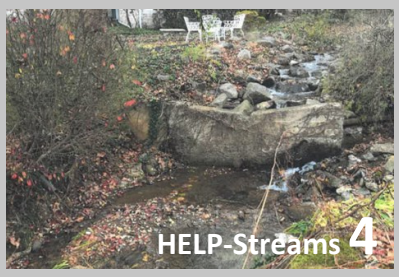
Conservation Horizons

Spring 2022



YORK COUNTY
CONSERVATION DISTRICT

Above: Wildlife at Lake Redman. Finalist photo from 2021 YCCD Photo Contest

Around the District

As the District rolls on into 2022, you may see some new faces at our District Board Meetings. **Jack Dehoff** retired after serving 38 years with the District as a farmer director. His wealth of knowledge and years of experience helped to not only guide the District, but also shape the state's conservation vision by serving on numerous committees and state level boards. **Kenyon Miller** also stepped down as a District Director. Kenyon spent 8 years on the board as a public director. With his background in agribusiness, Kenyon brought a voice to the Board that was balanced and focused on the cost/benefits for today's farming operations.

With the vacancies comes the ability to welcome two new District Directors. **Mike Smith** and **Jim Elliot**, both of whom served as Associate Directors before being nominated and appointed, were sworn in at the January meeting by Commissioner Wheeler. Mike Smith will serve as a farmer director, but also brings extensive knowledge from years in the excavation business. Jim Elliot, a public director, brings a vast knowledge base on environmental law as well as his past involvement in conservation measures throughout the Chesapeake Bay Watershed.

Around the District (continued)

The District also welcomed back **Commissioner Julie Wheeler** who was sworn in for another one year term as the County Commissioners Representative to our board. Commissioner Wheeler has been a great supporter of the Conservation District and its staff, and we look forward to working with her over the next year to help promote and provide educational conservation opportunities for the residents of York County.

We wish to thank our returning Associate Board members that have agreed to serve additional 1 year terms; **Leroy Bupp, Randy Craley, Harry Bickel,** and **Doug Goodlander**. Their valuable input helps to always guide the District in the best direction possible. Finally, we would like to also welcome two new Associate Directors that will each serve 1-year terms. **Leah Taylor** and **Grant Deller** will bring a new dynamic to the board as the younger generation starts to carry the torch for conservation into the future.

Without the dedication of the above-mentioned Board members, the York County Conservation District would not have the far-reaching input on matters both locally and at the state that we currently have. We look forward to 2022 for the challenges both known and unknown, as we strive to keep the conservation of our natural resources front and center.

Jeff Hill

Conservation District Manager

In this Edition:

YORK COUNTY CONSERVATION DISTRICT

Seedling Sale

Deadline to Order:

March 14, 2022

Pick Up Date:

April 14, 2022

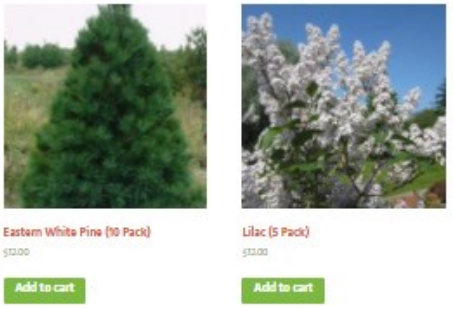
Pick up Location:

Rocky Ridge County Park

-

Visit **yorkccd.org/shop**

to **ORDER ONLINE**



New Online Ordering

Convenient New Way to Order Seedlings

Now you can **order online** for the 2022 Seedling Sale.

Quickly & easily browse selection of 18 available species & purchase seedlings from your computer or mobile device.

How to Order Online:

1. Visit **yorkccd.org/shop**
2. **Browse** available seedlings
3. Add selected seedlings to your **cart**.
4. **Purchase** seedlings safely & securely with a credit card.
5. Get confirmation **email.**
6. **Pick up** order at Rocky Ridge Park on April 14, 2022.

