THE CULLEN CURRENTS

Winter, 2017

Important notice to all Cullen Lakes property owners

Areas of the aquatic invasive species curly-leaf pondweed (CLP) in all three Cullen Lakes will be treated with the DNR approved herbicide Aquathol K this spring. This will be the ninth consecutive year of such treatment.

If you DO NOT WANT this treatment to take place within 150 feet lakeward of your shoreline, YOU MUST NOTIFY the Cullen Lakes Association in writing via email (beaver@uslink.net) or U.S. mail (P.O. Box 466, Nisswa, MN 56468) no later than April 1, 2017.

Note to CLA members

For those of you who receive the newsletter via U.S. mail, included in this issue is your 2017 update of the map/guide of the Cullen Lakes. Those of you who receive the newsletter electronically will receive the map/guide in a separate mailing.

Cullen Lakes property owners who do not belong to the lake association do not receive the map/guide.

If you find errors in the map/guide, please notify Ann Beaver. With the increasing number of lake properties in joint ownership, please also inform her of your preference as to how the property is listed in the map/guide.

Also, if you received a print copy of this newsletter but would prefer to receive it electronically, please send your name and email address to the newsletter editor requesting electronic delivery.

Curly-leaf pondweed management donations update

A big "Thank You!" to all the Cullen Lakes property owners for a very successful start to our annual curly-leaf pondweed (CLP) donations campaign. In this year's membership mailing sent out in early December, 2016 you received CLA Board member Jack McNamara's request for funding support to enable continuation of the lake association's CLP control treatment program. To date we have received a very positive response.

Here are some of the statistics so far:
*133 property owners had made a CLP donation as of 1/31/17.
*73 property owners have contributed the $200 suggested in the mailing.
*17 property owners have contributed more than the suggested $200.
* Contributions have ranged from $5 to $1,000.
* Contributions as of 01/31/17 total $23,190.

We are thankful for all donations, no matter the amount!

We're on sound footing going into the 2017 CLP treatment season, but our existing CLP reserves are still slowly being depleted. Grant money from the DNR for treatment of CLP remains limited and although we've applied for it there is no guarantee we'll receive any funding. However, with your generous support we are already over half way to raising enough to pay for this year's treatment of the acreage allowed us by the DNR, which is estimated at $43,000. It is heartening to know that so many of you are as concerned about our lake quality as the CLA Board of Directors.

Thanks again for your on-going support.

Editor's note: All donations last year and thus far this year have come from CLA members. Non-members also benefit from CLP management. They, too, should contribute to the cause!

CLA treasurer's 2016 year end report

by Charlie Boudrye

As of January 31, 2016 we had the following balances in our accounts.

Cash and Bank Accounts	
Operating Checking Account	$29,638.02
Project Savings Account	4,150.84
Operating Savings Account	4,458.09
Sub Total	$38,246.95
Certificates of Deposit	
CD - 403520	$15,000.00
CD - 403787	60,000.00
CD - 404756 (Legacy Fund)	40,000.00
Sub Total	$115,000.00
Total	$153,246.95

The pro-forma revenues and expenses are summarized below. Total income was more than expenses.

Income	
CLP Donations	$34,484.00
DNR Grants	7,600.00
Member Dues	7,316.00
Support Donations	1,182.00
Memorials (M.Norden Estate)	46,184.76
Merchandise Sales	269.00
Interest	5.97
Total Income	**$97,041.73**
Expenses	
Organization Memberships	$ 75.00
Soteroplos Scholarship	250.00
Annual Meeting	390.10
Water Quality Committee	645.00
Merchandise Costs	273.05
Education Committee	1,628.69
Invasive Species Control Services — Clarke Aquatic	41,202.49
Membership Committee	603.51
Miscellaneous	271.22
Directors & Officers Insurance	950.00
Total Expenses	**$46,289.06**
Net Income	**$50,752.67**

Note: The Norden Estate memorial is designated as a Legacy Fund, the special use of which will be determined at a later date. Subtracting that amount from the year's income, the 2016 net income was $4,567.91

Cullen Lakes water quality report

by Ann Beaver, Water Quality Committee chair

Many factors can influence lake water quality. The few we humans can control involve our use of the land around the lakes. It is important for all of us to ensure that our septic systems are functioning properly. Having a compliance inspection every 3-5 years is a good idea. It is also important to leave a buffer of natural vegetation, to the greatest extent possible, along the shoreline to help prevent nutrients from entering the lake via run off and soil erosion.

