

# Nature Talks

Sherburne Soil and Water Conservation District

Nature Talks  
June 2021



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*Happy Pollinator Week!*

Pollinator Week is an annual event celebrated internationally in support of pollinator health. It's a time to celebrate pollinators and spread the word about what we can do to protect them. Fourteen years ago the U.S. Senate unanimously approved and designated a week in June as "National Pollinator Week". Pollinator Week has now grown into an international celebration, promoting the valuable ecosystem services provided by bees, birds, butterflies, bats and beetles.

Sherburne SWCD will be celebrating our Pollinators all week long with these events featured on our social media pages.

### Pollinator Week Schedule:

- June 21st: Welcome To Pollinator Week And Bee ID
- June 22nd: Pollinator Scavenger Hunt
- June 23rd: Informational Video
- June 24th: Pollinator Highlight – The Rusty Patched Bumblebee
- June 25th: Photo Contest Awards
- June 26th: What Can You Do To Help Pollinators?

The great thing about Pollinator Week is that you can celebrate and get involved in any way you like! Here are a few suggestions to get you started:

- Build native bee houses
- Plant habitat in your backyard using native plants
- Leave dead tree trunks, also called "snags," in your landscape for wood-nesting bees and beetles
- Adopt a Monarch through the NWF Monarch Butterfly Adoption program.
- Spread the word! Share your love of pollinators on social media and with friends.

## Pollinator Pop Quiz

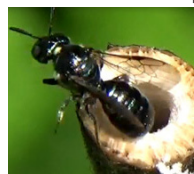
Which one of these is not a pollinator?



Ruby-Throated Hummingbird



Common Raccoon



Carpenter Bee



Northern Blossom Bat



Monarch Butterfly





# Pollinator Photo Contest

As part of our 2021 Pollination Celebration, we're hosting a Pollinator Photo Contest!

Between June 11th and 24th, Sherburne County residents are encouraged to keep their smartphones and cameras handy and be on high alert for Sherburne County's pollinators of all kinds—bees, butterflies, moths, flies, beetles and hummingbirds!

Submissions accepted until 4:30pm on Thursday, June 24th.  
Winner will be announced on Friday, June 25th.

Email submissions to: [abumgarner@sherburneswcd.org](mailto:abumgarner@sherburneswcd.org)



1

Keep your smartphone or camera ready

2

Snap a picture of a Sherburne County Pollinator

3

Email the Picture to Sherburne SWCD  
[abumgarner@sherburneswcd.org](mailto:abumgarner@sherburneswcd.org)

## Winner Receives \$25 Native Nursery Gift Certificate

### Photo Tips

- Close-up and clear photos look best.
- Photos that show pollen (pollen comes in many colors) on the pollinator are especially exciting.
- Photos of the pollinator on a native flower are highly desirable.
- Photos of pollinators in all stages of their life cycle (egg, caterpillar/larva) are valued.

### Guidelines

1. Submissions will be accepted until 4:30pm on Thursday, June 24th.
2. Limit of two photos per person.
3. All photos must originate from within Sherburne County.
4. Photographs will be judged and voted upon with consideration of the pollinator in them, originality and composition quality. Feel free to be creative with your entry!
5. Photographs may be accompanied with a short title or description of the image.
6. Sherburne SWCD reserves the rights to use the winning entry for marketing materials (online and in print).
7. We do not accept digitally or otherwise enhanced or altered photos.  
Minor adjustments, including spotting, dodging and burning, sharpening, contrast and slight color adjustment or the digital equivalents, are acceptable.
8. You retain your rights to your photograph; however, by entering the contest, you grant the Sherburne Soil and Water Conservation District a royalty-free, perpetual, non-exclusive license to publicly display, distribute, reproduce and create derivative works of the entries, in whole or in part, in any media now existing or later developed, for any Sherburne SWCD purpose, including, but not limited to, advertising and promotion of the SWCD Services. Any photograph reproduced will include a photographer credit as feasible.
9. Winner receives a \$25.00 Gift Card to a local native nursery and your image will receive public recognition on various media platforms.
10. Entries may be submitted to Andie Bumgarner in digital format (.jpg) with a file size between 1MB and 5MB to: [abumgarner@sherburneswcd.org](mailto:abumgarner@sherburneswcd.org)



## Freshwater Algae - Friend or Foe?



Sometimes it is the smallest of organisms that are the most fascinating. Algae are the small, single-celled organisms that sometimes turn a lake or pond green or brown in color. There are over 400,000 known varieties of algae, and they can be found in both freshwater and saltwater environments.