Prefer paper forms or want to pay with a check?

Contact us to receive a paper form and pay via check.

Need Help? Contact Us!

(717) 840-7430

yorkccd@yorkccd.org

Support Conservation & Improve Habitat

www.yorkccd.org/shop

Above: Before & after HELP-Streams project

HELP-Streams

Why are Headwater Streams Important?

The quality of water (nutrients, sediment, and temperature) is affected most by the condition of headwater streams. Working to rehabilitate and protect small, headwater tributaries will positively impact water quality.

Headwater streams are otherwise known as order 1 through 4 streams. **Stream orders** are a simple numbering system used to classify the drainage network of a watershed. Order 1 streams are the first channels in the headwaters to exhibit a defined bed and banks. Most are only 1-2 feet in width. Two order 1 streams join to form an order 2 stream, and so on. In most watersheds, over 90% of stream miles are orders 1 through 3.

Cause and Effect of Erosion & Sediment:

Headwater streams provide for drainage and sediment transport under natural conditions. Soil erosion and stormwater runoff are a natural process and part of the hydrologic cycle. Stream width and depth is directly proportional to the size of the drainage area and annual rainfall. As land becomes developed, or changes use from forest to agriculture, etc., the natural erosion and runoff processes are disturbed. Direct effects include increased impervious surfaces, increased stormwater runoff, and decreased groundwater recharge. Indirect effects include accelerated soil erosion, increased sedimentation of waterways, and streambank and channel erosion.

Stream Protection Tips:

1. The most stable streambanks are those with 100% vegetative cover of woody trees and shrubs.
2. Watch for problem signs and symptoms of active streambank erosion, channel migration, and gravel bar formations.
3. Limit the use of lawns along streams. Turf grass has shallow roots and offers little protection against streambank erosion.
4. Use land management practices that protect the beneficial streamside vegetation.
5. Understand the problem before you try to fix it.
6. Be aware that poorly designed solutions can make matters worse for you and your downstream neighbors.
7. Work with your neighbors to manage the land along the entire length of a stream.
8. Contact YCCD for more information and assistance.
9. Do not do any streambank rehabilitation, protection, or gravel bar removal without first determining if a permit is required.

How YCCD can help:

YCCD started the Headwaters Environmental Legacy Program for Streams **(HELP-Streams)** in 2003 to help landowners manage their small streams. HELP-Streams offers financial and technical resources for stream rehabilitation and protection. This program provides non-agricultural landowners with cost sharing opportunities for streambank rehabilitation, bank protection, and gravel bar removal as an incentive to encourage environmental stewardship and watershed protection.

The Conservation District receives funding annually to reclaim, rehab, and restore waterways by implementing Best Management Practices (BMPs). The landowner must complete and submit a one-page HELP-Streams Cost Share application form to the Conservation District. The Conservation District Board will review the application and decide whether the project is eligible and recommended. Once approved, the applicant must sign a cost share agreement with YCCD prior to doing the work. A permit may be required from PA DEP and the cost may also be included in the cost share above. All documents and contact info can be found on YCCD's website or by calling the office at 717-840-7430.

Emily Neideigh

Watershed Specialist

Soil & Manure Testing: Part Two

Understanding your results

Now more than ever with rising fertilizer costs we should utilize the benefits of manure the best that we can. Luckily, the hard work is already done by taking manure and soil samples. Next we just have to analyze the results.

Just like us, plants need a well balanced diet in order to be healthy, and there are many factors that contribute to that balance. Some of these factors we do not have control over, such as the perfect amount of rainfall and sunshine. However, there are many management opportunities that we can control. Some of these management decisions include; the time of the year when we spread manure, how we spread manure, manure previously spread, previous legume history, spreading rate, and fertilizer inputs.

