



# Conservation Horizons

Summer 2023



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YORK COUNTY  
CONSERVATION DISTRICT



Above: York County Conservation District Board  
1958

## Around the District

### *Reflecting on a Dry May*

Hopefully by the time you're reading this newsletter, the rains have returned, and the county's precipitation deficit has started to close. The lack of rain during a month that usually has its fair share of rainy days produced blue sky, cool temperatures, and low humidity. These types of days make most of us super happy. Discussions in May amongst neighbors and friends went from "This weather is awesome, why can't it stay this way all year?" to "It's starting to get a bit dry, don't you think?" then finally "We really need some rain, it looks like late August out here."

Although the scope and scale of our May drought is not comparable to the Dust Bowl, it did give us a glimpse of how fast our landscape can change without the presence of rain.

It's also important to remember that while Best Management Practices (BMPs) implemented in the county are mostly geared towards minimizing erosion due to rain events, they may also offer protection from wind erosion in certain situations. A slight breeze of less than 10mph can move soil (aka "dust") easily across the landscape and deposit it in places it shouldn't be.

— Continued pg. 2—

## Around the District (continued)

It has not been that long since the Dust Bowl occurred, but time does fly and for the most part it is a distant memory that we do not often think about. However, for those of us in the world of conservation, May did give us a quick pause and time to reflect.

**Jeff Hill**

*Conservation District Manager*



## Celebrating 75

### *A Steadfast Commitment*

As we pass through our 75<sup>th</sup> year as a Conservation District, we are taking the opportunity to review our historical archives.

It is humbling to observe the many circumstances and technological changes which the Conservation District has adapted to over the years. Systems changed from handwritten notes, typewriters and land-line phones to virtual meetings, GIS mapping, and web-based BMP reporting databases.

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While the world turned and technology changed, our historical records clearly illustrate that the commitment of the Conservation District Board of Directors and staff remained steadfast through 3/4 of a century.

This year we celebrate the dedication of the many people that wove the history of the Conservation District. It is through their vision and hard work that we can continue to pursue our mission to conserve York County's natural resources.

**Michael McKelvey**

*Education & Communications*

*Coordinator*

# 16<sup>th</sup> Annual Sporting Clays Fundraiser

**SEPTEMBER 22**

**CENTRAL PENN SPORTING  
CLAYS**

Visit [yorkccd.org](http://yorkccd.org)

*"A wonderful day afield  
for a good cause!"*

## Includes:

- 1 Round of 50 Targets
- Delicious BBQ Lunch
- Chance to Win Great Door Prizes

## How to Sponsor and Participate:

- Contact the Envirothon Coordinator at 717-840-7430 to discuss sponsorship and reserve your spot.
- Select either the morning shoot or afternoon shoot.
- Assemble team of 5 participants.
- Show up at Central Penn Sporting Clays on Sept. 22
- Test your marksmanship, enjoy BBQ lunch, and have fun!

Interested in being a Sponsor?

Contact Us!

**(717) 840-7430**

**[yorkccd@yorkccd.org](mailto:yorkccd@yorkccd.org)**



# Announcing New Cover Crop Program

*Now Accepting 2023-24  
Applications for Assistance*

This fall, YCCD will be offering a **cost sharing opportunity** for the planting of single and multi-species cover crops.

To qualify for the program, the crop planted must not be harvested for grain or forage.

Some **requirements** of the program include:

- The cover crop must be planted/established by November 1 and maintained until March 15
- Winter killed cover crops must provide a minimum 25% coverage
- All farms where cover crops are enrolled must have a current and accurate Ag Erosion and Sediment/Conservation plan.

Deadline to Apply:  
**September 15**

More details are available on our website.



## **\*NEW\* Cover Crop Program Available**

Learn more at

**[yorkccd.org/ACAP](http://yorkccd.org/ACAP)**

Have questions?

Give us a call!

Ask to speak with Troy Zirkle.