Here are some fun facts about algae, courtesy of [www.sciencefocus.com](http://www.sciencefocus.com):

- Algae convert carbon dioxide into oxygen, just like trees. They actually create a lot of oxygen; in fact, in a single breath half the oxygen you consume is created by algae.
- There can be thousands of microscopic algae cells in a single drop of water.
- Algae form the base of the food chain, without algae there would be no freshwater fish or sea life.
- Our brains are dependent on the iodine and omega-3 oils that algae contain. When we don't eat algae, or animals that consume algae or other iodine/omega-3 rich plants, we run the risk of thyroid deficiency and lower IQ. Some scientists believe the expansion of the human brain over time was due to access to algae and animals that consume algae.
- Algae has been used to power cars and US Navy ships, gel your tooth paste, thicken your body lotion, and prevent ice crystals from forming in ice cream.

Algae are clearly very important for our lakes and streams because they feed many insects and small fish, help to oxygenate the water and regulate pH and other water chemistry variables. However, when algae increase to a higher degree they can start to degrade the water and create an unappealing lake for us to enjoy. High amounts of algae are termed an "algae bloom". Algae blooms may last several days to several weeks. They may be widespread across a lake, or because they can move with winds and currents they may be localized to the windward side of the lake. Most algae blooms are unappealing, but not harmful. However blue-green algae are able to produce a toxin which is harmful to humans and pets (particularly dogs). Blue-green algae is actually a form of cyanobacteria, but often gets categorized with algae. As the name suggests it has a bright, blueish-green color and sometimes resembles an oil slick or spilled paint as it sits on the water's surface. The Minnesota Pollution Control Agency (MPCA) advises that if blue-green algae is suspected, people and animals should be kept out of the water for several days to weeks until the algae has broken down. As all algae require warm water temperatures and sunlight for growth, lake users should be on the look-out for algae blooms (particularly blue-green algae) in the summer months.

**The websites below are good resources for blue-green algae and Minnesota algae types and options for management:**

<https://www.pca.state.mn.us/water/blue-green-algae-and-harmful-algal-blooms>  
[https://www.dnr.state.mn.us/aquatic\\_plants/algae/index.html](https://www.dnr.state.mn.us/aquatic_plants/algae/index.html)

## Conservation Comedy

Why do Hummingbirds hum?



Because they don't know the words yet!

## Little Elk Lake SWA



Sherburne SWCD staff are taking on a project called a “SWA” for Little Elk Lake. What is a SWA, you say? A sub-watershed assessment, or SWA, is a detailed analysis of all the contributing sub-watershed areas of a lake or stream. The study evaluates the land management within each of these sub-watersheds using an environmental computer model and projects what type of nutrients and sediment might originate from these areas. Priority areas are identified, and staff brainstorm what conservation practices would be applicable. Once these practices are identified they are entered into the environmental model and the output is recalculated. The end result of the study is an inventory of conservation practices, ranked by which ones deliver the greatest pollution reduction compared to the cost of the practice itself. The practices that rank highly on the inventory are then assumed to be the most cost-effective.

Baldwin Township has been a key partner in supporting this work; additionally, as the watershed extends into Mille Lacs County, the Mille Lacs SWCD has also provided support and time to assist in the project’s development. This spring, Sherburne SWCD delineated the sub-watersheds and ran preliminary model estimates for these areas. In May staff visited Little Elk Lake with Baldwin Supervisor Patrick Hudson to evaluate several potential conservation projects, discussing where the township and SWCD could collaborate. Soon, Sherburne SWCD staff will join Mille Lacs staff in the rural areas of the watershed to examine what types of agricultural practices might be feasible.

Once completed this study will provide us with a ranked list of the most cost effective measures to install in order to enhance the quality of Little Elk Lake and Battle Brook, the lake’s main tributary stream. The report will serve as a catalyst for outreach with landowners who we will need for support in this restoration work, as well as be a reference tool for grant funding pursuits. If you live on or near Little Elk Lake and would like to be a part of this effort don’t hesitate to contact the Sherburne SWCD for more information!



