About Holmes Soil and Water Conservation District

Our District has hosted a 5th grade farm tour for over 50 years, but what else do we do? Here's some info:

Our board members (all Holmes County residents) Harold Neuenschwander, Jason Shumaker, Jason Biltz, Christie Stitzlein and Kyle Hanna, set our conservation priorities. They volunteer their time to attend local meetings and state meetings.

HOLMES SOIL & WATER CONSERVATION DISTRICT
Conserving Holmes County since 1947

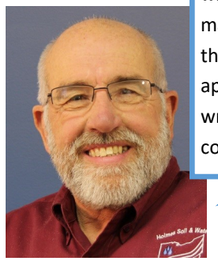
Our priorities are:

- Keeping water clean by helping landowners understand how to minimize runoff (from stormwater, fertilizer, livestock manure, and sediment from building sites). We visit farms and homes on a regular basis to give advice.
- Encouraging healthy soils through cover crops (did you see the yellow plane dropping seed two weeks ago?) and soil testing. Soil tests will show if there are any nutrients (fertilizer or manure) needed or not. Too many nutrients will run off into the nearest stream and lead to poor water quality.
- Educating students and adults about conservation practices (see our bi-weekly column in *The Bargain Hunter* and educational programs on our website).

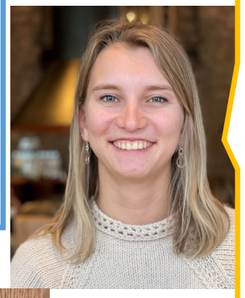
About us and our jobs….

There are 88 different SWCDs in Ohio and nearly 3,000 SWCDs in the U.S. Each are a little different, depending on county priorities. SWCDs in Ohio receive funding from local county commissioners and the Ohio Department of Agriculture. That ensures that we are meeting the needs of our local community and state.

I'm Trevor Berger, and I am the Program Administrator. I do a little bit of everything—I visit farms and homes that want help managing natural resource issues. I also manage the day-to-day activities of the office, prepare for board meetings, organize events like 5th grade tour and tree sale, participate in local meetings, and talk with leaders about the importance of conservation.



I'm Joe Christner, and I'm the Water Quality Technician. I visit farms and work with farmers to show them how much manure and fertilizers they need to put on their fields. I work with spreadsheets and apps that are specific to soil runoff, and write management plans. I also help with cover crops and pollution complaints.



My name is Darby Sherman, and I'm the Conservation Specialist. I love learning about soils, and am excited to teach people about soil health and why it is important to conserve our soil. I help farmers by designing conservation practices that they'll put on their farms, including cover crops — This year 3% of all land in Holmes County will have cover crops! I also spend my time working to develop grazing plans and nutrient management plans so farmers can use their resources wisely.

I'm Karen Gotter, the Watershed Coordinator for Killbuck Creek. I offer advice about conservation practices, and help people sign up for conservation programs. I pull water tests from the Killbuck several times a year. I look for grants that will help us fund projects to get conservation on the ground— or in the water! I am also learning how we can connect our programs to help wildlife, too - I'm passionate about pollinators and pretty much all things conservation!

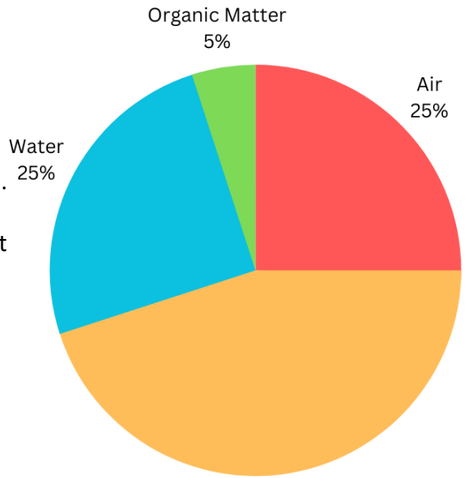
I'm the administrative assistant at Holmes SWCD, Rebekah Schonauer. I don't do field work; instead, I work in the office, keeping track of the budget and accounts. I also do office tasks and help out whenever I'm needed for farm tour, or our fish and tree sales.