**717-840-7430**

Or send an email:

**[tzirkle@yorkccd.org](mailto:tzirkle@yorkccd.org)**



## Rocky Substrate

### *The Importance of Rocky Substrate in Pennsylvania's Wild and Reproducing Trout Streams*

**Substrate** is the surface or material on or from which an organism lives, grows, or obtains its nourishment. In Pennsylvania's wild trout streams, the most beneficial substrate is clean rock.

*Below left: Brook trout in its habitat*

*Below right: Male and hen brook trout*



#### Why is it important?

Clean, rocky substrate is considered a keystone for healthy, reproducing trout waters. Without clean, rocky substrate, trout won't have three key elements of survival:

- **Reproduction**
- **Food**
- **Shelter**

Trout **reproduce** in the fall and early winter when the water temperatures hit around 44 to 48 degrees. A

female trout will seek out gravelly substrate and create a small indent, this bed is considered a "redd". Once fertilized, these eggs will be laid within that redd. The eggs will be held in place and protected by that gravel.



*Above left: Brown trout eating terrestrial fly.*

*Above middle: Brown trout eggs protected by rocky substrate*

*Right: Stonefly latched to underside of a rock*

Trout also depend on the habitat that gravelly substrate provides to their main **food** source, macroinvertebrates. Macroinvertebrates can be classified as aquatic insects and crustaceans that spend most of their life in an aquatic environment. Examples of the macroinvertebrates that inhabit York County's local waters include different species of stonefly, mayfly, cased caddis, crayfish, and scuds. Most of these macroinvertebrates live underneath rocky substrate where they feed on vegetation and bacteria and eventually metamorphose into a terrestrial insect that will hatch on the surface of the water.



Larger cobblestone and flat rock play a role of **habitat** for trout. Ledges and gaps within this rock provide hiding spots to evade predators such as herons, ospreys and egrets.

A stream system must maintain long stretches of clean, rocky substrate to sustain a wild trout population. A threat to this clean substrate is the deposition of silt in and over top of this valuable habitat. Silt deposits fill in the substrate, which chokes out macro invertebrates and makes the creek unsuitable for spawning. In most cases, this sediment originates in upland areas where erosion is accelerated by factors such as farming using poor soil management practices, sediment-laden runoff from earth disturbance activities, and erosion of streambanks that lack significant stabilizing root structures to hold the loose soil and dirt in place.



The conservation district's Erosion & Sediment Control, Agriculture, and Watershed programs strive to reduce pollution, assist the public, and secure funding sources for projects to prevent sediment and other pollutants from entering York County's waterways, the Susquehanna River, and eventually the Chesapeake Bay.

**Chris Tanczos**

*Watershed Technician*







*Below: Crimson clover planted with other species in a cover crop mix. The clover has a bright red “head”.*



## Cover Crops

### *The basics*

Cover crops have been around and used for many decades and in York County we continue to see an increase in use every year. It doesn't matter if you have a 50 acre crop field or a small backyard garden—cover crops are very beneficial for your soil. A **cover crop** is any crop grown with the sole purpose to cover the soil and therefore not harvested.

One large advantage of using cover crops is the increase of soil organic matter. As the cover crop is tilled into the soil during preparation for spring planting, the plants residue is incorporated with the soil—causing an increase in soil organic matter.

An increase in organic matter ultimately results in:

1. an increase in earthworms and other beneficial microorganisms
2. improving water infiltration and retention
3. improving soil porosity

Some cover crops capture nutrients such as nitrogen and “fix” them in the soil. Cover crops are also a great tool for erosion protection.

There are **4 types of cover crops** often used:

- **Small grains**
- **Grasses**
- **Legumes**
- **Brassicas**

**Small grains** (such as rye, wheat, oats) provide lots of cover and quickly increase organic matter. Small grains will continue to grow throughout the winter (except oats—which die over winter).