There are many variables to consider when we try to determine what is or is not the best choice for the crop. How much manure should we spread? How much fertilizer should we apply? How many years should we consecutively spread manure on the same field? These are all great questions that must be answered in order to measure profitability. Fortunately, there is a tool designed that uses all of this information and can help us make the best management decision.

What is this tool? It is a **Nutrient Balance Sheet**, or NBS. A blank NBS, and step by step instructions can be found on the PA Nutrient Management website.

When you begin your NBS, start by looking closely at your soil test results. The phosphorus (P) and potassium (K) levels are two of the six essential nutrients required for plant growth. **Potassium** is responsible for keeping the plant strong. **Phosphorus** aids in root growth and flowering. **Nitrogen** (N) is another essential nutrient necessary for plant growth. It is responsible for leaf development and most importantly, chlorophyll production. Curious why nitrogen is not shown on your soil sample? Nitrogen is very mobile in the soil, which makes it hard to get an accurate reading. However, you will find the recommended plant nutrient section on your soil report which states the total N, P, & K units required for your expected crop yield.

Using these recommendations, your manure analysis results, soil fertility levels, crop's yield goal, and your anticipated manure application, you can successfully complete your NBS.

Above: Spreading liquid manure

Once you complete the NBS, you may find that your N, P, and K have negative values. This means there is an overapplication of these nutrients. The goal is to be as close to 0 as possible. You now have a management choice to apply fertilizer or manure to meet the crop's needs and achieve the yield goal. It is at this point that taking manure samples, soil samples, and completing the NBS will pay off. Applying the proper amount of manure and fertilizer to the crop will allow you to see the best profit potential of the crop.

If you have any questions about completing the NBS for your operation, or if you have questions about Manure Management Planning, our Ag Team would be happy to assist you.

Melodie Jones

Resource Conservation Specialist I

Below: Recommendations for N, P, & K per crop's expected yield on a soil sample

SOIL NUTRIENT LEVELS			Below Optimum	Optimum	Above Optimum
[1]Soil pH	6.1				
[2]Phosphorus (P)	40	ppm			
[2]Potassium (K)	170	ppm			
[2]Magnesium (Mg)	50	ppm			

RECOMMENDATIONS: *(See back messages for important information)*

Limestone*: 3000 lb/A for a target pH of 6.5. **Magnesium (Mg):** 20 lb/A

**Calcium Carbonate equivalent*

Plant Nutrients: ***(If manure will be applied, adjust these recommendations accordingly. See back of report.)***

Year	Crop	Expected Yield	Nitrogen (lb N/A)	Phosphate (lb P_2O_5/A)	Potash (lb K_2O/A)	
1	Corn for Grain	100 Bu/A	100	20	0	*See ST2 for other crop recommendations*

Use a starter fertilizer. (See Back)

Stormwater Management

Why it Matters to You

During the summer of 2020, I vividly recall a popup thunderstorm that hit the county during a hot summer afternoon. The storm did not last long, but it left significant damage in its wake. Heavy rains quickly dumped inches of water over a relatively small section of the county. Route 30 and some intersecting streets along the highway flooded and became impassable. Streams in my neighborhood that were normally narrow enough to hop over became raging torrents that overtopped their banks and flooded roadways and surrounding properties. Unfortunately, many homes in our neighborhood, including my own, experienced property damage from the flashflood.

Have you ever had a similar experience? Can you remember a significant storm event? Whether you have experienced flooding to your property from a heavy thunderstorm, had to pay for a stormwater permit to add improvements to your property, or had to detour around a flooded highway, **stormwater** has impacted you. In this article we will touch on the basics of what stormwater is and why it is important to manage.

impervious surface: hard ground that prevents entry of water into soil and increases runoff, such as asphalt, concrete, rooftops, etc.

pervious: allowing the movement of water

infiltration: the portion of rainfall or surface runoff that moves downward into subsurface soil and rock

surface waters: perennial and intermittent streams, rivers, lakes, reservoirs, ponds, wetlands, springs, natural seeps and estuaries.