The season's water testing consisted of taking five samples in each lake, one each month May through September, and having them analyzed by A.W. Laboratories in Brainerd for total phosphorus and chlorophyll *a*. In addition, a Secchi disk reading was taken along with the water samples. The results for each lake are given below.

To help you understand the data, ug/L = micrograms per liter and TSI = Trophic Status Index, a tool used to categorize the overall health of a lake. A TSI of 41-50 gives a lake a mesotrophic status, meaning it has temporary algae and aquatic plant problems. This range is where most lakes in central Minnesota fall. A range of 51-70 rates a lake as eutrophic, meaning it has persistent algae and aquatic plant problems.

In Lower Cullen, the 2016 total phosphorus readings ranged from 11-22 ug/L (an average TSI of 44 — mesotrophic). Chlorophyll *a* readings ranged from 5-9 ug/L (average TSI of 50 — very high mesotrophic). Secchi disk readings ranged from 8-17.5 feet (average TSI of 44 —mesotrophic). The season's TSI average of all three parameters (46) places the lake in the mid mesotrophic range. **The overall water quality was slightly worse than the previous year.**

In Middle Cullen, total phosphorus readings ranged from 9-21 ug/L (average TSI of 43—mesotrophic). Chlorophyll *a* readings ranged from 1-5 ug/L (average TSI of 44—mesotrophic). Secchi disk readings ranged from 8-14.5 feet (average TSI of 42—low mesotrophic). The season's TSI average of all three parameters (43) places the lake in the mesotrophic range. **The overall water quality was slightly improved over the previous year.**

In Upper Cullen, total phosphorus readings ranged from 16-51 ug/L (average TSI of 55—low eutrophic). Chlorophyll *a* readings ranged from 4-32 ug/L (average TSI of 59—eutrophic). Secchi disk readings ranged from 4-15 feet (average TSI of 47—mesotrophic). The season's TSI average of all three parameters (54) places the lake in the low eutrophic range. **The overall water quality was noticeably worse than the previous year.**

Let's all do our part in improving or at least maintaining the lakes' water quality.

CLA membership

by Charlie Boudrye, Membership Committee chair

Aa of January 31, 2017 we have 204 paid members. Of these, 10 are associate members (former property owners, family members of property owners, or owners of property in the Cullen Lakes watershed).

Membership letters for 2017 were mailed in early December to allow for those wanting to use a donation for 2016 tax purposes to do so.

If you haven't already sent in your membership for 2017, please take the time now to write your check, and make any corrections needed to your personal data on the membership form. Then mail them to CLA, PO Box 466, Nisswa, MN 56468.

If you have misplaced the form you received in the mail in December, you may use the form at the bottom of this page.

SWCD annual tree and plant sale

The Crow Wing County Soil and Water Conservation District (SWCD) is selling low cost Minnesota grown native tree seedlings and shrubs, seed packets, native flowers, grasses,, and planting kits. Orders will be accepted through the end of February. Visit the SWCD web site —www.crowwingswcd.org — to view the selection available this year and ordering details. Tree and plant pick up will be May 4-6 at the Northland Arboretum in Brainerd.

SWCD is hosting an open house Friday, February 3 from 9 a.m. to 3 p.m. in the downstairs meeting room of the Land Services Building in Brainerd.

Name(s) _____

Mailing address _____

Phone _____ Email _____

Please check one:

___ Current owner/co-owner of a Cullen Lakes shoreland property
co-owner's name: _____

___ Family member of a current Cullen Lakes shoreland property owner
Owner's name: _____

___ Previous owner of a Cullen Lakes shoreline property

___ Owner of real property within the Cullen Lakes watershed

2017 Dues . . . . . .$ 25

Curly-Leaf Pondweed
treatment donation . . . . . .$_____
($200 suggested)

Program Support donation …$_____

Total enclosed $_____

Notice regarding CLP spring treatment

If you have an irrigation system on your property, it would be wise not to begin using it until one week after the lakes have been treated for curly-leaf pondweed. The chemical used, Aquathol K, is a herbicide.

The exact timing of the treatment is hard to predict, since it is dependent on spring ice out and when the lake water warms into the 50s. We will post the treatment dates on the CLA web site as soon as we know them.