Fun@FarmTour

Info about the Holmes Soil & Water Conservation District's Tom Graham 5th Grade Conservation Farm Tour

Soil is partially made up of decaying plant or animal remains. Organic matter contains the living and once living components of our soil. However, soil is mostly made out of disintegrating rocks (minerals) or inorganic matter, water, and air. The differing amounts of inorganic and organic material determine the type of soil that is present. Soil is formed over hundreds of years. As rocks and organic material are broken down, soil is formed. Water, wind and temperature are just some of the factors that affect formation. Soils form layers, called horizons, as shown below.

Soil Composition



Soil Horizons

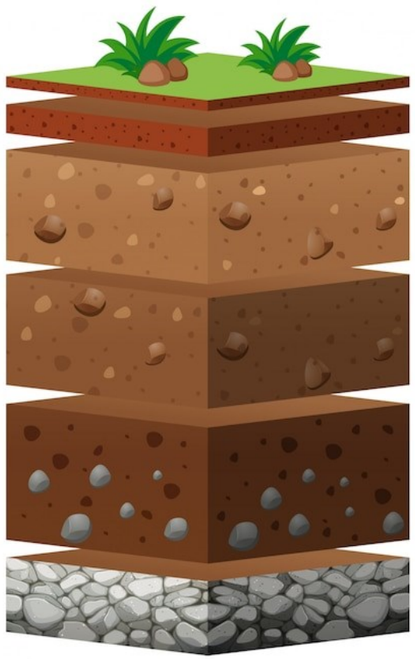


Image by brgf on freepik.com

Organic Layer
O Horizon

Topsoil
A Horizon

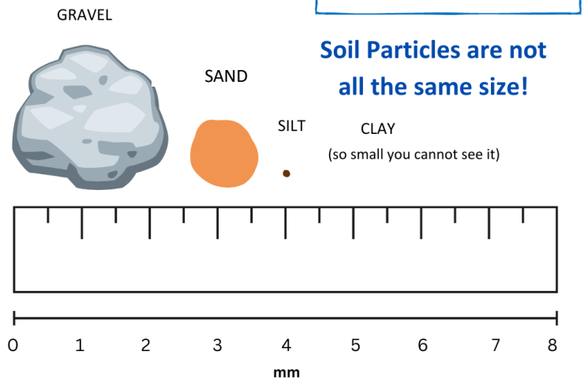
Subsoil
B Horizon

Parent Material
C Horizon

Bedrock
R Horizon

Did You Know?

A soil scientist studies and analyzes the soil to see what it can be used for. For example, if someone wants to build a house, a soil scientist will determine if a house can be built on the soil.



Soil Particles are not all the same size!

Who Was Tom Graham?

Tom was a soil scientist who worked with Holmes SWCD and loved helping out with the tour. Sadly, he passed away from cancer many years ago, and we renamed the tour in his memory so that his love of teaching kids about the importance of soil wouldn't be forgotten. We're honored that Tom's family faithfully comes to the tour each year and helps hand out awards at the Holmes SWCD annual meeting. Tom would be happy to know this is the 56th year for the tour!

SAFETY on the farm

Every animal has a kicking or striking zone that makes it **dangerous**.

Put an **X** where you should stand next to a horse.

Draw **Circle** around where you think would be a dangerous location to approach an animal.

Q: What determines the kick or strike zone of an animal?

A: The size of the animal and her leg length will determine how far it can kick. Always consider the power and size of the animal when working around large animals.

Q: What could happen to a person standing in the danger zone of an animal?

A: Horses are a flight animal, so when they feel threatened they will run. If you are standing in front of them, they may run you over or if they are mad, they may strike with their front legs and kick you. If you are standing around the hind quarters and they are startled, they may kick you!

Paws for Farm Safety: Animal Safety, taken from the National Ag Safety Database

My Notes

Meadow at Sunset by Wiresotck at Freepik.com

Words to know

Agriculture: Farming; the science, art & business of cultivating the soil, producing crops & raising livestock useful to people.

Bedrock: Solid rock that underlies soil; also called parent material.

Clay: Smallest soil particle, < .002 mm diameter; feels sticky when wet.

Conserve/conservation: Wise use of natural resources to prevent damage, pollution & waste, extending the life of resources for use by future generations.

Crops: Agricultural products growing, harvested or collected.

Environment: Interaction of physical, chemical & biotic factors (such as climate, soil, space & living things) that affects an organism's ability to survive.

Erosion: Loosening & movement of solid material on the land surface by water runoff, wind, moving ice, & landslides. Erosion can occur from humans disturbing the soil.

Fertilizer: Substance added to soil containing plant nutrients such as nitrogen, phosphorus, and potassium.