runoff: the portion of a rainfall or snowmelt that flows over the surface

Above: Stormwater runoff entering an eroding roadside ditch

When water from precipitation reaches the ground, water that falls on **pervious** landscapes like forests and meadows is intercepted by tree canopies and grasses which allow the stormwater to runoff the land slowly. As stormwater flows over vegetated landscapes, water can be infiltrated into the soil. Additionally, stormwater is used by trees and vegetation through the process of evapotranspiration. In contrast, **impervious** surfaces like rooftops and streets provide no **infiltration** capability for precipitation. Water from precipitation that lands on impervious surfaces can runoff those surfaces quickly and flow overland to surface waters or to storm drains that ultimately outlet to surface waters. Natural areas with mostly pervious surfaces generate far less stormwater **runoff** than developed areas with many impervious surfaces.

Unmanaged stormwater runoff can cause downstream flooding, streambank erosion, and loss of habitat for aquatic life. Additionally, unmanaged stormwater runoff can pick up contaminants such as sediment, pathogens, nutrients, & other harmful toxins and deposit them into surface waters. When rainwater flows over hot impervious surfaces like blacktop and dark colored rooftops, the temperature of the resulting stormwater runoff can become elevated. When warm stormwater runoff enters cool streams, the change in temperature can cause detrimental thermal pollution. Water temperature changes in streams and other surface waters can stress aquatic life. Game fish, such as trout, are especially susceptible to harm from temperature change. Long term thermal impacts to surface waters can decrease biodiversity as temperature sensitive species die off.

While there is no easy fix for stormwater management issues, there are things that we can do to help reduce the negative effects of stormwater runoff.

1. **Plant trees & native plants.** The deep root systems of native trees and plants can help absorb stormwater runoff more effectively than traditional lawn. Trees planted in buffers along streams can help prevent stream bank erosion and provide shade along streams to help reduce thermal impacts.
2. **Use a rain barrel.** Rain barrels are placed at the outlet of a downspout to collect and capture runoff for later use. Collected rainwater can be used to water gardens and outdoor plants. Tip: before investing in a rain barrel, ensure you have a use for the collected water.
3. **Direct downspouts to vegetated areas.** By directing downspouts to vegetated areas, runoff from rooftops can infiltrate into the soil and cool down prior to entering storm sewer or surface waters. *Tip: Exercise caution not to place downspouts too close to your foundations to avoid basement flooding.*
4. **Build a rain garden.** Add rain gardens to your property to capture stormwater runoff and allow it to infiltrate into the soil. Rain gardens are usually planted with a variety of native plants so not only are you managing stormwater, you are also providing habitat and beauty to your property. *Tip: Rain garden placement, sizing, and plant selection can be tricky. It helps to do your research and consult with professionals prior to installing your rain garden.*

Above: Flooding resulting from 2020 storm

If you want to learn more about stormwater management best management practices (BMPs), check out the 2021 editions of Conservation Horizons.

Tiffany Crum

Resource Conservationist

Trouble Managing Winter Manure?

Conservation Excellence Grant (CEG) Could Help

Confining animals in the winter creates many challenges. Often, animals taken off pastures are housed in barns that have barnyards. For the first few weeks everything goes smoothly, but as winter progresses:

1. Manure in the barnyards becomes mixed with snow and ice.
2. Aging barn spouting, that is either missing or leaking, can add a lot of water to this barnyard 'mixture'.
3. It becomes more difficult to get equipment to the fields, and finding a suitable place to stack stable manure can be difficult.

In wintertime, the accumulating manure/snow/ice/mud can:

- Be an 'eye sore'
- Make it difficult to keep animals clean
- Be hard on pastures (if animals have access)
- Be a manure storage problem
- Present issues for water quality

If you are raising livestock and are faced with some of these 'winter challenges,' perhaps the Conservation District can help.

