoples Natural Gas is the sponsor of the J. Roy Houston Conservation Partnership Award.

Peoples also is the Awards Reception's major sponsor.

Our education program – including the outreach efforts we sponsor and those we co-sponsor with other organizations – offered **47 conservation-related**

events in 2017, reaching 1,150 people.

Major program offerings are detailed under the respective sections of this annual report.

The 2017 Westmoreland County Envirothon had 120 students from nine area schools competing to see which team had the most knowledge of the natural world – including aquatic ecology, forestry, soils and land use, and wildlife – as well as a current environmental issue, “Agricultural Soil and Water Conservation Stewardship.”

Team 1 from Southmoreland High School took top honors in the county competition in May at Twin Lakes Park and then went on to place sixth in the statewide competition.

Six new conservation case studies were added to our website reference tool – the Best Management Practices Portfolio – during the year.

Our AmeriCorps member completed four additions, featuring information about conservation work



Board member Bill Doney, a retired teacher and owner/operator of a 220-acre farm in South Huntingdon Township, talks to Envirothon participants about this year’s current issue – agricultural soil and water conservation stewardship.

done at the Lydick Farm, Ann Rudd Saxman Nature Park/Donohoe Creek, Mill Creek, and Jacobs Creek.

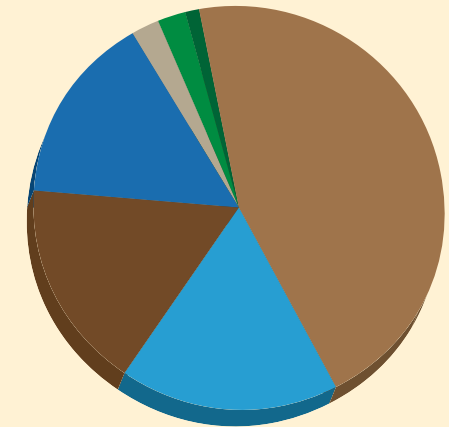
All of these projects are categorized under the Watershed Restoration section of the portfolio and involve a variety of conservation efforts, from restoration of a sinkhole that caused part of Derry Township’s Stony



Southmoreland High School Team 1 captured first place in the Westmoreland County Envirothon. Shown with District Board Member County Commissioner Ted Kopas are (l-r) Alex Busato, Haley Rollinson, Brendan Hixson, Jenna Hixson (advisor), Mady Bodenheimer, and Raine Lookabill.

These students went on to place sixth in the Pennsylvania state Envirothon.

2017 Technical Assistance by Program



■ Erosion and Sediment Pollution Control.....	1,999
■ Stream Encroachment.....	754
■ Agriculture	728
■ Stormwater Management	669
■ Dirt, Gravel and Low Volume Roads.....	107
■ Watershed Restoration	93
■ Forestry	42
Total Assistance.....	4,392

Above and Beyond Projects

Run to disappear, to stabilizing 500 feet of severely eroding streambank along Jacobs Creek in Laurelville.

Likewise, our landscape architect/stormwater technician added two fact sheets, one on using rain gardens to retrofit the parking lot of the Saint James Evangelical Lutheran Church in Ligonier, and one on the renovation of the District's visitor and staff parking lots with porous pavers. These can be found under the Stormwater section of the portfolio.

In addition to watershed restoration and stormwater work, the portfolio also provides case studies of area dirt and gravel road and agriculture projects.

To do conservation projects that are needed in Westmoreland County, but that are "above and beyond" our funded, mandated duties, we seek out nontraditional sources of funding. This largely involves applying for competitive grants from the state and federal governments, and from foundations and organizations.

How successful we are in winning these grants determines what "above and beyond" conservation projects we can do.

In 2017, we had some \$1,971,420 in nontraditional funding in-hand, and were using it (or preparing to use it) to put 14 "above

and beyond" conservation projects in place in our county.

These projects are shown as numbers 1 through 12 on the map on the next page. The additional two "above and beyond" projects – the stormwater basin retrofit video and the Integrated Water Resources Plan – are countywide efforts. The Integrated Water Resources Plan involved modeling areas of 10 different watersheds, identified by color on the map (see legend).

Some of the "above and beyond" projects are multi-year efforts.