*Below: Annual ryegrass in early spring.*



**Legumes** (such as clovers, beans, and alfalfa) are nitrogen fixing. Red clover produces approximately 70 pounds of nitrogen per acre. Red clover is also great for cover and organic matter.

**Brassicas** include radish, turnips, rapeseed, and mustards. The biggest benefit of brassicas is they break up soil compaction which allows for soil aeration.



*Above: Radish cover crop in late fall.*

The most popular **grass** grown for cover crops is annual ryegrass. Annual ryegrass develops an extensive root system and is especially preferred in areas where soil erosion is a concern. A word of caution: annual ryegrass is very difficult to terminate and therefore will require intensive management for termination.

Cover crops have many benefits. If you have never tried planting cover crops, let us encourage you to give it a try this fall!

**Melodie Tuckey & Troy Zirkle**

*Resource Conservation Specialists*



# What is the PA Natural Diversity Index (PNDI)?

## What does it mean for me?

Recently my husband and I had the joy of taking our young niece hiking. As the three of us headed up the trail, a lizard scurried onto the trail directly in front of us. We identified the lizard as a broadhead skink (*Plestiodon laticeps*). This was the first time we had seen a broadhead skink, so we were super excited to spot one in the wild! Unfortunately, we were so excited about our sighting that none of us acted quickly enough to capture a photo before the skink darted across the trail into the adjacent underbrush. Interestingly, we learned the broadhead skink is considered a **candidate species** by the Pennsylvania Fish and Boat Commission and is classified as “PC” by the Pennsylvania Natural Heritage Program (PNHP).

**What do these classifications mean and why are they important?** Candidate species are not considered endangered but could become endangered or threatened in the future. The PNHP defines the “PC” classification as “Animals that



could become endangered or threatened in the future. All of these are uncommon, have restricted distribution, or are at risk because of certain aspects of their biology.” **Threatened and Endangered** is a more severe classification listed by PNHP which states “Endangered species are in danger of extinction throughout most or all of their natural range within Pennsylvania. Threatened species may become endangered throughout most or all of their natural range within Pennsylvania, if critical habitat is not maintained to prevent their future decline.” Species that are classified as “Threatened and Endangered” are legally protected within the state. Possessing or harming a threatened or endangered species (without proper permitting) can lead to serious legal penalties.

Some threatened or endangered species in York County include:

- bog turtle
- northern long-eared bat
- umbrella magnolia

**What is a PNDI?** PNHP collects and stores ecological info about rare plants and animals, unique habitats, plant communities, and geologic features in PA. This info is compiled in a database called the “Pennsylvania Natural Diversity Inventory” (PNDI). Most permits issued or authorized by the PA Department of Environmental Protection (DEP) require a PNDI search as part of the permit application process. This includes NPDES permits issued by YCCD. The PNDI database is accessed with a tool called the Conservation Explorer. The Conservation Explorer prompts users to answer a series of questions about their project such as project type and location. The results of a PNDI search are compiled in a document called a PNDI receipt.

**What does a PNDI hit mean?** The PNDI receipt indicates whether a proposed project poses potential impacts to threatened and endangered species and/or special concern species in the project area. The receipt indicates either “no known impacts” or a PNDI hit.

*Above: Juvenile bog turtle (Glyptemys muhlenbergii)*

*Left: Broadhead skink*





When a PNDI hit is indicated, the PNDI receipt provides instructions on how the user should proceed to resolve the hit. Additional info may need to be provided to the regulatory agency that oversees the endangered species, or the PNDI may provide “avoidance measures” or “conservation measures” that must be incorporated into the project construction. All PNDI hits must be resolved before DEP or YCCD can issue permits.

**What does this mean for me?** Resolving PNDI hits can take time and money, especially if additional info must be provided to a regulatory agency to resolve the hit (ex: bog turtle surveys, etc.). In some instances, the prescribed avoidance or conservation measures can restrict when and where construction activities can occur, like tree cutting or work in a stream. It’s important to be aware of any required PNDI resolutions during the early phases of your project so you can plan accordingly.

