



Conservation Matters



Bundle up...

As I write this, I realize that spring is a short 2 months away. But as much as the winter chill and shorter days can dull the mood; Christmas, New Year's, and Valentine's Day give plenty of reasons to celebrate during this season. Although our office is a little more quiet during December, our staff quickly gets busy in January planning for a new year. There is always work to be done, and we look forward to accomplishing much in 2019 in the field of conservation.

In the coming months, you can expect to see notifications about upcoming events, such as our annual tree sale. **You will find detailed agenda information and a registration form for our annual Winter Forum in the center of this newsletter.** If you would like more information on any of our events, don't hesitate to contact our office.

Think spring,
Judy Becker

Spring Tree Seedling Sale

Spring is right around the corner, so that means that NCCD is already planning our annual Tree Seedling Sale. Each year we offer a variety of evergreens, deciduous, ornamentals, flower bulbs, fruit trees, and small fruits. This year's sale brochure will be available sometime in February, so check our website (www.nccdpa.org) for the brochure or contact our office at 570-495-4665 for more information.



Remember, if you are on our newsletter mailing list that does not mean that you are automatically on the Tree Sale mailing list.

Orders can be placed through March 18, 2019, and pick up days will be April 24-25 from 7:00 a.m.-7:00 p.m. at the Rockefeller Township building located at 538 Seven Points Road in Sunbury.

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2019 Winter Forum
Registration on
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"Conservation Matters" is a quarterly newsletter
published by the Northumberland County
Conservation District, Sunbury.

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

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

UPCOMING EVENTS OF POSSIBLE INTEREST

REGISTRATION NOW OPEN
(SEE PAGES 8-9)

03.12.19

7th Annual Winter Forum

8:00 AM - 1:00 PM
REVIVAL TABERNACLE
Watsonstown, PA

Cost: \$10.00 (covers morning refreshments and a delicious lunch)

Topics of interest to the agriculture community and municipal officials will be presented.

2 Core and 2 Category Credits (applied for through PA Department of Agriculture)

See pages 8-9 for registration information!

Save-the-Date SOIL HEALTH MEETING

Northcentral Pennsylvania Event

Winter 2019

Thursday, March 14, Pine Barn Inn, Danville

8:30 am - 3:30 pm, \$25 registration fee

For registration details please contact Ryan at the Northumberland County Conservation District, rcherwinski@nccdpa.org or 570.495.4665 x 304

Speakers: Allen Williams (Grazing specialist, Soil Health Consulting), Dr. John Tooker (Penn State), Dr. John Wallace (Penn State), Leroy Bupp (PA No-Till Alliance), local farmer panel



"Agriculture today is farming a degraded resource and we've accepted this as normal." - Gabe Brown

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

KW ENTERPRISES LLC
Erosion Control

Certified Installer Of
filtrex
LAND IMPROVEMENT SYSTEMS
...let nature do it.

201 Weaver Lane
Milton, PA 17847

Keith Weaver
(570) 523-9000
Fax - 570-521-6640
kweaver@afo.net

NORTHUMBERLAND COUNTY CONSERVATION DISTRICT'S 2018 MEMBERS

Conservation Benefactor-\$1,000:

KW Enterprises, LLC, Milton

Friend of Conservation-\$500:

Hoffman Brothers Lumber, Richfield
Trumbull Corporation, Pittsburgh
PPL Corp., Allentown
KIZ Resources, LLC, Allentown

Associate Members-\$100:

Anonymous
Aqua PA, Inc., Shamokin
In Memory of Marlin R. Becker
Dan Shingara Enterprise, Inc., Paxinos
Dave Gutelius Excavating, Inc., Mifflinburg
Donald H. Beagle Excavating, Inc., Danville
Ferster Excavating, LLC, Dornsife
Glenn O. Hawbaker, Inc., Montoursville
KPI, Elysburg
Keefer and Associates, Inc., Sunbury
Sandra Shaffer Mattern
Meckley's Limestone Products, Inc., Herndon
Moser Seed Agency, New Columbia

Associate Members (continued):