Food: Substance that nourishes a living organism.

Food chain: Series of plant or animal species in a community, each of which is related to the next as a source of food; multiple food chains combine to form a food web.

Forest: Area of land primarily covered with trees as well as the other organisms, soil, water & air associated with them.

Habitat: An area that provides an animal or plant with adequate food, water, shelter & living space in a suitable arrangement.

Humus: Organic matter such as highly decomposed leaves. When plants drop leaves, twigs, and other material to the ground, it piles up, forming humus.

Livestock: Domestic animals kept for use on a farm or raised for sale or profit.

Natural resource: Material found in nature & used by humans, such as trees, water, soil, & oil.

Nutrients: Elements or compound that nourish organisms; essential for growth & reproduction.

Organic matter: Material derived from decay of plants & animals; always contains compounds of carbon & hydrogen.

Photosynthesis: Process by which plants use sunlight to convert carbon dioxide & water into food & oxygen.

Pollution: A condition caused by substances in Earth's air, water & soil that reduces the quality of the environment for life.

Runoff: Water from precipitation that is not absorbed but flows over the land, carrying sediment & other materials to streams, lakes, & other bodies of water.

Sand: Largest soil particle, .05–2 mm in diameter; feels gritty.

Sediment: Soil carried by water from erosion of land. Sediment can clog rivers & streams, destroy wildlife habitat, & pollute water supplies.

Silt: Medium-sized soil particles, .002–.05 mm diameter; feels like flour (smooth & velvety)

Soil: Complex mix of minerals, water, air, organic matter & countless organisms that are the decaying remains of once-living things; forms surface of land & supports plant life.

Subsoil: Soil layer rich in minerals leached down from the topsoil; located between topsoil & parent material.

Texture: Characteristic proportion of sand, silt, & clay in a particular soil.

Topsoil: Mostly minerals from parent material with organic matter incorporated.

Weathering: Breakdown of rocks & minerals at or near Earth's surface into smaller particles & soil.

What's Growing in Ohio

A glimpse at the state's leading ag products based on cash receipts*

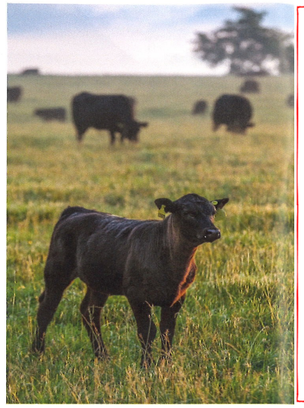
SOYBEANS

$3.2B

Ohio farmers harvested nearly 4.9 million acres of soybeans in 2021, which produced more than 275 million bushels of the crop.

***What are cash receipts?**

Defined by the U.S. Department of Agriculture's Economic Research Service, cash receipts refer to the total amount of crops or livestock sold in a calendar year.



Holmes County Facts*:

Number of farms: 1,673

Acres of farm land: 173,925

Average size of farms: 104 acres

Total # of Chickens: 16,287,457

Total # of people: 43,808

As of the 2017 Census

CATTLE & CALVES

$606.5M

Ohio's 2021 inventory of cattle and calves totaled 1.3 million head and included 312,000 beef cows.

TURKEYS

$220.2M

Ranking eighth nationally in turkey production, Ohio produced nearly 268 million pounds of turkey in 2021.

PHOTOS, CLOCKWISE FROM TOP: NATHAN LAMBRECHT; ISTOCK.COM/BAZILFOTO; OLEVISS3

WHEAT

$249.2M

Ohio's winter wheat harvest totaled 515,000 acres in 2021, resulting in the production of nearly 43.8 million bushels of winter wheat.

HOGS

$933.1M

With an inventory of 2.8 million hogs as of December 2021, Ohio produced nearly 1.4 billion pounds of pork that year.

Growing Ohio

BROILERS

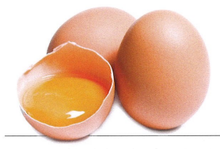
$295.2M

Home to more than 126 million head of broilers (chickens raised for meat), Ohio ranks 16th in the nation for broiler production.

CHICKEN EGGS

$587.4M

Ohio ranks No. 3 in the U.S. for egg production. In 2021, Ohio farms produced more than 10.4 billion chicken eggs.