The Little Elk Lake SWA has been funded by a Clean Water Fund Grant that was provided through the Clean Water Land and Legacy Amendment.

**For more information about the Little Elk Lake SWA,  
contact Dan 763-220-3434 x 103 [dcibulka@sherburneswcd.org](mailto:dcibulka@sherburneswcd.org)**

## Oak Wilt



Oak wilt is a deadly fungal disease that affects all oak species found in Minnesota. It was confirmed in 1944 and has since been responsible for the death of thousands of acres of oak trees across the state. The oak wilt pathogen can infect both the red and white oak groups. Red oaks (leaves have pointed lobes) are more severely affected and typically die within 2-4 months of infection. Comparatively, white oaks (leaves have rounded lobes) can survive the infection for 1-7 years.

Oak wilt is spread through root grafts and by sap feeding beetles. Roots between oak trees can fuse together below ground, enabling the transfer of water and nutrients, but also allowing for the spread of disease. In our sandy soils, we can expect the roots of a mature oak to extend roughly 90 feet from the base of the tree. Sap feeding beetles are responsible for transporting fungal spores above ground. The beetles are attracted to the scent of oak wounds and can fly upwards of half a mile to find fresh oak sap to feed on; and thus transfer the fungus.

## Oak Wilt (Continued)

To stop the spread of oak wilt, prevention is our best tool. This starts with not trimming or wounding oak trees from April-July. It only takes a few days of temperatures above 60 degrees for the sap feeding beetles to begin to fly in the spring. Bi-Annual chemical injections are an expensive option for “statement” trees (that are not currently exhibiting symptoms), but chemicals are not an option for the natural landscape. Once the oak wilt fungus is present on a site, the only way to prevent it from spreading is to sever the roots between the trees with a vibratory plow. Following this, the infected trees must then be removed. The wood can be used as firewood if it has been dead for more than a year. If the wood is cut before a year has elapsed, it should be “quarantined” until the following September. This includes covering the wood with a 4-6 mil sheet of clear plastic and burying the edges to prevent sap beetles from reaching the wood. Firewood should not be moved long distances due to the risk of establishment of oak wilt in distant areas.



**For more information on Oak Wilt,  
contact David 763-220-3434 x 102 [dwick@sherburneswcd.org](mailto:dwick@sherburneswcd.org)**

## Uniformity Testing

District staff is working with 4 farms in 2021 to perform uniformity tests on their operation. This helps assure that Sherburne County Irrigators are doing their best to protect water quality and quantity while saving energy and money. Uniformity testing is paired with Irrigation Water Management to track soil moisture at multiple depths throughout the growing season.

Identifying water application problems when irrigating using a sprinkler irrigation system, such as center pivots, is vital. Over and under irrigation can have an adverse effect on crop yield that can be attributed to poor soil aeration, increased disease incidence and leaching of the agricultural chemicals to the groundwater especially in sandy soils, which are highly porous and cannot hold much water.

Consequently, periodic checking of irrigation system uniformity is important and is the first step in improving water use efficiency and yield and reducing the energy costs.

### Test procedure

Uniformity testing can be done by setting the catch cans (collectors) along the length of the pivot or perpendicular to the direction of the travel and letting the system pass over these cans.

- The system pressure should match the pressure used to design the sprinkler package on the machine.
- Record the amount of water collected in each can and can distance from the center of the pivot.
- Using this information, a coefficient of uniformity (CU) can be calculated.
- The coefficient of uniformity (CU) is usually expressed as a percentage.



**For more information on Uniformity Testing,  
contact Miranda 763-220-3434 x 105  
[mwagner@sherburneswcd.org](mailto:mwagner@sherburneswcd.org)**



Our Instagram account is moving!  
Find us now at: **swcd\_sherburne**  
and follow us!