New Enterprise Stone & Lime Co., Inc., New Enterprise
Northumberland County Anthracite Outdoor Adventure Area, Shamokin
Pheasants Forever, Inc., Bloomsburg
George Richard, Elysburg
RJ Hoffman & Sons, Inc., Mt. Pleasant Mills
Robert C. Snyder Farms, Inc.
Rovendale Ag & Barn, Inc., Watsontown
Turbotville National Bank, Turbotville
Valley Ag & Turf, LLC, Halifax
Watson Excavating, Inc., Turbotville

Contributing Members-\$75:

H.H. Knoebel Sons, Inc., Elysburg
Kauffman Tractor & Implement Painting, Dornsife

Affiliate Members-\$50:

Brewers' Outlet, Sunbury
Carriage Manor Builders, Inc., Danville
Central Builders Supply Company, Sunbury

Affiliate Members (continued):

State Representative Lynda Schlegel Culver, Sunbury
Dennis Martz, Dalmatia
Fairchild Brothers, Inc., Winfield
Kevin E. Raker Construction, LLC, Sunbury
Mahantongo Game Farms, LLC, Dalmatia
Paul Q. Ross Construction, Inc., Sunbury
Penn E & R, Inc., Hatfield
Pik Rite, Inc., Lewisburg
Sunbury Animal Hospital, Sunbury

The Northumberland County Conservation District Board of Directors and Staff would like to thank our 2018 members for their kind donations. We would not have been able to accomplish the work we do without our members' support! For more information on becoming a member of the NCCD, visit our website at www.nccdpa.org or call 570-495-4665. A membership form is also available below.

NCCD Membership Drive Form

Northumberland County Conservation District

Your Information (please print or type)

Name	
Billing address	
City	
State	
ZIP Code	
Telephone (home)	
Telephone (business)	
Fax	
E-Mail	

Donation Information

I (we) plan to make this contribution in the form of:
___ cash ___ check ___ credit card ___ other.

Credit Card No. _____

Exp. Date _____

Name on Card _____

Security Code _____

Membership Type (please circle one)

Affiliate	<i>Name in 1 NCCD newsletter.</i>	\$50.00	Friend of Conservation	<i>Business Ad in 2 NCCD newsletters.</i>	\$500.00
Contributing	<i>Name in 2 NCCD newsletters.</i>	\$75.00	Conservation Partner	<i>Business Ad in 3 NCCD newsletters.</i>	\$750.00
Associate	<i>Name in all 4 NCCD newsletters.</i>	\$100.00	Conservation Benefactor	<i>Business Ad in all 4 NCCD newsletters.</i>	\$1,000.00

***All memberships will appear on our website. NCCD will contact your business with ad due dates for newsletters.**

CENTRAL SUSQUEHANNA THRUWAY UPDATE

by: Michael McCleary, Erosion and Sediment Technician

THE NORTHERN SECTION OF THE CENTRAL SUSQUEHANNA VALLEY THRUWAY PROJECT CONTINUES ITS MARCH ACROSS THE SUSQUEHANNA RIVER.



River Bridge: Beam placement on the west side of the river is now complete.



The causeway has been moved from the west side of the river, and work continues on piers on the east shore.



SR 147 has been reinforced to allow for the excavation needed for the construction of a pier next to the highway.

Excavation along SR 147 has been completed, and the piers are under construction.

Forms have been built, steel reinforcement is in place, and now concrete is being poured into the forms with the use of a bucket suspended from a crane.



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

(continued on next page)

CENTRAL SUSQUEHANNA THRUWAY UPDATE, *continued*



The concrete piers are constructed in sections. As each section is finished, steel reinforcement is installed for the next higher section. Workers tie the reinforcing bars together with steel wire so it stays in place when the concrete is poured.



When the abutment for the eastern end of the river bridge has been backfilled to the top of subgrade, steel beams will be placed to span the area between the pier under construction beside SR 147 and the abutment. The surface of the road will eventually be constructed on top of the beams which span the river on top of the piers and abutments.

Most of the new road has been brought up to the required sub-grade elevations. These areas have been fenced off to allow the ground to dry out and settle evenly. In the spring, a new contract will begin to bring the surface up to final grade and pave the road.



(continued on next page)

CENTRAL SUSQUEHANNA THRUWAY UPDATE, *continued*

Bridge over relocated Ridge Road: This bridge is nearly complete. Work is progressing on the deck placement. Then it will be ready for final grading, paving and seeding and mulching. Also, on and off ramps remain to be completed.



