THE CULLEN CURRENTS

Summer, 2021

CLA Annual Meeting is August 14

With most COVID restrictions lifted, especially for those who have been vaccinated, CLA will again have an in-person annual meeting. (The business of last year's annual meeting was conducted by mail.) The 39th Annual Meeting of the Cullen Lakes Association membership will be held **Saturday, August 14** at Lutheran Church of the Cross in Nisswa.

As usual, the business meeting will begin at 9 a.m., but come early, anytime after 8:15, to get your name tag and annual meeting booklet, enjoy rolls and coffee, view the exhibits, and chat with Board members and your fellow Cullen Lakers.

During the business meeting CLA members will be asked to approve the 2022 fiscal year budget and elect members of the Board of Directors. The annual meeting booklet will contain 2021 financial information and reports from the CLA committees for your information.

The business meeting will conclude by 9:45 to allow ample time for **this year's featured speaker, Stan Tekiela, a nationally known naturalist, wildlife photographer, syndicated columnist, radio host, and author with a special interest in ornithology.** His presentation will be on the ornithology of the lakes and forests of central Minnesota. This presentation is guaranteed to be of interest to those of us fortunate enough to enjoy the Brainerd Lakes area, especially the Cullen Lakes.

Chirp chirp!

from the Minnesota Conservation Volunteer (MCV)
July-August 2021

The word has spread on social media about MCV's interactive bird song poster. You can find it at **bit.ly/MCVbirdsong**. To order a print version, email Jill Anderson at **jill.anderson@state.mn.us**.

Why the abundance of aquatic plants this summer?

Editor's note: I asked Kevin Martini, Aquatic Plant Management Specialist in the Brainerd DNR office, if he could help me explain why this is such a bonanza summer for aquatic vegetation. Here is his response.

Aquatic plants are really no different than terrestrial plants, other than need for water. It comes down to nutrients, sunlight, and growing season.

There is no shortage of nutrients in our lakes anymore. Development and destruction of our natural shorelines has allowed excess nutrients to wash into our lakes for many years now. Under our current rules I'm not sure this will ever change, but at least we are starting to see some people restoring their shore. Humankind has loved our lakes to death, or at least to being highly impacted.

Sunlight and water temperatures (growing season) are related, and June was the hottest on record. This, along with the lake levels being really low (and thus sunlight can reach the plants more readily), has added up to perfect growing conditions.

I also want to point out that aquatic vegetation is highly beneficial. Most people refer to them as weeds and want to get rid of them, but without all the vegetation our lakes would literally be thick pea soup from all the algae growing. Something is going to use all the excess nutrients and we are lucky to have healthy aquatic plants in our lakes. Just look at what the lakes look like in southern Minnesota. This is one of the reasons we try to protect our lakes and require permits.

Editor's post note: Native pondweeds are especially plentiful this summer with their small seed heads often sticking up out of the mats they have formed on the water's surface. While many have assumed these mats are the invasive curly leaf pondweed, they are really native broad leaf pondweeds such as clasping leaf pondweed.

2021 Curly leaf pondweed treatment was effective

Clarke Aquatic Services conducted its post treatment surveys on June 17 and 18, just over four weeks after treating the curly leaf pondweed (CLP) polygons with Aquathol K.

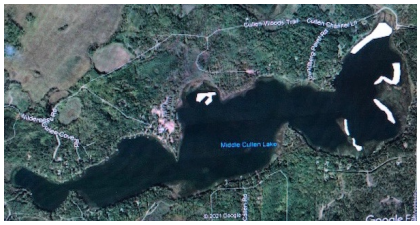
areas of CLP treated in 2021

In Lower Cullen, 18.9 acres of CLP were treated on May 19. During the June 18 mid season assessment survey, Clarke found 64 points with CLP. At these points the CLP growth varied from low to high densities. Some of the areas are at levels that should be considered for treatment in 2022. The treatment areas from 2021 should also be checked next spring to determine if they need treatment again in 2022.

potential 2022 treatment areas

The lake as a whole looked very healthy as far as native vegetation. A wide variety of native vegetation was found throughout the lake. Water clarity was very good, most likely due to zebra mussels which were found at a high number attached to vegetation.

areas of CLP treated in 2021



potential 2022 treatment areas

In Middle Cullen, 5.5 acres of CLP were treated on May 19. During the June 17 mid season assessment survey, Clarke found 230 points with CLP. At these points the CLP densities varied. Many areas are very small and will be hard to gain control with herbicide treatment. These areas will be observed the spring and if they are large enough at that time they will be considered for treatment.

As a whole the lake looked very healthy with a wide variety of native vegetation found. Water clarity was good and may be why some CLP was found in deeper water (10-15 ft.). Water levels were also low which may be contributing to higher vegetation levels.

areas of CLP treated in 2021

potential 2022 treatment areas

In Upper Cullen 7.7 acres of CLP were treated on May 19. During the June 18 mid season assessment survey, Clarke found 105 locations where CLP was found. The points where CLP was found was at varied densities. Some of the areas found were at densities that should be considered for treatment in 2022 pending the spring survey.