FLORICULTURE

$269.1M

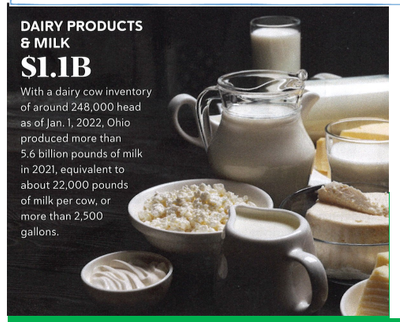
Ohio ranks No. 6 in the nation for the number of floriculture operations, with 512 throughout the state. In 2021, Ohio's value of wholesale floriculture product sales totaled an estimated $269 million, earning the state a No. 5 national ranking in floriculture sales.

Find more online

Learn more about agricultural crops and commodities in Ohio online at **Growing-Ohio.com**.

Images and Statistics taken from Growing Ohio Magazine

Of Ohio's 88 counties, Holmes County is ranked **2nd** in the production of oats, **2nd** in hay production, **3rd** in cattle and calves, and **3rd** in milk cows*. *2022 USDA estimates



DAIRY PRODUCTS & MILK

$1.1B

With a dairy cow inventory of around 248,000 head as of Jan. 1, 2022, Ohio produced more than 5.6 billion pounds of milk in 2021, equivalent to about 22,000 pounds of milk per cow, or more than 2,500 gallons.

CORN

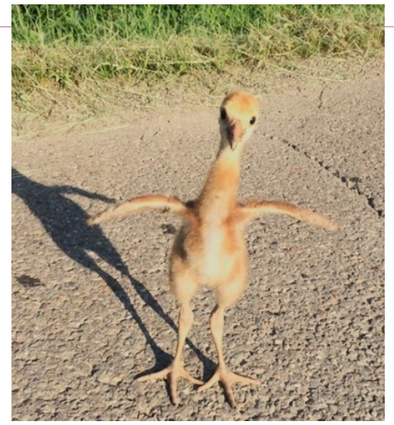
$2.9B

Farmers in Ohio harvested 3.3 million acres of corn for grain and 160,000 acres of corn for silage in 2021. (Silage is a forage crop typically fed to cows and other livestock.) Corn for grain production totaled 644.6 million bushels, while corn for silage production reached 3.2 million tons.

Thanks to Aryrdell Farm & Walnut Creek Planing for their hospitality!

Wonders of Wildlife!

Holmes County has the largest inland wetland in Ohio located in our backyard, protected as part of the Killbuck Wildlife area. Diverse species of wildlife- mammals, plants, insects, amphibians, reptiles, birds and fish- live there. Migrating waterfowl rely on wetlands for resting, eating and breeding areas, leading to increased populations.



Sandhill Crane, Killbuck

A Wildlife Food Web

Food Chain by brgfx on Freepik.com

Classifying Animals

Vertebrates are animals with backbones. They can be broken into special categories...

Mammals

Mammals have hair or fur. Most mammals are born alive. Female mammals make milk for their young. Mammals breathe with lungs.

Reptiles

Reptiles are vertebrates with scaly skin. They have tough scales to protect them. They breathe with lungs. Some live on land and some live in water.

Fish

Fish spend their whole lives in water. They breathe by using gills and reproduce by laying eggs. Most are covered in scales and a slimy coating.

Amphibians

Amphibians spend part of their lives in water and part on land. They are usually born with gills. As they get older, they grow legs and lungs & live on land.

Birds

Birds have a beak, feathers, wings, and two legs. They breathe air with lungs and lay eggs to reproduce.

http://magicandmarkers.blogspot.com/2013/08/classifying-animals.html

Invasive Species

Not all wildlife that you may encounter is native to Ohio. An invasive species is a species that is non-native ("alien") to a specific location. Their introduction tends to cause damage to the environment, human health, and/or the economy. The Spotted Lanternfly is one of the newest invasive species in Ohio and harms native plants.

Stream Ecology and Conservation

Pond Habitat Image from brgfx on Freepix.com

Everybody Lives in a Watershed

Ponds are pools of water that can be natural or man-made. The water source can be rain, a spring, a stream, or a combination of sources, but they almost always have an outlet that drains a little water at a time, keeping it at a consistent size. Ponds are great habitat for plants, insects, fish, birds, mammals and reptiles. They are particularly good areas to support nests and breeding populations.

Many insects and amphibians need to lay their eggs in water, which make good food sources for other animals in the food web.