Funded by Competitive Grant Awards

- | | | |
|---|---|---|
| <p>4 Integrated Water Resources Plan*
<i>Countywide</i>
Watershed areas of interest modeled for release rate by water quality, stormwater best management practice demonstrations constructed, best management practice monitoring program initiated
\$300,000 Richard King Mellon Foundation</p> | <p>5 J. Roy Houston Conservation Center, Donohoe Center, GreenForge Landscape and Green Roof Improvements
Hempfield Township
\$87,000 Katherine Mabis McKenna Foundation</p> | <p>8 Westmoreland Heritage Trail Interpretive Signs
Partnership project with Turtle Creek Watershed Association
Municipality of Murrysville
\$500 Western Pennsylvania Conservancy/
Dominion Energy Charitable Foundation</p> |
| <p>5 Stormwater Basin Retrofit Video*
<i>Countywide Education Effort</i>
\$2,000 PA Association of Conservation Districts Nonpoint Source Pollution Prevention Mini-Grant</p> | <p>6 Ann Rudd Saxman Nature Park Stewardship Plan Development and Implementation
Hempfield Township
\$29,500 PA Department of Conservation and Natural Resources
\$15,000 Dominion Foundation
\$ 5,000 Community Foundation for the Alleghenies</p> | <p>9 Acme Dam**
<i>Wetland Improvements</i>
\$375,000 PennDOT mitigation funding</p> |
| <p>1 Municipal Stormwater Basins Retrofits - Seven basins total
Partnership project with Allegheny County Conservation District
Penn Township (6 basins) and Monroeville (1 basin)
Part of a larger, \$283,000 project funded by Growing Greener</p> | <p>6 Cedar Creek Park - Great Allegheny Passage Bridge Improvements
Partnership project with Westmoreland County Parks and Regional Trail Corporation
Rostraver Township
\$42,000 Regional Trail Corporation</p> | <p>10 Jacobs Creek**
<i>Stream Improvements</i>
\$218,000 PennDOT mitigation funding</p> |
| <p>2 Cherry Creek
<i>Stream Improvements</i>
Hempfield Township
\$231,000 PennDOT mitigation funding</p> | <p>7 Rogers Farm
<i>Agricultural Best Management Practices</i>
Partnership project with Jacobs Creek Watershed Association
Mount Pleasant Township
\$6,000 PA Department of Community & Economic Development</p> | <p>11 First Presbyterian Church of Murrysville and Murrysville Volunteer Fire Company**
<i>Stormwater Best Management Practices</i>
Murrysville
\$103,000 Growing Greener</p> |
| <p>3 Sherrick Run
<i>Stream Improvements</i>
Mount Pleasant Township
\$210,000 PennDOT mitigation funding</p> | | <p>12 Municipal Stormwater Basins**
<i>Retrofits - Six basins total</i>
Municipality of Murrysville
\$64,420 Growing Greener</p> |

* Because this is a countywide effort, it is not shown as a single point on the map.

** Funding was awarded and contracts were signed for these projects in 2017. Work is scheduled to begin in 2018.

Dirt, Gravel, and Low Volume Road Maintenance Program

These projects are put in place under a standing District program.

They are funded annually by the Dirt, Gravel, and Low Volume Road Maintenance Program.

The Pennsylvania legislature established this program to eliminate stream pollution caused by water runoff and sediment from unpaved roads.

Money for this program is allocated to conservation districts by the State Conservation Commission, based on the number of miles of dirt roads in a given county.

Dirt and Gravel Roads

- 1 Coal Hollow Road**
Bell Township
Kiskiminetas River Watershed
- 2 Gross Road**
Fairfield Township
Conemaugh River Watershed
- 3 Weimer Nursery Road***
Loyalhanna Township
Conemaugh River Watershed

Low Volume Roads

- 4 Hartman Road***
Fairfield Township
Conemaugh River Watershed
- 5 Blasco Road***
Loyalhanna Township
Conemaugh River Watershed
- 6 Cavern Road**
Cook Township
Loyalhanna Creek Watershed
- 7 Bucktown Road**
Hempfield Township
Sewickley Creek Watershed
- 8 Logan Road**
Hempfield Township
Sewickley Creek Watershed
- 9 Donegal Lake Road**
Donegal Township
Loyalhanna Creek Watershed
- 10 Orr Road***
Rostraver Township
Youghiogheny River Watershed

*Funding for these improvements was allocated in 2016. Improvements were made in 2017.