During the survey other native plants were found. Some of those, especially clasping leaf pondweed and coontail were at high densities. Water clarity was also better than past years. Water levels also were low which may be contributing to higher vegetation levels.

Wake danger alert!

Earlier this month a guest at one of the Lower Cullen resorts had to be rescued after his fishing boat was swamped by the huge wake of a passing boat. After his boat was bailed out enough to safely float again, it still had to be towed back to the resort because the motor was too wet to run.

Own your wake! It is against the law to operate any watercraft so its wash or wake endangers, harasses, or interferes with any person or property. In addition, large wakes produced by some watercraft operated at certain speeds can cause a number of negative impacts, including:
*shoreline erosion, which results in impaired water quality and property loss.
*damage to others' property, including docked boats.
*hazards to public safety both on the water and on shore.

Websites worth checking out

How good for the lake is your shoreline?
www.dnr.state.mn.us/lakescaping/maintaining-and-restoring-natural-shorelines

www.dnr.state.mn.us/scoreyourshore/index

Interested in native plants for your property?
www.nwf.org/nativeplantfinder

Invasive, deadly oak wilt confirmed in Crow Wing County

excerpted from a June 23, 2021 Brainerd Dispatch article

Oak wilt, a non-native invasive fungal disease that kills all species of oak in Minnesota, has been confirmed for the first time in Crow Wing County. Several infected oak trees were confirmed on private land on the east side of Gull Lake. This small oak wilt pocket will be treated this autumn and the DNR will closely monitor the surrounding area for new oak wilt infections.

With this new detection, oaks in much of Crow Wing County, including in the Cullen Lakes area, and southern Cass County are now threatened. "The best thing anyone can do to prevent the spread of this deadly disease is to not prune oaks from April through July — the highest risk period for oak wilt transmission," said Rachael Dube, Northwest Region forest health specialist. Pruning during this time can make trees vulnerable to sap beetles that carry oak wilt spores from infected trees to fresh cuts, promoting spread of the disease. Dube cautions residents to limit pruning to November through March, when there is no risk of oak wilt transmission through wounds. She also reminds campers, cabin owners and visitors not to move firewood. Moving oak firewood can spread oak wilt over long distances. Use only locally sourced firewood or firewood with the Minnesota Department of Agriculture (MDA) certified seal to prevent moving oak wilt.

A good indicator of oak wilt is a carpet of fallen leaves under an oak in mid-summer, when leaves should still be on trees. Crow Wing and Cass county residents should be on the lookout for this sign and report possible oak wilt by contacting the Brainerd DNR Forestry Office at 218-203-4300. Because oak wilt and other oak health issues have similar symptoms, sharing pictures of the tree really helps with diagnoses.

Public access watercraft inspections

Due to Lower Cullen's designation as a zebra mussel infested lake, Crow Wing County again allotted 300 hours of watercraft inspection time at its public access this summer. On most weekends there is a watercraft inspector on duty at the access for eight hours each day. As of July 9, 129 hours of watercraft inspection time had been used. If you or your friends and family are putting in or taking out watercraft at the public access, please be courteous and cooperate with the inspector. He is performing a valuable service for the lakes.

Be a Loon-Friendly Angler

from the Minnesota Conservation Volunteer (MCV)
July-August 2021

Fishing and loons can both be part of a perfect day at the lake — but not at the same time. If a loon mistakes your lure for lunch, it can be fatal.

To minimize the risk, avoid fishing in loons' territories — areas near a bay or inlet where a pair hang out together. If you're fishing elsewhere and you see a loon, be sure it's above water before you cast, and cast in the opposite direction. If it's under water, avoid casting until it surfaces, or move to another. spot. If you see a loon chase your lure, stop reeling or trolling until it goes away.

What if a loon does take your bait? Don't cut it free, unless you are close enough to cut the line as close to the mouth as possible. The loose line could become entangled and harm or kill the loon. Instead, contact a DNR representative or wildlife rehabilitator. Do not try to capture the loon and remove fishing line or tackle from the loon yourself, since this could be dangerous.

Editor's note: Consider switching to nontoxic tackle to save loons. Birds like loons can mistake the small pieces of tackle, namely round weights and jig heads, as pebbles they swallow to help digest their food. The lead dissolves into the bird's bloodstream, causing an agonizing death. The lead in one split-shot sinker is enough to kill a loon!

Midsummer loon reports

As of July 13:
Upper Cullen has three loon pairs. One pair has one chick, one pair has two chicks, and one pair has no chicks.

Middle Cullen has three loon pairs. One pair has one chick, one pair has two chicks, and one pair has no chicks.