Losing species to extinction impacts us all. Every species plays a role in maintaining a healthy ecosystem. Some roles are reciprocal and provide benefits to other species, including humans. For example, native mussels filter out pollutants and suspended particles in waterways. As native mussel populations suffer losses, water quality diminishes. Scientists are still discovering the roles species play in our ecosystem and we may not fully realize how a species fits into the overall ecological puzzle until it’s gone.

**Tiffany Crum**

*Resource Conservationist*

*Above Right: Northern long-eared bat (*Myotis septentrionalis*)*

*Right: Umbrella magnolia (*Magnolia tripetala*)*

[www.yorkccd.org](http://www.yorkccd.org)



# York County ENVIROTHON



## 2023 Envirothon

### News & Results

The York County Envirothon completed its 2023 season with nearly 800 students participating countywide. Students tested their environmental knowledge in four competitions ranging from April 25 to May 18. Months of extracurricular studying finally paid off with high scores, good memories, and a strong sense of accomplishment.

**Michael McKelvey**

*Envirothon Coordinator*



*Above: 1st Place Senior High Team  
"YHSA Glacial Guardians"*

## 2023 Results

### Senior High

- 1st: YHSA Glacial Guardians
- 2nd: York Suburban Lasagna Lizards
- 3rd: Dallastown Hellbenders
- 4th: Dallastown Wrenegades
- 5th: Northeastern Radical Rat Snakes
- 6th: West York Wildfire
- 7th: Mean Green Northeastern Team
- 8th: Northern Nighthawks
- 9th: Central York Fanatic Fungi
- 10th: Dover Demulcent Deer Ticks

### Middle School

- 1st: York Home School Hangry Hawks
- 2nd: York Suburban Millenium Falcons
- 3rd: York Home School Raiding Raptors
- 4th: Dover Leaf Buds
- 5th: Red Lion Lizard Wizards
- 6th: York Suburban Clever Raccoons
- 7th: Hanover Middle Trampling Trout
- 8th: Southern Sesquipedalianism Storks
- 9th: Northern Noble Nighthawks
- 10th: SEMS Spectacular Salamanders

### 5th-6th Grade

- 1st: Dallastown's Cattail Catastrophe
- 2nd: York Home School Hardy Hawks
- 3rd: South Mountain Wild Things
- 4th: Dallastown Wetland Wildcats
- 5th: Dallastown Sassy Sassafras
- 6th: York Home School Singing Squirrels
- 7th: Indian Rock Boxing Box Turtles
- 8th: Northern Lights
- 9th: Sinking Springs Sensational Sandpipers
- 10th: North Hills Ravine Queens

### 3rd & 4th Grade

#### Gold Level:

- Spring Grove Smarty Panthers
- Stewartstown Wonderful Woodpeckers
- Dallastown Intermediate Terrifying Turtles
- Leib Elementary Magical Maples
- Indian Rock Evergreen Team
- Leaders Heights Nerdy Birdies
- Dallastown Intermediate Insane Iguanas
- Shrewsbury Majestic Memorizing Maples
- New Salem Mischievous Mourning Doves
- Kreutz Creek Creatures
- Saint John's Fantastic Floppas
- Delta's Outstanding Offensive Orioles
- York Home School Electric Eagles
- Indian Rock Wacky Woodpeckers
- Sinking Springs Silly Sassafras
- Dallastown Intermediate Savage Squirrels
- New Salem Hardworking Housewrens

### Silver Level:

- North Hills Tongue-tied Toads
- Stewartstown Beautiful Blue Jays
- North Hills Flycatching Frogs
- Dallastown Elementary Outstanding Orioles
- Fawn's Courageous Crowing Crow's
- Dillsburg Spotted Salamander Squad
- Roundtown Rascally Rabbits
- Ore Valley's Magnificent Mallards
- Fawn's Wonderful Wild Woodpeckers
- Paradise Extraordinary Eagles
- Ore Valley's Forestry Friends
- York Township Tip-top Toads
- Loganville-Springfield Screech Owls
- York Home School Redemption Rabbits
- Paradise Pecking Pigeons
- Clearview Chipper Chipmunks
- Southern Elementary Wise Oaks
- Saint John Outrageous Owls
- Spring Grove Daring Deers
- South Mountain Victorious Penguins
- Mazie Gable Mallards