LEGEND

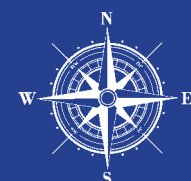
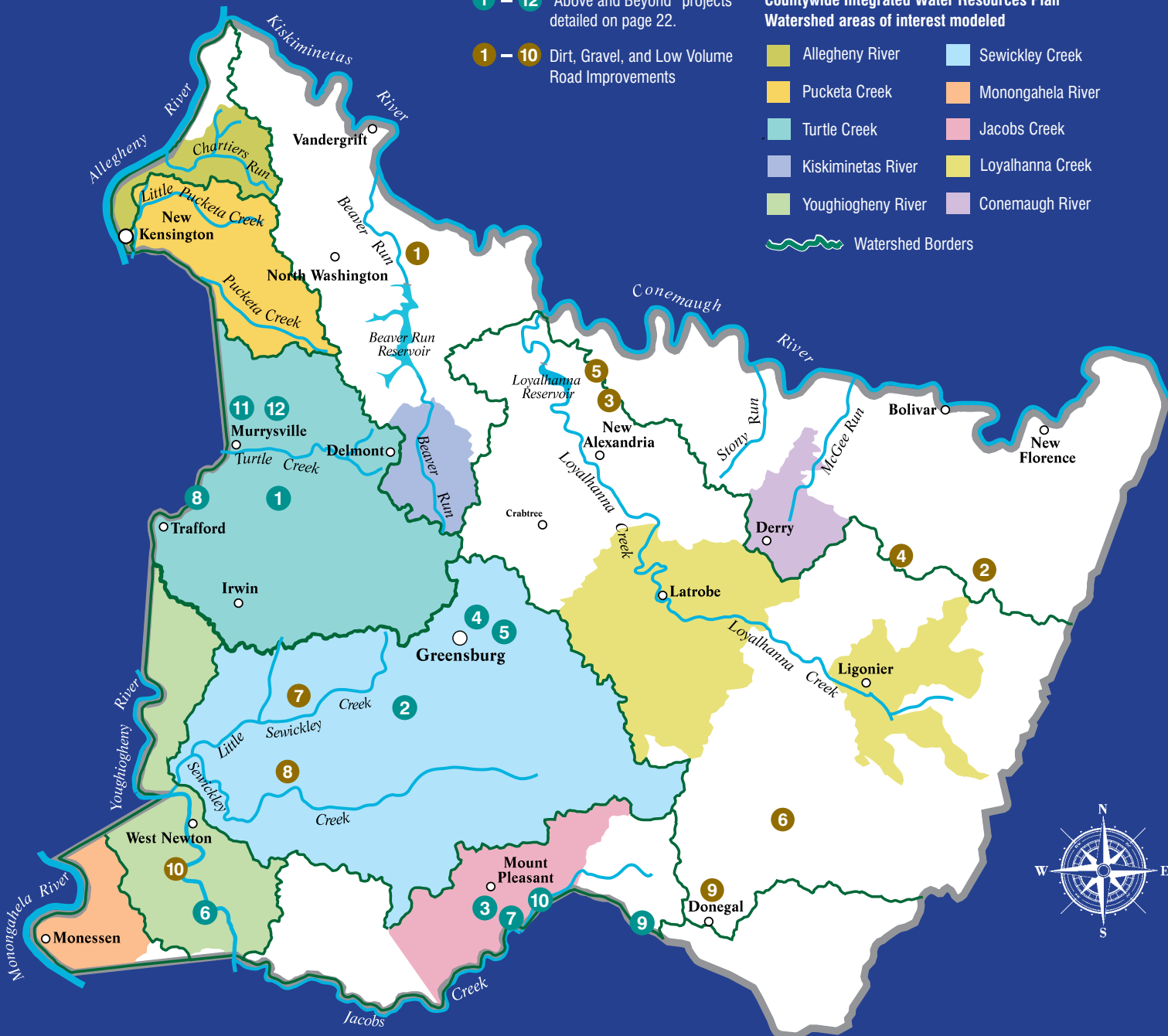
1 – 12 “Above and Beyond” projects detailed on page 22.