Lower Cullen has two pairs plus an occasional group of five to six adults. Both pairs have one chick

Currents on the Cullens

Deaths
Peggy Lawrow, Middle Cullen (M104)

Fourth of July boat parades

It was a very hot and sunny day, but everyone seemed to be having too much fun to mind the heat.

Upper Cullen was reported to have about 14 boats in its parade, but no one was able to submit any photos and it was a guess, so we'll have to take their word for it.

Middle Cullen had "30ish" boats in its parade which, if that's even close to an accurate imprecise count, puts it right up there with the lake's previous record number.

photo from Debi Oliverius

photo from John Maguire

Lower Cullen had 37 boats in its parade, many were pontoons but there was a good number of other types of watercraft, too. It was fun to again see the boat pulling two flag-bearing water-skiers make several trips back and forth across the lake during the parade.

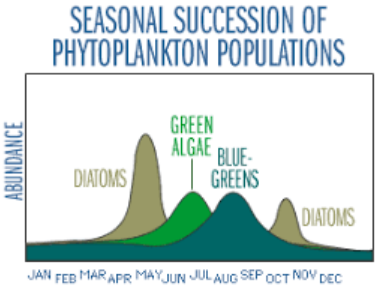
photos from Ann Beaver

Algae types and preferences

by Moriya Rufer, RMB Environmental Laboratories

Have you ever wondered why at sometimes during the year the lakes look "greener" than at other times? The concentration of algae and the types of algae in the lake change throughout the season. This pattern is called algal succession.

You can think of it like plants in a garden. All plants are there for the whole season, but different plants prefer different conditions and bloom at different times. Like terrestrial plants, aquatic plants and algae need light and nutrients to grow and photosynthesize.



In a lake, there are many different kinds of algae, but we can group them into 3 main types. Diatoms are the first to "bloom" in the spring and do best in cold water. They also give a last hurrah at the end of the season in September. They can deal with widely variable light levels that occur as the lake is mixing in the spring. Diatoms are very small and brownish, so that is why lakes usually look fairly clear in the spring. If you were to filter lake water on filter paper in the spring, the residue will look brownish.

Once the water warms up and stops mixing, the green algae out-compete the diatoms. Green algae are a diverse group and include filamentous algae such as Spirogyra. This is the type of algae that form long strings in the water in mid-summer. Green algae are larger than diatoms, and are green in color. That is why the lake looks greener in July and August than in May. If you were to filter lake water on filter paper in mid-summer, the residue will look green.

In late summer in lakes and ponds that have a lot of nutrients (phosphorus), blue-green algae (Cyanobacteria) take over. This is the type of algae that makes the water look like green paint. They thrive in warm water, and sunny, calm conditions. Blue-green algae can be toxic at times, and so far scientists are unable to predict when the toxins form. When the water looks like green paint, avoid swimming and letting your dogs swim or drink from the lake.

You can track the different algae blooms by measuring water clarity with a secchi disk weekly throughout the summer. You will see the clarity go up and down throughout the season as the different types of algae bloom.

Make a difference for your lake

from a Crow Wing County Water Plan info sheet

Four simple things you can do:

Manage runoff from impervious surfaces
Impervious surfaces are anything that prevents water from soaking into the soil. Since most of the unwanted sediment, nutrients, and contaminants are found in the first inch of runoff from impervious surfaces, simply landscaping your your property to direct this first flush of stormwater to rain gardens, berms, or natural depressions will make a huge difference for the water quality of our lakes.

Preserve vegetated shorelines and slopes
Not only do vegetated slopes and shoreline buffers prevent erosion from runoff and wave action, they also add value for fish and wildlife. Buffers can be as simple as a no-mow/maintenance buffer or planted with native grasses, wildflowers, shrubs, and trees from a local vendor or the Crow Wing Soil & Water Conservation District.

Maintain your septic system
Routine maintenance for a septic system can not only protect our groundwater, but it can also extend the life of the system. Crow Wing County recommends having your septic tank pumped every three years and inspected periodically to ensure that it is functioning as designed.

Prevent the spread of aquatic invasive species (AIS)
Making sure your boat, motor, and trailer are clean of all aquatic plants and zebra mussels before you enter and exit public waters will help prevent the spread of AIS. Boats and tanks, including livewells, should be drained and plugs left out during transport. Live bait must not be released back into any waterbody.

Is purple loosestrife growing on your shoreline?

By law, you must kill or remove any purple loosestrife (PL) on your property. If the PL is not too plentiful, the best method is to dig or pull it out by the roots. If the infestation is heavy, cut the blossoms off, being careful not to spread the seeds, and bag them up for disposal in the garbage. Then cut the plant off at ground level to inhibit future growth. You can also hand spray the plants with poison. Contact the DNR for more details on spraying and to apply for a permit to do so.

If you need help in identifying purple loosestrife, you will find a photo and diagram of it on the lake association's web site: www.cullenlakesassoc.org .