### Bronze Level:

- Shrewsbury's Interesting Icky Ice-Cream
- Shallow Brook Heroic Hummingbirds
- North Salem Tippy Treefrogs
- Sinking Springs Stunning Storks
- Northern Polar Lights
- Winterstown Willows
- Pleasant View Baltimore Orioles
- Clearview Clever Coyotes
- Mazie Gable Mighty Lions
- Dillsburg Perfectly Pickled Pickerels
- South Mountain Phat Fish
- Leib Elementary Tactical Talons
- Northern Snowflake Squad
- Stony Brook Nerds
- Spring Forge Bird Nerds
- Shallow Brook Brainy Bullfrogs
- Delta's Hilarious Hopping Hummingbirds
- Pleasant View Handsome Hoppers
- Stony Brook G.O.A.T.S
- Wellsville snakes, salamanders ohmy!
- North Hopewell Nature Nerds



# York County ENVIROTHON



## Thank you, Sponsors!

### *How our sponsors support the York County Envirothon.*

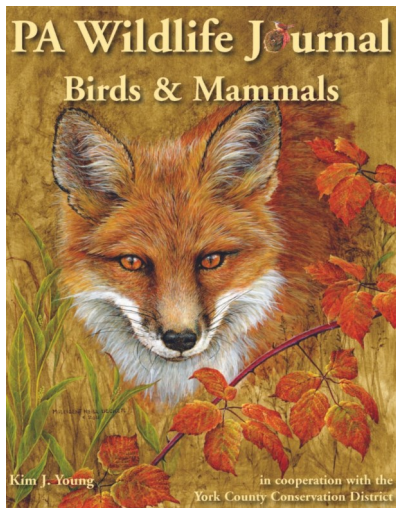
Our sponsors value the positive impact that the Envirothon has on the future of conservation. The Envirothon is offered at **no cost to schools or students** thanks to our generous sponsors.

We hope you will consider supporting the York County Envirothon this season!

**Call 717-840-7430** to speak with the Envirothon Coordinator about sponsor opportunities.







## Conservation Quiz Corner



Are you smarter than an Envirothon 5<sup>th</sup> Grader?

Answer the following to find out!

1. What is the most common sandpiper in Pennsylvania?
2. What is the main component of wood pulp?
3. Which state contains two-thirds of all wetlands in the US?
4. What kind of fungus found in PA resembles the semi-circular banded tails of wild turkey?
5. What PA bird digs a burrow several yards into a steep bank above a body of water for a nest?

Check your answers on page 12

## Wildlife Facts

### Beaver

- "The beaver is the **largest rodent** in Pennsylvania and in North America."
- "By the end of the late 1800s, uncontrolled trapping had all but eliminated beavers."
- "Adult beavers weigh up to **60 pounds**."
- "The entrance to the lodge is in the middle of a pond and is always below water, but the den itself is dry and located above water."
- "Beavers need water for their own habitat, and their habit of dam building creates a new habitat which **benefits many other species**."
- "Beavers play such an important role in creating new habitats that they are considered a **Keystone Species**."