1 – 10 Dirt, Gravel, and Low Volume Road Improvements

Countywide Integrated Water Resources Plan Watershed areas of interest modeled

- Allegheeny River
- Pucketa Creek
- Turtle Creek
- Kiskiminetas River
- Youghiogheny River
- Sewickley Creek
- Monongahela River
- Jacobs Creek
- Loyalhanna Creek
- Conemaugh River

Watershed Borders



ORGANIZATIONAL DEVELOPMENT

We spent much of the year **gathering input for our new strategic plan from our board, staff, community leaders, partners,** and specific focus groups, including farmers, engineers, watershed groups, and the Westmoreland County commissioners.

In the fall, we reviewed this input and began synthesizing it into priority areas of focus.

This work is being done with the assistance of the Bayer Center for Nonprofit Management at Robert Morris University. The Bayer Center has assisted us in developing our last two strategic plans.

Proposed cuts in conservation allocations in the 2018 Pennsylvania state budget prompted us to undertake a comprehensive outreach effort to our local representatives.

We visited, called, and prepared individual letters to our four state senators, and wrote a 500-word op-ed piece for the newspaper from our board chairman.

We also reached out to our board, associate board, and conservation partners, asking them to support conservation funding and, as background, provided talking points on why conservation district funding cuts and Growing Greener funding cuts needed to be restored.

Ultimately, after a four-month legislative impasse, no conservation district funding was cut from the 2018 budget, but two related funding streams – the Keystone Fund and the Environmental Stewardship Fund (which funds Growing Greener) – were both reduced.

Recognizing the continuing budget challenges that the county, like most organizations, has to deal



Members of an ad hoc committee scout possible locations for a new summer kitchen on our campus.

Shown l-r, are District Associate Director Bob Pore, District Board Member Kim Miller, and District Manager/CEO Greg Phillips.

The summer kitchen would be a small outbuilding used to demonstrate the benefits of local foods. We see it as an opportunity to increase our outreach with new audiences, enhance our capacity, and serve as a support building for District and campus functions.

with, the District **requested a 2018 allocation from Westmoreland County that was exactly the same as the allocation it received in 2017: \$687,685.**

This amount, which was granted, was the lowest our district requested in 15 years – since 2002 – and represents only about one-third of our organization’s total operating budget for 2018.

To make up for county funding’s inability to keep up with costs, we **had no choice but to again raise review fees for erosion and sedimentation control plans and stormwater plans.**

The 35% increase is the fifth increase in five years and, we believe, ranks us as one of the districts charging the highest fees in the state.

Because we recognize that these costs are at upper limits of what our local market can reasonably bear, we are examining some alternative approaches,

including the idea of charging fees based on staff time invested instead of project acreage.

We **successfully closed out our \$1.7-million “Sustaining Conservation” campaign** and had in place most of the significant improvements it helped to fund, including the establishment of our scientific monitoring program...the new staff offices in the former carport area of our barn headquarters...the stewardship plan for Ann Rudd Saxman Nature Park ...and the new porous pavement parking areas and sidewalks on campus.

Work on the Integrated Water Resources Plan – the first ever comprehensive plan for managing Westmoreland County’s resources (see pages 16-17) – was concluding at year-end and will be complete in 2018.

We conducted our own small-scale, **year-end**

fundraising effort after communication problems caused us not to be listed as a participant in the Give Big Pittsburgh fundraising effort in late November.

Give Big Pittsburgh is a new annual appeal in western Pennsylvania, hosted by Pittsburgh Magazine in conjunction with the Pittsburgh Foundation. It replaced the annual Day of Giving.

Despite the fact that there was only one month left in 2017, our limited effort raised nearly \$8,200, including special match incentives provided by both the online giving platform provider and the Community Foundation of Westmoreland County/Pittsburgh Foundation.

In June, our board **sold the GreenForge building** to Westmoreland County Industrial Development Corporation. No income was received from this transaction, but it did relieve us of two loan guarantees.

The board also approved a cooperative agreement with WCIDC that gives us responsibility for maintaining the stormwater demonstrations at GreenForge – including the green roof, rain gardens, forebay and permeable pavement – and the ability to continue to use them in our education and outreach efforts.

Improvements to our campus made possible through the recent “*Sustaining Conservation*” fundraising campaign included **creating a unifying, low-profile landscape along Donohoe Road** that visually connects the GreenForge building, our barn and Donohoe Center, and the Westmoreland County Public Works building.