Bridge over Muddy Run: Work on this bridge has resumed due to the decrease in continuous heavy rains. The embankments have dried out and are less prone to erosion and subsidence than they were. Parapets are under construction on both ends of the bridge span. When the parapets are complete, beams will be placed on top of them and on the piers. Next, decking will be constructed on the beams, and the final grading and paving can be completed.



The bridges over Chillisquaque Creek can be seen in the background of this photo. Both north and south bound traffic are currently being diverted to the northbound bridge while the south bound bridge is constructed. In the near future, traffic will be diverted to the southbound bridge while minor additions are completed on the northbound bridge.

MOSQUITO-BORNE DISEASE CONTROL COORDINATOR UPDATE

by: Brandon Ball, Mosquito Borne-Disease Control Coordinator

Hello readers! Mosquito season officially ended on September 26th, and our seasonal Mosquito Technician, Tyler Mull, finished his last day on October 12th. This concluded a record year for the prevalence of West Nile Virus (WNV) across the state.

As of December 3rd, there have been 115 human cases of WNV statewide, including 8 deaths and 13 presumed viremic donors (blood donations), 107 avian cases, 4,729 positive mosquito pools (*note: The number 4,948 from the 2018 Fall article was incorrect*), and 108 veterinary cases (i.e. horses). For our five-county coalition, the numbers are: 2 human cases, 4 avian cases, 114 positive mosquito pools, and 15 veterinary cases.

The District is always very concerned when it is reported that there are human cases in our area. I will continue doing everything possible with this program to minimize the impacts of West Nile Virus in the 5-county area we monitor. For now, the colder temperatures are keeping the mosquitoes in hibernation mode so you can enjoy your winter months without the threat of buzzing, biting insects.

What's a Mosquito-borne Disease Control Coordinator to do once all of the mosquitoes are gone? During the month of November, I participated in the 2018 Tick Survey that DEP's Vector Management program was conducting. The goal was to collect fifty (50) adult black legged ticks (*Ixodes scapularis*) per county. This collection is the beginning of a five-year, statewide effort to better understand public risk of contracting Lyme Disease and other tick-borne diseases. The ticks that were collected will be tested for the most common tick-borne pathogens, as well as some of the less common ones.

In addition to the tick collection, I have also been working with the Dirt, Gravel, and Low Volume Roads (DGLVR) program. I attended the Environmentally Sensitive Maintenance Training in State College in November and two GIS Trainings in December. I've been assisting Michael McCleary, the District's DGLVR technician with the program, which has included getting out in the field and evaluating future projects to consider for program funding. I am learning new things every day and enjoying being able to work with municipalities to improve their road runoff problems.

I've also been helping Ryan Cherwinski, our Agricultural Conservation Technician, with Chesapeake Bay Inspections and learning about writing Agricultural Erosion and Sediment Plans. I am also looking forward to assisting Judy Becker, District Manager, with the Farmland Preservation program.

I will be giving a presentation on the District's Mosquito-borne Disease Control Program and ways that municipalities can help to reduce the numbers of mosquitoes pestering their residents at our Annual Winter Forum on March 12th. I look forward to seeing many friendly faces, and meeting some new ones.

Until next time!

STUDENTS LEARN ABOUT CAREERS IN AGRICULTURE AND ENVIRONMENTAL SCIENCE

by: Janette Leshner, NRCS District Conservationist, Northumberland County

On October 10th, Milton High School students had the unique opportunity to learn about careers in Agriculture and Environmental Science. The day began with Janette Leshner, NRCS District Conservationist welcoming students to the Northumberland County Agriculture Center. Students heard from representatives from the Northumberland County Conservation District, Penn State Cooperative Extension, Farm Service Agency (FSA), and the Natural Resources Conservation Service (NRCS).

Agency representatives and the students then traveled to a local farm to learn more about what each agency does and how they work with local producers. Wayne and Leisa Klock, Sunbury dairy farmers, welcomed the group to their farm. The Klock's recently completed some Conservation Best Management Practices on their farm with assistance from NRCS. Students learned how conservationists use the Conservation Planning process to address resource concerns. They learned from Pam Richardson, Civil Engineering Technician, about the roles and responsibilities of designing practices and inspecting those practices during construction.