The good news is that there is a state funded program to help agricultural operations implement qualified Best Management Practices (BMPs). This program is call **Conservation Excellence Grant (CEG)**, and it is designed to encourage (through financial and technical assistance) the installation of BMPs.

As an example, some of the BMPs that would address the issues listed above include:

- Manure Waste Storage
- Roof Run Off Structures (spouting)
- Heavy Use Area Protection
- Vegetated Treatment Area.

These BMPs, and many more, qualify for cost share in the CEG program.

One of the requirements of the CEG program is that the BMP needs to be planned in either a Manure Management Plan, an Ag Erosion and Sediment Plan, a Conservation Plan, or Nutrient Management Plan. Now would be the perfect time to begin the discussion for BMPs that could possibly be implemented for the 2022 fall and 2023 winter.

If you want discuss your specific BMP needs, or necessary plans to address your needed BMPs, or if you have any questions regarding the CEG program, please contact Troy Zirkle (tzirkle@yorkccd.org) or Mark Flaharty (mflaharty@yorkccd.org), or call our office at 717-840-7430. We look forward to hearing from you!

Troy Zirkle

Resource Conservation Specialist I

Manure Management Plan Writing Workshop

March 4, 2022 – 8:30AM-3:30PM

All PA farms generating or applying manure MUST have a Manure Management Plan.

Attend this workshop for help writing your Manure Management Plan.

Registration required.

Register for **FREE** on our website or by calling (717) 840-7430

Conservation Quiz Corner

Are you smarter than an Envirothon 5th Grader?

Answer the following to find out!

1. What do you call temporary ponds that develop in the spring and dry up in the summer?
2. What is the name of the insect responsible for the death of millions of ash trees in North America?
3. From which direction does the moon rise?
4. How many species of venomous snakes live in PA?
5. What common PA mammal is the only marsupial in North America?
6. What are young swans called?
7. The _____ zone is the lowest level or bottom of a lake.

Check your answers on page 12

York County ENVIROTHON

York County ENVIROTHON

SUPPORT

Environmental Education

in York County.

-

SPONSOR

the York County

Envirothon!

Call (717) 840-7430

to become a sponsor today!

Bald Eagle Platinum Level

$5000

American Chestnut Gold Level

$2500

Elk Silver Level

$1000

Brook Trout Bronze Level

$500

Mountain Laurel Patron

$250

Sponsors at $500 & above level will be featured on the Envirothon t-shirt if sponsorship is received by **3/11/22**.

-

For full description of sponsor levels visit yorkccd.org/education/envirothon

-

Please submit attached form to Sponsor the Envirothon.

What is the Envirothon?

- Largest **environmental education competition** in the nation!
- Originally created for senior high students by PA's Conservation Districts 37 years ago.
- York County is one of the few programs that offer the Envirothon beginning in 3rd grade, making it one of the nation's most robust Envirothon programs.
- Many students participate for years & pursue careers in conservation.

Why sponsor the Envirothon?

- It takes **community support** to run the Envirothon!
- We offer the Envirothon at no-cost to nearly 1,000 students every year thanks to the generous support of our sponsors!
- We will publicize your support in our press releases, newsletters, event signage, and more! You will receive an official receipt of the donation for tax purposes.
- Our sponsors & cooperating agencies work year-round to present the York County Envirothon.
- We work with York County Parks, DCNR, PA Game Commission, PA Fish & Boat Commission, NRCS, York County Planning Commission, York County Solid Waste Authority, and many more agencies and local businesses.

How to become a sponsor?

It's easy! Simply mail the accompanying Envirothon Sponsorship form.