This 1,000-foot-long linear landscape treatment was achieved by strategically adding two, low-profile landforms to the east and west of Donohoe Center and 14 trees.

In addition to unifying the buildings, this work helps to screen the parking lots from the road and create a more pleasing aesthetic.

Other campus improvements included using pre-cast permeable concrete to extend an existing sidewalk between Donohoe Center and the Public Works building, and creating a demonstration stabilized-grass parking space at the back of the barn.

Reappointed to the District board of directors in 2017 were Bill Doney (farmer director), Chuck Duritsa (public director), and Ted Kopas (county commissioner). Bill and Chuck were appointed to four-year terms; Ted to a one-year term.

Reappointed to two-year terms as associate directors were Christopher Bova, Emil Bove, Reid Crosby, Alexander Graziani, Larry Larese, John Lohr, William Mihalco, Robert Pore, John Turack, and Keith Walters. Their terms run from January 2017 through December 2018.

Newly appointed as an associate director was John Hardiman of Ligonier.

John is the owner of John P. Hardiman Excavating and is a member of both the Loyalhanna Watershed Association and the Western Pennsylvania Conservancy.

District Board Chair **Ron Rohall was reappointed by Pennsylvania Governor Tom Wolf to the State Conservation Commission**, whose primary mission is to ensure the wise use of Pennsylvania’s natural resources.

The SCC provides support and oversight to Pennsylvania’s 66 county conservation districts, including Westmoreland. Ron’s term runs through 2020.

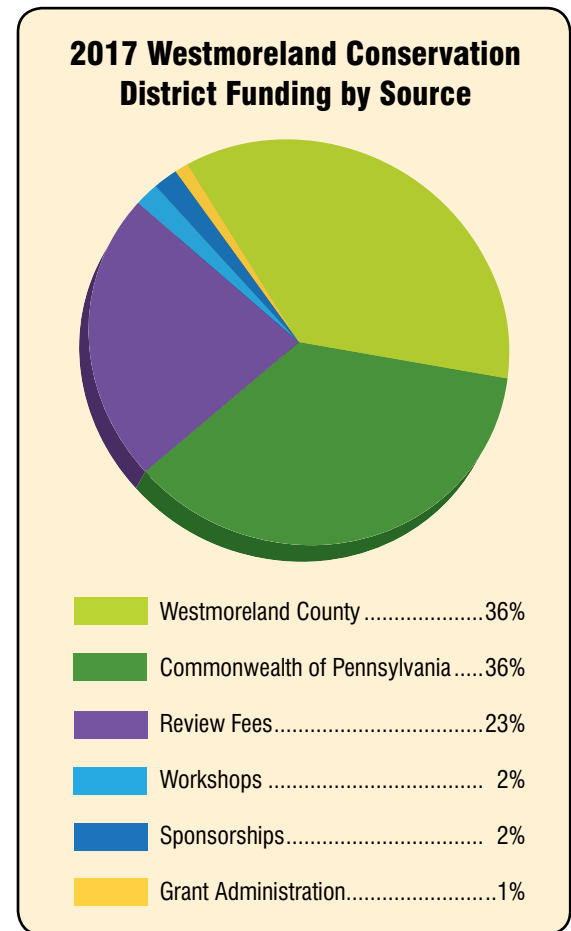
Ron also was appointed **chair of the National Association of Conservation District’s Urban and Community Resource Policy Group**.

District Board Member **Chuck Duritsa was elected president and Joe Dietrick vice president of the Pennsylvania Association of Conservation Districts**



District board members help maintain communication and good working relations with our state and federal legislative contingent.

Here, Board Member Chuck Duritsa meets with State Representative Eric Nelson who represents the 57th Legislative District.



at the 70th PACD/SCC Joint Annual Conference in Harrisburg.

Two new full-time staff members joined us during the year. **Chelsea Gross** started in May as our West Nile virus program technician and **Andrea Halfhill** became our technical programs secretary in April.

Chelsea is a graduate of Greater Latrobe High School and Saint Vincent College, where she earned a B.S. in biology. She previously was employed by Powdermill Nature Reserve, Rector, the environmental research center of the Carnegie Museum of Natural History (see photo on page 5).