While at the farm, students heard from Wayne Klock about all the different services that he uses on the farm. Students were given an insight into many careers including: veterinarian, truck driver, salesperson, agronomist, and many others involved in the Agricultural industry.

(continued on page 10)

7TH ANNUAL WINTER FORUM

March 12, 2019 - Register Today!



2019 Conservation District Forum

Important topics...

Pesticide credits...

*A delicious lunch...**

Agriculture
(2 Core, 2 Cat.)*
*(applied for through PDA)



Municipalities

*Roast Turkey, Mashed Potatoes/Gravy, Filling,
Buttered Corn, Green Beans, Coleslaw, Rolls & Butter,
Cake, Hot & Cold Beverages

March 12, 2019

(no snow date)

8am - 1pm

Revival Tabernacle, Watertown

Registration Deadline: March 4, 2019

Directions

Meeting Location:

Revival Tabernacle
960 Susquehanna Trail
Watertown, PA 17777

Directions to the facility:

Take Exit 1 on I-180 and if coming from the north, turn right; if coming from the south, turn left; at the exit onto Susquehanna Trail. Travel approximately 0.3 miles and turn left at the white sign for Revival Tabernacle.

CD Forum Invite

We invite you to register for this year's winter meeting, scheduled for March 12, 2019 at the Revival Tabernacle in Watertown. Registration includes coffee and refreshments in the morning, credits for pesticide applicators, and a delicious lunch. Vendors will also be present.

To register, detach the registration section of this flyer and send it in with your registration fee. **The deadline is March 4, 2019.**

For more information, please contact our office at 570-495-4665 or email us at info@nccdpa.org.

COMPLETE THE REGISTRATION FORM BELOW AND SEND IN BY MARCH 4TH TO REGISTER



PICK A GROUP

Group 1: Agriculture

8:00am - 9:00am: **Registration, refreshments, visit vendors**

9:00am - 10:00am: **Extreme Rainfall and 4th National Climate Assessment for the Northeastern U.S.: Application to Pennsylvania**

Gregory Jenkins, Ph.D., Penn State Department of Meteorology and Atmospheric Sciences

10:00am - 10:30am: **Pesticide Exposure: How to Prevent Exposure and Protect Yourself (1 Core)**

10:30am - 11:00am: **Adjuvants Versus Surfactants: What's the Difference? (1 Core)**

Joel Imgrund, Program Assistant, Penn State Extension

11:00am - 11:30am: **Ear Rots and Mycotoxin Management (1 Category)**

11:30am - 12:00pm: **Managing Insect Pests In Soybeans (1 Category)**

Anna Busch, Extension Educator, Penn State Extension



PICK A GROUP

Group 2: Municipalities

8:00am - 9:00am: **Registration, refreshments, visit vendors**

9:00am - 10:00am (Joint Session with Agriculture): **Extreme Rainfall and 4th National Climate Assessment for the Northeastern U.S.: Application to Pennsylvania**

Gregory Jenkins, Ph.D., Penn State Department of Meteorology and Atmospheric Sciences

10:00am - 11:00am: **Trout Unlimited: Services Available to Municipalities**

Philip Thomas, Trout Unlimited

11:00am - 12:00pm: **NCCD's Mosquito Borne-Disease Control Program**

Brandon Ball, Mosquito Borne-Disease Control Program Coordinator

7th Annual CD Winter Forum Registration Form

*(Registration **must** include payment)*

Name _____

Additional Attendees _____

Township (if applicable) _____

Company (if applicable) _____

Address _____

City _____ Zip Code _____

Phone _____

Email _____

Which Group will you be attending? (Select one)

____ **Group 1: Agriculture**

____ **Group 2: Municipalities**

Please include check or money order for \$10.00 per attendee by March 4th to:

**NCCD, 441 Plum Creek Road, Sunbury, PA
17801**

THANK YOU!

Both Groups

12:00pm - 12:45pm: **Lunch (Roast Turkey, Mashed Potatoes/Gravy, Filling, Buttered Corn, Green Beans, Coleslaw, Rolls & Butter, Cake, Hot & Cold Beverages)**

12:45pm - 1:00pm: **Pesticide credits*, door prizes, adjourn**

***Credits have been applied for through the PA Department of Agriculture.**

STUDENTS LEARN ABOUT CAREERS IN AGRICULTURE AND ENVIRONMENTAL SCIENCE,

Continued from page 7

The students also had the opportunity to try their hand at being an agronomist or field crop scout. With the help of Anna Busch, Field and Forage Crops Educator with Penn State Extension, the students completed a yield check of the Klock's corn crop. Using measuring and math skills, the students were able to give Mr. Klock an estimated yield average for his corn crop for the year.