## Nitrate Clinic

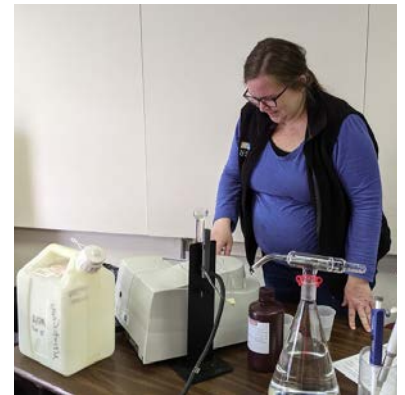


On May 15th, the Sherburne SWCD and Haven Township partnered to hold a Nitrate Clinic in conjunction with their spring clean up event. More than 30 samples were run for Haven Township residents to test their well water for high nitrates. Haven Township was identified through the MDA Water Testing Program in 2014/15 to have a high percentage of private wells impaired for Nitrates.

*From the MN Department of Health*

Nitrate is a compound that occurs naturally and also has many human-made sources. Nitrate is in some lakes, rivers, and groundwater in Minnesota. When nitrate is found in Minnesota groundwater, it is usually at very low concentrations. However, some groundwater has nitrate concentrations that present a health risk—especially for babies. You cannot taste, see, or smell nitrate in your water. Safe Level Drinking water with

concentrations of nitrate (measured as nitrate-nitrogen) below 10 milligrams of nitrate per liter of water (mg/L) is considered safe for everyone in your family. 10 mg/L is the U.S. Environmental Protection Agency standard for nitrate in drinking water for public water supplies. Health Risks Consuming too much nitrate can affect how blood carries oxygen and can cause methemoglobinemia (also known as blue baby syndrome). Bottle-fed babies under six months old are at the highest risk of getting methemoglobinemia. Methemoglobinemia can cause skin to turn a bluish color and, left untreated, can result in serious illness or death. The following conditions may also put people at higher risk of developing nitrate-induced methemoglobinemia: anemia, cardiovascular disease, lung disease, sepsis, glucose-6-phosphate-dehydrogenase deficiency, and some metabolic problems.



### Address Contamination

Drinking water with concentrations of nitrate above 10 mg/L can cause immediate health problems. If nitrate is detected in your water at concentrations above 10 mg/L, follow these steps:

- Get your drinking water from a safe alternative source, such as bottled water.
  - Make sure babies under six months old do not drink the well water.
  - Do not try to boil nitrate out of the water. Boiling will make nitrate more concentrated.
  - Have a licensed well contractor inspect your well.
  - Find and get rid of any potential sources of nitrate contamination.
- **Home water treatment may be an option if you meet these three criteria:**
1. You took steps to reduce or eliminate all potential sources of nitrate on your property;
  2. A licensed well contractor inspected your well and completed any needed repairs; and
  3. No babies under six months old drink the water (a safety precaution in the event the water treatment fails).

See the “Home Water Treatment” webpage or contact MDH for guidance.

<https://www.health.state.mn.us/communities/environment/water/contaminants/nitrate.html#MinnesotaWater>



# Conservation Webinar Series

Every week in July, 6:00 pm

*Join us every week in July for webinars highlighting topics and tools that promote conservation in our own backyard*



### July 7th – Invasive Speices

Buckthorn? Siberian elm? Are you dealing with invasive species that will not go away? Join us to learn how to identify and control common terrestrial invasive species found in Sherburne County. Topics will include buckthorn, Siberian elm, poison ivy, reed canary grass, and more!



### July 13th – Status of Sherburne County Waters

Each of our waterbodies have a required water quality standard that they must meet to be classified as “healthy”. So how are our lakes and streams doing? Join Dan as he discusses the status of our Sherburne County waters, outlining which ones are meeting standards and which ones require some help to become healthy again.



### July 21st – Flower Power Native Plants vs Cultivars

Do you know the difference between a native plant and a garden cultivar? If you’re interested in creating pollinator habitat then you won’t want to miss this webinar! Learn what a native plant is and how it can provide beneficial habitat for pollinators and other wildlife.



### July 28th – Nitrates in Ground Water

District staff will be covering the work Sherburne SWCD has been doing in the County to address Nitrates in our groundwater.

*Space is limited, reserve your spot for one, two or all topics*

[Click here to Register](#)

## Pollinator Pop Quiz Answer

Which one of these is not a pollinator?



### Raccoon

Although these rascally little critters love to munch on seeds, fruit and various plant parts, they don’t help with pollination

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