Please make checks payable to the **York County Conservation District** & mail to:

Attn: Envirothon, YCCD,

2401 Pleasant Valley Road, Suite 101, Room 139

York PA 17402

Name: _____

Contact Person (if company): _____

Address: _____

City: _____ State: _____ Zip: _____

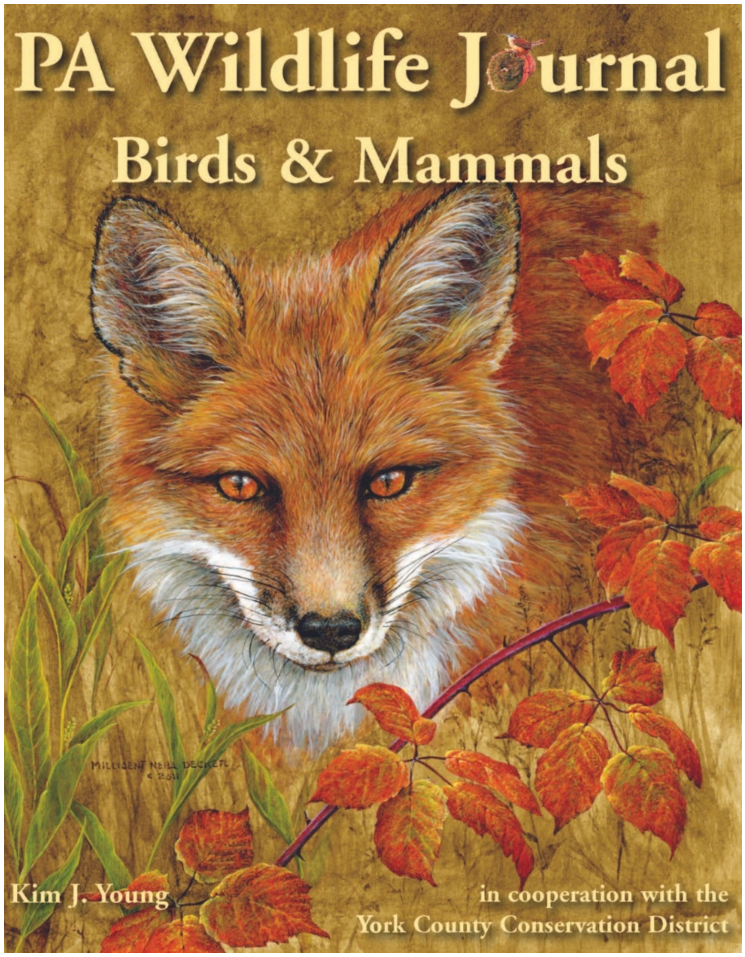
Phone: _____ Email: _____

Amount of Donation: _____ Check #: _____

York County Conservation District

Our purpose is to promote wise use and management of soil, water, air, plants, wildlife and other natural resources through four program areas: Agricultural Resources, Education, Erosion & Sediment Control and Watersheds.

We have served York County since 1938, when a group of 554 farmers from 18 townships signed a petition to form the York County Conservation District. This petition was approved by the state Soil Conservation Commission in 1948. Like all Conservation Districts, we are a legal subdivision of state government like townships or school districts. Our budget is supplied by county, state and federal programs, as well as foundation grants & fees for services. We are managed by a board of environmentally aware York County citizen volunteers.



Now Available: *PA Wildlife Journal*

The *PA Wildlife Journal* is once again in print!

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

The text includes the historical and current biology of the many species found in Pennsylvania. This book is designed as a study resource for elementary to middle school students, but can be enjoyed by readers of all ages.

Available for purchase on: amazon

We have traditionally assisted agricultural producers and other landowners in protecting soils & reducing erosion in our waterways. Today, the District also works with non-agricultural landowners, developers and local government officials to protect our natural resources.

We do this by coupling technical & financial assistance with conservation planning and permitting requirements.

Education is a cornerstone of the District and we target a wide audience about effective pollution prevention techniques to farmers, landowners, local officials, watershed associations, conservation organizations, civic groups, churches, schools, teachers and youth.

Our Vision - We are committed to the improvement & protection of our environment and the wise use of our County's diverse natural resources.

Our Mission - To achieve that vision we will be proactively providing conservation education, technical services and financial assistance to enable the citizens of York County to be good stewards of our natural resources.