The group then headed to the Little Shamokin Creek Watershed Association Pavilion to enjoy lunch. Afterwards, the students heard from Ryan Cherwinski, Agricultural Technician with the Northumberland County Conservation District about protecting Natural Resources and career opportunities to do so in your own watershed. The students were able to see firsthand some streambank work that was completed at the site.



Students stop for a picture in front of a recently constructed Heavy Use Area with Anna Busch (PSU), Pam Richardson (NRCS), Janette Leshner (NRCS), and Wayne Klock (farmer).

Brandon Ball, Mosquito-borne Disease Control Program Coordinator with Northumberland County Conservation District, described his program's role in aiming to protect the citizens of Columbia, Montour, Northumberland, Snyder, and Union Counties from contracting West Nile Virus through the monitoring and control of mosquito populations. Students had the opportunity to see a mosquito trap in action and learn about the life cycle of mosquitos and what they can do to prevent mosquitos from living around their residence.

At the end of the day students were asked to share which career they found most interesting and the highlight of their day. While many shared they loved seeing the cows, there was an overwhelming response related to protecting the environment. Perhaps we have just found the next group of conservationists!



Students test their math skills as they complete a yield check of a corn field.

DIVERSE SPECIES COVER CROP INCENTIVE PROGRAM

by: Ryan Cherwinski, Agricultural Conservation Technician

This year the Northumberland County Conservation District (NCCD) in cooperation with the Natural Resources Conservation Service (NRCS) again funded a Diverse Species Cover Crop Incentive Program for farmers and landowners in Northumberland County. It goes without saying that Pennsylvania farmers had plenty of trouble getting into their fields this past spring and struggled to harvest their crops. Depending on your location, farmers in the county received 60 to 70 inches of rainfall last year. Northumberland County typically gets 44 inches of rainfall annually. The rains in the spring were particularly hard on producers trying to get crops in the ground. We had many cases where crops got drowned out by the fourteen plus inches of rain we got, they replanted, and then we would get another seven to ten inches. According to Pennsylvania's Crop Progress Report as of November 25, 2018, the USDA's National Agricultural Statistics Service states, "The state's corn is 82% harvested, that is 7% behind the five-year average. Soybeans are 77% harvested, behind the 93% five-year average. Winter wheat is 90% planted, right around the state's five-year average." That being said, the farmers in Northumberland County deserve a huge amount of credit for their efforts in a very trying year. Through the Diverse Species Cover Crop Incentive Program farmers planted a total of 1,454 acres of multi-species cover crops in 2018. This incentive program provides farmers the opportunity to experiment with cover crops and mixes they otherwise wouldn't implement. Considering all the setbacks faced in 2018, it is very encouraging to see the many acres planted and even more so when looking at the years to come. Whether part of a program or not, implementing cover crops can provide you a wide range of benefits. Cover crops maintain and improve soil structure by protecting soil from heavy rainfall and extreme temperature fluctuations. They can also help reduce the financial burden by creating tighter nutrient cycling that reduces the amount and cost of fertilizer or even harvesting the cover crop as forage for livestock in the spring. I think producers across the state can agree on putting 2018 in the rearview and bringing 2019 into focus.



If you are interested in learning more about cover crops or soil health in general, contact Ryan Cherwinski at 570-495-4665 ext. 304 or rcherwinski@nccdpa.org. Be sure to check www.nccdpa.org for more details about the program.

LOCAL STUDENTS PARTICIPATE IN EDUCATIONAL FIELD TRIP

by: Chantel Shambach, Watershed Specialist

During the time when Pennsylvania laid unearthed, much of the landscape unknowingly stored a future resource that would shape many of the communities that you see today. This reserve has brought a viable source of heat for many across the world. Unfortunately, the excavation and exposure of this resource has left many of our surface waters impaired and uninhabitable. Through knowledge and education, we are contouring the path of improvement.