YORK COUNTY  
CONSERVATION DISTRICT

*Conserving Natural Resources for our Future*

### Board of County Commissioners

Julie Wheeler, President

Doug Hoke, Vice President, Ron Smith

### Board of Directors

#### Directors:

Julie Wheeler - Commissioner

Travis Sherman - Chair

James Rexroth - Vice Chair

Michael Flinchbaugh - Treasurer

Rochelle Black - Asst. Treasurer

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Doug Goodlander, James Elliot

#### Associate Directors:

Leroy R Bupp, Randy R Craley, Harry Bickel,  
Grant Deller, Glenn Smith, Butch Jackson

#### Directors Emeritus:

Keith Eisenhart

**Wildlife Facts** includes excerpts & illustrations from the

### ***PA Wildlife Journal: Birds & Mammals***

*written by Kim Young & York County Conservation District*

**PA Wildlife Journal** focuses on Pennsylvania's birds & mammals. It's highlighted with professional artwork, photographs, and illustrations from hundreds of students across Pennsylvania and the United States. This unique book can be enjoyed by students of wildlife and casual readers.

The text includes the historical and current biology of the many species found in Pennsylvania.

Available for purchase on: **amazon**



## York County Ag Land Preservation Program

Eric Naylor, Director—(717)840-7400—[yorkcountypa.gov](http://yorkcountypa.gov)

2401 Pleasant Valley Road, Suite 101, Room 145, York, PA 8AM-4:30PM



February 15<sup>th</sup>, 2024 will be here before you know it. Why is it important? The **deadline to apply** for farmland preservation is February 15<sup>th</sup>, 2024!

**Thinking about Preservation?** Call us to set up an appointment - we will sit down with you, review your farm and application, review our program with you, and address any outstanding items that are needed prior to the 2024 application deadline.

**We only accept applications once every two years**, don't miss out on this two-year application cycle!

### Most common issues with Easement Applications:

1. The Conservation Plan / Ag. E&S Plan / Manure Management Plan is not current. Each farm must have the appropriate plans and they must be current to the operator and the operation. Call the Conservation District or a private planner to have a plan updated or written for your farm.
2. The farm is not enrolled in your municipality's Ag. Security Area (ASA), as required. If your farm is in multiple municipalities, it must be enrolled in EACH municipality's ASA. Call our office (717-840-7400) or use the Ag Lands Viewer ([yorkcountypa.gov](http://yorkcountypa.gov)) to find out your

ASA enrollment status. We will help you with enrollment.

3. A significant conservation concern exists on the farm. Staff will perform an onsite visit to evaluate the farm's conservation implementation. Serious conservation issues can result in the farm being disqualified for this application round.

There are still 8 months lefts until the application deadline!

*Don't wait until the last minute to get your ducks in a row.*

**Schedule an appointment with us soon!**

**Call (717-840-7400)**



## Public Outreach

### Conducting Programs for the Public

In recent months we have been increasing the frequency of our public **outreach programs**.

We conducted educational programs in a variety of local settings for various organizations. We are grateful for the opportunity to share our mission with the public.

If you or someone you know would like the Conservation District to speak with your organization, please give us a call at **717-840-7430** or email us at: [yorkccd@yorkccd.org](mailto:yorkccd@yorkccd.org).

*Right: Conservation District employees conduct an educational workshop.*

*(photo courtesy of York County 4-H)*





*Conservation Horizons*  
York County Conservation District  
2401 Pleasant Valley Road  
Suite 101 Room 139  
York, PA 17402

"When we try to pick out anything by itself, we  
find it hitched to everything else in the Universe."

-John Muir

**Stay Connected.**

**Support Conservation.**



**(717) 840-7430**

**yorkccd.org**

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Monday-Friday

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*Sponsor info & advertisement of services in this newsletter  
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#### YCCD Calendar

##### July 2023

July 4..... Office Closed

July 13..... YCCD Board Meeting

##### August 2023

August 10 .... YCCD Board Meeting

##### September 2023

Sept. 4..... Office Closed

Sept. 14..... YCCD Board Meeting

Sept. 21..... DGLVR QAB Meeting

Sept. 22..... Sporting Clays Fundraiser

##### October 2023

October 12 ... YCCD Board Meeting



*Conservation Quiz Corner Answers: (1) spotted sandpiper (2) cellulose fibers  
(3) Alaska (4) turkey tail fungus (5) belted kingfisher*