Andrea holds a B.S. in biology and B.A. in English from California University of Pennsylvania. She has volunteered with animal wildlife rescue centers in Verona, PA, as well as in Costa Rica.



Andrea Halfhill, technical programs secretary

Alyssa Harden also joined us in August as our **first-ever AmeriCorps Service Member.**

She is helping with many of our program areas, including scientific monitoring and Dirt, Gravel, and Low Volume Roads, but focusing primarily on water-quality efforts.



Alyssa Harden, AmeriCorps service member

She is a recent graduate of the University of Pittsburgh, with a degree in geology.

AmeriCorps is a federal program in which members spend up to a year volunteering with a nonprofit, school, or community organization. They can receive a student loan deferment, limited health benefits, and a monetary award for education in addition to receiving on-the-job training in their field of interest.



Jessica Kane, erosion control specialist/compliance coordinator

Jessica Kane, who's been with us since 2014 as our erosion control specialist, also assumed the duties of **compliance coordinator** in 2017.

The Department of Environmental Protection delegated the ability to enforce the Clean Streams

Law in Westmoreland County to the District in early 2010, and ever since then, we have taken any actions necessary with the advisement of a committee of District staff and board members.

In lieu of the committee, Jessica now is the point person for this work. She will call in assistance from other District staff and board members as needed.

Our technical programs secretary assumed responsibility for **receiving and routing all incoming technical calls, including those related to natural resources complaints.** Previously, this responsibility had been shared by several members of our administrative staff.

The combination of this single-focused responsibility and our technical programs secretary's previous direct field experience in many of the District's technical program areas, has made this new arrangement work quite well.

Callers are more quickly and accurately being directed to the staff person who can help.

Our technical staff are also benefitting from this arrangement because they no longer are investing time in calls that are not relevant to their area of expertise.

We **hosted three interns** during the year.

Sam Geer, an environmental science major from Saint Vincent College; Christian Herman, a public relations and nonprofit management major from Slippery Rock University; and Lauren Myers, an office technology degree graduate of Westmoreland County Community College all worked with District staff in their areas of expertise.

In late 2017, we began a new procedure that **allowed our technical staff to directly enter their field inspections into our database**, and the improvement in overall time management was noticeable.



District outreach efforts included two periodic digital communications – Landmarks High Points, a quick-read e-newsletter, and Conserve These Days, a calendar of upcoming events. During the year, we also produced a video on retrofitting stormwater basins that is available on YouTube.

This new procedure also allows us to more quickly create inspection reports.

Public outreach efforts during the year included the production and distribution of the 2016 annual report, two electronic newsletters (“Landmarks Highpoints”), three electronic calendars (“Conserve These Days”), ongoing posts on Facebook, and six news releases, two of which generated feature articles by the Tribune-Review.

We also worked with Peoples Natural Gas on a

unique effort that included the development of a 360-degree video on the Lowber mine water treatment site, and a Facebook Live broadcast video on our barn headquarters.

The first video is available on YouTube; the second is archived on the Peoples Natural Gas website (links to it are on the District’s website).

Also during the year, our Communications Advisory Committee met to discuss ways to refresh and maintain the District’s website as well as the possible use of a variety of social media vehicles.



Al Barnett

Al Barnett, a volunteer director of the Westmoreland Conservation District since 1990, passed away in March 2018 at age 90.

Al was a whole-hearted champion of the District, enthusiastic in his support of our work and dedicated in his service.

He faithfully participated in board meetings for more than 20 years, and could always be relied on to volunteer when the District had a special project, from painting our campus facilities to planting flowers at the courthouse.

Al represented the sportsmen on our board, and was active with those organizations in Trauger and Youngwood, as well as serving in various leadership roles with the Westmoreland County Sportsmen’s League, and the state chapter of the National Wildlife Federation.

He also was active with and served in leadership positions with Westmoreland Cleanways and the American Red Cross.

In 2012, when it was becoming more difficult for Al to regularly participate in District activities, the board voted to name him Director Emeritus so that he could continue to be an advisor to the board.

He is survived by his wife, Helen, a daughter and son, five grandchildren, and three great-grandchildren.



In 2017, we successfully closed out our \$1.7-million “Sustaining Conservation” campaign (see pages 24-25) and initiated our first year-end appeal.