The rise of Kulpmont ultimately started in 1790 with the local discovery of coal at Quaker Run by a gentleman named Isaac Tomlinson. Though the area was not officially named Kulpmont until 1875, it was the unearthing of that piece of coal that started the foundation. By 1927, the borough housed one of the largest collieries of its time, the Scott Colliery. The Scott Colliery ceased operations in 1929, but not before reaching peak production of 352,705 tons, with the employment of 986 men, a few years prior.

The area was the location of the Scott Colliery has since been transformed to a beautiful park. The Veterans' Memorial Sports Complex provides a historic, 20-ton monument of coal to mark the area of discovery, a footbridge, baseball fields, and walking paths. Adjacent to much of the walking path stretches 1,000 ft of Quaker Run, which was once rerouted for the construction and use of the colliery, but has since been routed back to the relative route it once took.

(continued on next page)

LOCAL STUDENTS PARTICIPATE IN EDUCATIONAL FIELD TRIP,

continued



The former Scott Colliery, Kulpmont

Across the region, surface water bodies have been pronounced as impaired. One of the various contributors to the decline of water quality is due to Acid Mine Drainage (AMD), and many of these compromised water bodies do not support life. The once fully flowing 2.5 mile stretch of Quaker Run is amongst those that have been deemed impaired and only flows during major rain events. Much of Quaker Run, especially the area that runs along the Memorial Complex, has steep, eroding, bare banks. With some help of the local community and students, the section of stream has seen some tender loving care in recent years.

It has been a great success for the Conservation District to help provide an educational event for

local students in Kulpmont every October for the past 3 years. This annual Water Quality and Coal Mining History Field Trip allowed students to embrace the creation

of this local town, but also shed light on environmental stewardship practices that help preserve our water resources. The first two years were funded through the PA Department of Environmental Protection (DEP) Educational Grant, and the 2018 event funding was provided by the Williams Pipeline Atlantic Sunrise Community Grant. With a great deal of help from the Shamokin Creek Restoration Alliance (SCRA), the Kulpmont Borough, and many other participating parties we are able to continue the development of such a successful event.

The Kulpmont area offers a rich interaction of the past, present, and future. The day starts in Kulpmont where high school and middle school students from Lady of Lourdes Regional Catholic School and Mount Carmel Area meet. The morning

proceeds with three rotational sessions; two of which are given overlooking the Memorial Complex where the students learn about the strenuous story of Quaker Run's existence, as well as the planning and development of the Memorial Complex. The other session is provided a few blocks away where students have the ability to gaze upon the large mural of the once Scott Colliery while listening to the presentation of its rich history. Introduced after the rotations is how Kulpmont is moving forward allowing the students to take a look into the area's future.

Jim Koharski, SCRA President, educates the students about the Scott Colliery.



LOCAL STUDENTS PARTICIPATE IN EDUCATIONAL FIELD TRIP,

continued

From Kulpmont, the students are then bussed 10 miles to Weiser State Forest. They exit the bus and make their way down the footbridge path to Roaring Creek. It is there that the students will again participate in three rotational sessions. These sessions discuss the importance of macroinvertebrate life and how they can tell us the story about the quality of water, the significance riparian buffers can have on water quality, and the concepts and understanding of a watershed. The students are encouraged to make the comparison of what a natural, healthy stream looks like in comparison to the possible future of the decimated stream channel of Quaker Run.

Students get a hands-on lesson about riparian buffers when they return to Kulpmont. After the students enjoy lunch, they walk down to the Veterans' Memorial Sports Complex where they can see Quaker Run up close. Waiting for them are 60 trees and shrubs of various, native variety to be planted along the stream bank. Landscape Services of Locust Gap give a demonstration on how to plant the trees in a way that is most efficient. The students break off and join each other with the hands-on experience of bringing new life to the area that was once all coal and bare ground.

This event is one of the many educational experiences our district helps to provide. Organizing this field trip is aimed with the hopes of compelling the youth to appreciate and develop the ambition to make the right environmental choices. Though funding is sometimes hard to find, we will continue to do our very best to extend our educational efforts for this event in the many years to come.