York County Ag Land Preservation Program

Patty McCandless, Program Director 717-840-7400
2401 Pleasant Valley Road, Suite 101, Room 145, York PA 17402

York County Agricultural Land Preservation Board closed the 2022 Application Round on 2/15/22 for the next group of landowners interested in preserving their farm through a conservation easement sale (Next round: February 2024). During the Feb. 2020 application round, 50 of 64 farms qualified for preservation. 31 farms were selected for preservation through 2020 and 2021. A 100% acceptance rate was recorded.

On 1/19 the York County Board of Commissioners approved the York Certification for Allocation of 2022 easement purchase funds ($2,007,222) from the dedicated ag land fund with a state match.

The Soils Health Stewardship Grant from the American Farmland Trust (AFT) continues to assist the agency and partners in promotion of soil health practices with our preserved landowners and producers. Dave and Marty are excited to share the importance of soil health conditions on farms throughout York County and are planning 2022 educational opportunities for landowners and producers.

YCCD and YCALPB sent a joint letter in January asking farmers and landowners of preserved farms to consider sharing their conservation plans with YCCD to log local conservation practices into the Chesapeake Bay computer model that estimates the nitrogen in local waterways. An amount of 4 million pounds was estimated by the computer model to be reduced by 2025. This effort is an opportunity for York County farmers to share their actual conservation efforts with conservation officials to correct or confirm the Bay computer model's estimated nitrogen figures. With actual data, the computer model can accurately calculate and identify contributors of nitrogen for appropriate reduction.

A search for an Assistant Director is ongoing, as Patty plans her October 2022 retirement. Patty has served the YCALPB and ag community since 1990 and will leave the office knowing the program is well-funded today by the Board of Commissioners. Thank you, Commissioners Julie Wheeler, Ron Smith, and Doug Hoke. America's ag economy relies upon local, county, state, and federal cooperation to produce our nation's food supply. Adequate lands, fair regulation and public policy are critical to our agricultural producers' ability to farm.

Other updates include the revision to the Rural Enterprise list which today includes dog kennels among the other non ag activities that may occur on a preserved farm. Inspection duties by Marty Druck and Dave Boose continue and are being planned as weather allows. Landowners should contact the Ag Land Office if ownership changes occur, or if farm operators change. Farm operators should share conservation plan updates.

Our website is being updated. Check back in March for updates on Board meetings, program applications, eligibility and ranking information, 2022 scores, and news. Please contact our office at (717)840-7400, Mon.-Fri. 8:00AM-4:30PM. Find us on the web at www.yorkcountypa.gov, under Property and Taxes.

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

"Conservation and production go hand in hand. Our goal is to reach a neutral point where soil loss and soil regeneration balance each other."
- Linda D. Houseal, fmr. YCCD Manager
The York Dispatch (1986)

Stay Connected.

Support Conservation.

(717) 840-7430

yorkccd.org

Hours: 8:30AM-4:30PM
Monday-Friday

Change of address? Wish to unsubscribe?

Email yorkccd@yorkccd.org or call (717) 840-7430.

Sponsor info & advertisement of services in this newsletter provided without any implied endorsement from YCCD.

YCCD Calendar

March 2022

March 4..... Manure Mgmt. Workshop

March 11 .... YCCD Board Meeting

March 14 ..... Seedling Orders Due

March 17 ..... DGLVR QAB Meeting

April 2022

April 7..... YCCD Board Meeting

April 14..... Seedling Sale Pick Up

April 15..... Office Closed

May 2022

May 12..... YCCD Board Meeting

May 30..... Office Closed

June 2022

June 9..... YCCD Board Meeting

June 16..... DGLVR QAB Meeting

Conservation Quiz Corner Answers: (1) vernal ponds (2) emerald ash borer (EAB) (3) east (4) three (5) opossum (6) cygnets (7) benthic