Thank you to everyone who so generously supported conservation through these fundraising efforts.

“Sustaining Conservation” Campaign Donors

through December 31, 2017

J. ROY HOUSTON SOCIETY

\$100,000 and above

Colcom Foundation

Hillman Foundation

Katherine Mabis McKenna Foundation

Richard King Mellon Foundation

Pennsylvania Department of
Environmental Protection*

Westmoreland County

BENEFACTOR

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Dominion Foundation

Fawcett Trust

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Laurel Foundation

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Kim Miller

Pennsylvania Department of
Conservation and Natural Resources

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Pittsburgh Region Clean Cities

R&L Development Company

Saint James Evangelical Lutheran Church
Unilock Ohio, Inc.

PATRON

\$5,000 to \$9,999

The Community Foundation for the Alleghenies

Kacin Companies Builders Developers

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RWS Development Co., Inc.

Sandra E. Davis, Wilson H. Brown,

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\$2500 to \$4,999

Justin Nace, Stormwater Solution Source
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Porous Technologies LLC

Ridilla Family Partnership

Sonny Tresco/Tresco Concrete Products

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\$1,000 to \$2,499

Anonymous

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Foundation for Pennsylvania Watersheds

Hunt Valley Environmental

McMillen Engineering

Pennsylvania State Conservation Commission

Robert Pore

Shirvis Group Inc.

Somerset Trust Company

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Associated Companies

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Josh Whetzel

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Westmoreland County

Boroughs Association

ASSOCIATE

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Greg, Leanne and Brandon Phillips

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Commissioner Ted Kopas

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2017 Annual Appeal Donors

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Community Foundation of
Westmoreland County/Pittsburgh Foundation

Robert Pore

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William and Donna Doney

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Richard Herd

John and Carol Lohr

Terrence Matty

William and Kathleen Mihalco

Paul and Nancy Page

John and Ann Starr

*Multiple grants, including Growing Greener awards.

Financial Statement

Concise Statement of Financial Position

Combined Funds - December 31, 2017

ASSETS

Cash.....	\$ 1,260,003
Long Term Accounts Receivable.....	\$ 267,984
Capital Assets.....	\$ 418,834
Prepaid Expenses.....	\$ 12,377
Total	\$ 1,959,198

LIABILITIES AND NET ASSETS

Current Liabilities	\$ 167,739
Net Assets	\$ 1,791,459
Total	\$ 1,959,198

Concise Statement of Activities

Combined Funds - Year Ending December 31, 2017

SUPPORT

Westmoreland County.....	\$ 687,685
State Grants.....	\$ 762,158
Administrative Services.....	\$ 167,740
Consulting, Planning & Fees.....	\$ 483,323
Room Rental/Interest.....	\$ 5,267
Unclassified Operating Revenues.....	\$ 64,800
Grants & Contributions.....	\$ 52,736
Special Projects/Intergovernmental.....	\$ 373,993
Total	\$ 2,597,702

EXPENDITURES

General Conservation.....	\$ 1,651,898
Special Projects.....	\$ 859,813
Capital Outlays.....	\$ 125,573
Other	\$ 31,420
Total	\$ 2,668,704

Net Change in Fund Balance.....	\$ (71,002)
Fund Balance - Beginning.....	\$ 1,187,881
Fund Balance - End.....	\$ 1,116,879

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

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 (see pages 24 - 27).



Westmoreland County State Government Officials

Rep. Frank Dermody

Rep. George Dunbar

Rep. Eli Evankovich

Rep. Justin Walsh

Rep. Eric Nelson

Rep. Joseph A. Petrarca, Jr.

Rep. Mike Reese

Rep. Ryan Warner

Sen. James R. Brewster

Sen. Patrick Stefano

Sen. Kim Ward

Sen. Donald White

Westmoreland County Commissioners



Chuck Anderson, Gina Cerilli, Ted Kopas



BOARD OF DIRECTORS

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Chairman

Joseph Dietrick, PE PLS
Vice Chairman

Conrad Donovan
Treasurer

Kim Edward Miller
Secretary

William Doney

Charles Duritsa

County Commissioner Ted Kopas

Paul R. Sarver

Fred J. Slezak

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Emil Bove, PLS

Bruce J. Corna, Jr.