A special thanks to the following organizations for providing support for the 2018 educational event: BB&T Bank, Borough of Kulpmont, Church of the Holy Angels, Kulpmont Knights of Columbus, Kulpmont Sportsmen Association, Landscape Services Inc., Pennsylvania Department of Conservation and Natural Resources/Weiser State Forest, Pioneer Construction Company, Sciccitano's Buono Pizza, Shamokin Creek Restoration Alliance, and Williams Atlantic Sunrise Community Grant Program.



Ryan Cherwinski, NCCD Agricultural Conservation Technician, engages students on riparian buffers at Weiser State Forest.

CITIZEN CONSERVATIONISTS (GUEST COLUMN)

John Olin, Fishers Ferry

We live in a country where the ordinary citizen can improve the condition of the physical world, be it a river or a creek, a mountain or a forest, a lake or an ocean, and not the least, the air. If, as they say, the industrial age began in 1769 when James Watt patented his steam engine, conservationist consciousness emerged forty-eight years later with Henry David Thoreau, who reminded us that we are both self-reliant and reliant on the earth, and it blossomed in the lives and writings of naturalists John Muir and John Burroughs. The sturdy tree they planted soon bore fruit for all Americans.

The conservationist view became part of the national consciousness with President Theodore Roosevelt's 1903 camping trip in Yosemite guided by Sierra Club founder Muir. John Burroughs, whose nature essays make delightful reading today, was often joined in the woods by Henry Ford, Harvey Firestone, and Thomas Edison ("the vagabonds"). National parks were founded, often with the aid of philanthropists such as the Rockefeller family. The makers of our modern, machine-made world recognized the importance of experiencing the natural one.

Progress came at a price. Rachel Carson's 1962 best seller *Silent Spring* turned the country's attention to the harmful effects of the pesticide DDT which almost decimated the population of our national symbol, the bald eagle. In 1972, Congress enacted the Clean Water Act to protect Americans from the scourge of polluted waterways.

Grounded on these foundations, and on the liberties we enjoy as Americans, we have come of age as a nation of citizen conservationists facing ongoing threats to our natural treasures and the public's health. This essay is about citizen conservationists in our community.

In the Winter 2018 issue of this Newsletter, Brianna Bonshock, a daughter of the "Coal Region of Northumberland County," wrote eloquently of her "sense of place" project as an intern with NRCS (Natural Resources Conservation Service), and of her love and concern for her hometown, Shamokin, "environmentally impaired by the coal mining industry." I was inspired by this sentence: "I encourage everyone, in whichever community you call home, to develop your own sense of place, and discover the countless ways you can improve your community."

All it took was a couple of phone calls for me to get involved. My interest was warmly received. I met with the staff of the Northumberland County Conservation District, and began to learn of the wide scope of their programs. I was particularly interested in water quality as I live on the east bank of the Susquehanna River a few miles downstream of the mouth of Shamokin Creek, and frequently find myself on or in the river, face to face with reddish brown domes of foam.

The former Watershed Specialist, Jaci Harner, put me in touch with a local volunteer group, the Shamokin Creek Restoration Alliance (SCRA) which has been working to mitigate the impact of abandoned mine drainage (AMD) over the course of many years. Jaci told me that there were sixty points of waste discharge from abandoned mines in the Shamokin, Kulpmont and Mount Carmel area. What was even more startling to me was that SCRA volunteers were the primary force acting as a buffer between acidic, metals-bearing, life-killing waste water and the waterways many people depend on for drinking, recreation, and business uses: citizen conservationists.

One cold, early April day, two members of SCRA, Leanne Bjorklund and Jim Koharski, led us on a tour of ADM discharge locations in the Shamokin Creek watershed. We got into Jim's sturdy 4X4 and he took us first to the extensive cemetery above Shamokin, pointing out the sections where members of various ethnic groups have their final resting place. The beauty and peacefulness of the cemetery belies the fact that workers in Pennsylvania's Anthracite Region—Welsh, Irish, Lithuanian, Italian, and Slovak immigrants—and their families literally spent their lives so that the nation could rise as an industrial world power.

Jim referred me to Janet McCaffrey's ethnographic study, *Coal Dust on Your Feet*, which tells the story of coal region identities forged under extremely harsh living and working conditions. Between the years 1876 and 1897 there were 7,346 mining deaths in the region, and many people today tell of a relative killed in the mines.