This makes ponds a good habitat feature for humans to enjoy as well—There's lots of wildlife activity to observe, and you can trap or fish some of the critters that live in ponds. If you are confident that the water is of good quality, a pond makes a great place to swim and play as well!

Many plants are specifically adapted to live along streams, such as the sycamore. These giant trees in turn often support specialized animals such as the beautiful yellow-throated warbler (once known as the sycamore warbler).

Fish play important roles within the stream. They are predators of insects and other invertebrates, and in turn serve as food for other animals.

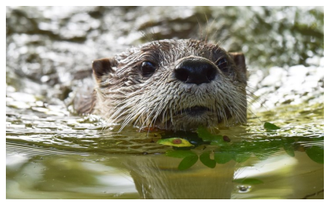
Birds such as great blue herons, green herons, and belted kingfishers are prolific consumers of fish. Many mammals also eat fish, including mink, raccoons, and river otters.

Another important way to protect streams is to fence livestock OUT of the stream. Holmes SWCD can help farmers with fencing and developing alternate water sources. We can also protect water quality by limiting development near waterways and avoiding pollution from fertilizers, chemicals and discharges from farms, homes and industries.

We'll do a stream study during the tour! Draw, above, what you see in the water.

L-R: Yellow Throated Warbler, American Mink, Green Heron

Photos Courtesy of ODNR & DNR of WI



River Otter

(photo ODNR)

Did you Know?

River Otters were **extirpated*** from Holmes County, but were reintroduced in the 1990s. River Otters are now thriving in Ohio! *to root out and destroy completely

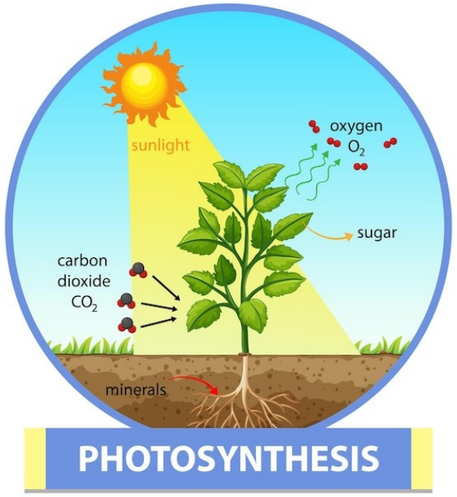
Tremendous Trees

Deciduous Tree Image from brgfx on Freepix.com

Deciduous trees are trees that shed their leaves once a year, usually during the season of autumn, when their leaves are mature, or fully grown. Deciduous trees in the northern hemisphere lose their leaves in preparation for cold weather during the season of winter. This is because the nutrients in the leaves are being moved from the leaves to the tree's roots. One of these nutrients is called chlorophyll, which gives leaves their green color. When all of the nutrients are finished being stored in the roots of the tree, the leaves change color and fall to the ground. Deciduous trees produce fruits and nuts (called mast), which is important for wildlife.

Coniferous trees are a group of trees and shrubs that produce cones. The cones carry their seeds. Most **conifers** are evergreens, or trees that keep their leaves year-round. Their thin leaves are usually called needles. There are more than 550 types of conifer. Some of the most well-known are cedars, cypress, firs, junipers, larches, pines, redwoods, and yews. The tallest, and oldest living things on Earth are all conifers.

Coniferous Tree Image from brgfx on Freepix.com



Photosynthesis Image from brgfx on Freepix.com

Recycling Christmas Trees

Do you cut a **live** tree for your Christmas Tree? What do you do with it after Christmas is over? Here are some ideas for recycling your tree:

1) The pine needles make a great mulch & the wood can be used for firewood.

2) Stake it up in your backyard or out in the woods and the birds and critters will use it for protection.

3) If you have a pond, trees make great attractors for small fish to use for protection. Place them next to shore for safe harbor for small fish to hid from the larger fish trying to eat them.

4) There are some landscaping companies that will accept your trees to grind up to make mulch. Call Holmes SWCD: 330-674-2811, ext. 3 for more information. We collect trees for recycling!

Typical Maple Syrup Production

35-45 gallons of sap	1 gallon of syrup
Sugar content of sap	2% - 3%
Sugar content, syrup	66%
# of taps per tree	1 - 3
# of taps / gal. syrup	3 - 4
1 gallon of syrup	11 lbs.
1 gallon of syrup	7-8 lbs. of maple sugar
20 gallons syrup	1 cord wood burned

https://www.ohiomaple.org/ompa-history.html