Reid Crosby

Alexander J. Graziani

John Hardiman

Karen Jurkovic

Larry Larese

John Lohr

Barbara D. McMillan

William Mihalco, PE

Robert Pore

Theresa Gay Rohall

John Turack

Keith Walters

STAFF

Gregory M. Phillips
District Manager/CEO

Anthony P. Quadro, Jr.
Assistant District Manager/Technical Programs Director/Forester

Karen Barnhart
Fiscal Administrator

Sandra Dzendzel
Director of Administration

Mark Jackson
Visual Communications Specialist

Sandra Donovan
Receptionist/Secretary

Technical Staff

James W. Pillsbury, MS, PE
Hydraulic Engineer

Kathryn Hamilton, PLA
Landscape Architect/Stormwater Technician

Matt Zambelli, PLA
Green Infrastructure Specialist

Robert D. Cronauer
Watershed Program Manager

Chelsea Walker
Watershed Specialist

Christopher Droste, CESCO, CESCP
Senior Erosion Control Specialist

Jessica Kane
Erosion Control Specialist/Compliance Coordinator

Daniel Griffith
*Nutrient Management Specialist/
Agricultural Conservation Technician*

Christie Sebek
Plans and Permits Coordinator

Andrea Halfhill
Technical Programs Secretary

Chelsea Gross
West Nile Virus Program Technician

Alyssa Harden
AmeriCorps Service Member

Educational Staff

Janette Novak-Mitchell
Education Program Coordinator

ADVISORY COMMITTEES

These committees are made up of community volunteers, District 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 District's programs.

AGRICULTURE

Wayne Baughman
Gisela Carmenaty
William Doney
Aileen Evan
Daniel Griffith
Dustin Heeter
Kim Edward Miller
Gregory Phillips
Jason Pontillo
Robert Pore
Betty Reefer
Laurel Rush
Paul Sarver
Paul Shaffer
Thomas Sierzega
Fred Slezak

COMMUNICATIONS

Mark Jackson
Karen Jurkovic
County Commissioner Ted Kopas
Janette Novak-Mitchell
Gregory Phillips
John Turack
David Uhrinek
Matt Zambelli

DIRT, GRAVEL AND LOW VOLUME ROADS PROGRAM

Robert Cronauer
Matthew Kauffman
Ronald Rohall
Thomas Sierzega
Chelsea Walker

EROSION CONTROL COMPLIANCE

Matthew Kauffman
Charles Duritsa
Jessica Kane
Kim Edward Miller
Anthony Quadro

FORESTRY

Edward Callahan
Mike DiRinaldo
Tom Fitzgerald
John Hilewick
Anthony Quadro
Ronald Rohall
Jessica Salters

GOVERNMENT RELATIONS

Joseph Dietrick, PE PLS
Charles Duritsa
Ted Kopas
Ronald Rohall
Fred Slezak

TECHNICAL PROGRAMS

Andrew Blenko, PE JD
Christopher Bova
Emil Bove, PLS
Lucien Bove, PE
Kevin Brett, PE
John Campfield
Daniel Carpenter
Robert Cronauer
Joseph Dietrick, PE PLS
Christopher Droste, CESCO, CESC
Kathleen Fritz
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Chelsea Gross
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Donald Hixson, PE PLS
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Ken Murin
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Gregory Phillips
James Pillsbury, MS, PE
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*CEC commends
the Westmoreland
Conservation
District on its 2017
accomplishments
and looks forward
to continued
collaboration in
the future.*



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Principal, Ethos Collaborative

t: 412.266.2492

e: damonweiss@ethoscollaborative.com

w: <http://www.ethoscollaborative.com>



District staff (l-r, standing) back row: Mark Jackson, Tony Quadro, Jim Pillsbury, Sandy Donovan, Jen Novak, Jessica Kane, Rob Cronauer, Christie Sebek, Chelsea Gross, Chris Droste, Greg Phillips, Sandy Dzendzel, Karen Barnhart. Foreground (l-r, kneeling/sitting): Dan Griffith, Kathy Hamilton, Andrea Halfhill, Chelsea Walker, Matt Zambelli. Not pictured: Alyssa Harden.



J. Roy Houston Conservation Center
218 Donohoe Road
Greensburg, PA 15601

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email: wcd@wcdpa.com