Mining companies employing human moles burrowed the earth beneath Shamokin, Kulpmont, and Mount Carmel into a vast subterranean realm, extracted its riches, and then abandoned it, leaving a ruin filled with an incalculable volume of metals-bearing water toxic to life. One of the entryways into this underworld was the former Scott Colliery in Kulpmont, our first stop. Here Quaker run, a tributary of Shamokin Creek, flows untreated alongside Veteran's Memorial Field, a park where a large stone monument also memorializes the area's coal miners. SCRA has sponsored tree plantings along the eroded stream bank, and is awaiting approval of an Assessment Grant funded through the Growing Greener program of the Pennsylvania Department of Environmental Protection (DEP). The grant would allow the group to better understand the local issues of mine pool discharges, stream bank erosion, failing wetlands, clogged culverts and a sinkhole in the creek.

CITIZEN CONSERVATIONISTS,

continued

As we continued our tour, Jim pulled his vehicle off PA 61 just west of Kulpmont near the site of the Scott Ridge Mine Rock Tunnel, known as Scarlift 19 (SR19). We walked through the woods and patches of snow a few minutes till coming to a sight I'd never seen: a bubbling spring of orange-colored water. This was AMD gushing up from the mine pool deep beneath the ground and flowing into a small tributary of nearby Quaker Run. The group, with design assistance from Bucknell University and funding from the 1994 Degenstein Foundation, had placed a steel weir and flow meter across the stream for measuring flow volume. Ongoing measurements record flows of between 6 and 10 million gallons per day.

Our next stop was SR 15, along PA 901 a mile or so south of Ranshaw. There, once again, we saw mine-polluted water gushing from the mountainside, but here it was channeled into a catch basin and series of vertical flow ponds for extracting the iron contained in the water and reducing the acidity of the eventual discharge to levels compatible with aquatic life. Somewhat disappointingly I learned that the healthy alkaline discharge soon flows into Shamokin Creek running along the other side of PA 901, its water highly acidic.

SR 15's remediation ponds continue to work discharging clean water greatly reduced in acidity and iron— a significant achievement as the site is the sixth highest iron polluter in the area. However, over their ten years of service sludge has accumulated in the ponds, a buildup of sediment which will need to be removed someday, a highly technical and expensive process.

Our limited survey of this ravaged country brought us next to a gravel track at the end of South Shamokin street in town. Jim's 4x4 wound up the mountain into a land of culm piles and abandoned cars on the edge of a vast unlivable landscape recently made a Northumberland County recreational area—the Anthracite Outdoor Adventure Area (AOAA)—for ATVs and other off-road vehicles (on a later visit to the area a staff member told me that future development such as hotel services was limited due to contamination of groundwater). Here we checked on SR 23, a test system on Buck Run which utilizes a concrete cylinder and limestone for AMD remediation. It was no longer functioning due to a lack of limestone. A future remediation pond here is considered in the Assessment Grant, hopefully forthcoming from DEP.

Of the pitifully small number of working AMD remediation sites—four out of sixty Scarlifts—SR 48 on Carbon Run was located in an area of minimal mining impact but one ideal for crucial educational impact in proximity to the Career Center and Shamokin schools. The fenced facility contains three settling ponds, the final one a finishing wetland with plants, and at the time of our visit, a duck. Students from the nearby schools can gather along the banks or in a pavilion on site to absorb the enthusiasm and expertise of my guides.

Returning towards town, we made a last stop along PA 125 at SR 49 where, just off the road, a mine entrance bearing the date 1934 disgorges a copious orange stream past a transducer and over a weir for volume monitoring before flowing into Carbon Run (see photo to the right).

The efforts of SCRA and their partners in government, academia, and the community have produced, in addition to public awareness of the problem, some discernible improvements in water quality. Passing along the channelized banks of Carbon Run before it meets Shamokin Creek, we saw youngsters fishing from a bridge. Fish and amphibian life have indeed returned to parts of the watershed.



We closed our visit with lunch at Palmer's Diner on PA 61, a retro 50's place. It reminded me that in the end we all come home.

John Olin lives in Fishers Ferry and is at work on a book of essays about the Susquehanna bioregion.

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Northumberland County Conservation District

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

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NCCD Board of Directors Upcoming Meetings:
February 7th, March 7th, April 4th at 12:30pm;
all held at the NCCD EE Center