Fallen shoreline trees make good habitat

Between the heavy November snowfall accompanied by strong winds and the December freezing rain and winds, trees in the Brainerd Lakes area have taken a real beating so far this winter. Many absent lake property owners will return in the spring to find more yard clean up work than usual. The following information, taken from a former newspaper column called *Water Ways*, could make their work a little easier.

Because most Minnesota lakes and rivers are surrounded by trees and shrubs, storms and winds often blow branches, limbs and trees into the water. This woody material is important to lake and river ecosystems.

Beneath the water's surface, fallen trees, limbs and branches are habitat for aquatic organisms at the base of the food chain. Valuable water insects such as mayflies graze on the algae that grow on decomposing wood. Invertebrates such as caddis flies build their pupal cases on branches and limbs. Dragonfly nymphs hunt for prey among the stems and branches. Invertebrates attract larger aquatic species, such as bluegills. Largemouth bass find food and shelter beneath fallen trees.

Above the water, a fallen tree is like a dock for wildlife. Ducks and turtles will loaf and sun themselves on the trunk. Predators such as mink and otter will hunt near fallen trees. Kingfishers, ospreys, and songbirds perch in dead trees standing along the shoreline.

Many shoreline owners are choosing to keep woody materials on part of their shore and in shallow waters to provide cover and feeding areas for fish and wildlife. Unless the fallen tree is a hazard to navigation or swimming, consider leaving it in the water to improve fish and wildlife habitat, fishing, and wildlife watching.

from the

DNR question of the week

Q: Do hibernating bears ever leave their den during winter if the weather gets unusually warm?

A: Hibernating bears are prompted to come out of their den both by warming temperatures and by increasing day length (normally late March to early April). Thus, a January thaw typically will not fool a bear into coming out early. However, some bears may find themselves in a wet den when temperatures get warm, with snow melting around their den, and this could force them out.

Bears also may be more prone to disturbance from humans during warm spells when they are not hibernating as soundly, and this could cause them to vacate their den. After abandoning their den, they will typically find another suitable site that they already know about. However, any new den would not have the bedding material that bears rake in during the fall when they are preparing for hibernation.

Dave Garshelis, DNR bear research biologist

Q: Why do deer shed their antlers each year?

A: Annual cycles in deer antlers are related to the changing seasons. Deer have adapted their physiology and behavior to respond to seasonal changes, including antler growth and shedding. The environmental cue that regulates antler growth is the amount of day length; the physiological cue is the hormone testosterone.

Simply put, the changing day lengths are sensed by the eyes, which send this message through the optic nerve to the pineal gland located at the base of the brain. The declining day length in late fall and early winter causes a decrease in testosterone, which results in antler shedding. The actual process of antler shedding involves a thin layer of tissue destruction that forms between the antler and the pedicle, called the abscission layer. The degeneration of the bone-to-bone bond between the antler and the pedicle is considered to be the fastest deterioration of living tissue known in the animal kingdom.

Michelle Carstensen, DNR wildlife health program supervisor

Drainage culvert into Lower Cullen Lake is installed by MnDOT contractor

by Ann Beaver

In mid October I learned of plans of MnDOT's Highway 371 expansion contractor, Mathiowetz Construction, to install a pipe system under the east/west portion of Lower Cullen Road and the Paul Bunyan Trail ending in a culvert that would empty stormwater into Lower Cullen Lake. I contacted the DNR and was told they had no jurisdiction in the matter, even though it could affect the lake, since the project was above the ordinary high water line and was granted a permit by the Minnesota Pollution Control Agency.

The DNR person I contacted suggested I look into requesting a supplement to the Environmental Impact Statement (EIS) that was done earlier. I went to Minnesota Rules 4410.3000 for information on how to do this. The Rules stated I had to request the Responsible Government Unit (RGU) to order a supplement to the completed EIS. In this case the RGU was MnDOT. I also had to send a copy of my request to the Minnesota Environmental Quality Board (EQB). I didn't think I had much chance of success, but I had to try.

On October 14, I emailed my letter of request for the supplement to the EIS to both MnDOT and the EQB. Soon I heard from the MnDOT District 3 Resident Engineer who asked me to meet with the Mathiowetz 371 Project Team and him so they could explain the design and purpose of the drainage project. On October 18, my husband and I met with them at the Mathiowetz office in Pequot Lakes. The meeting helped us understand the whole project better, but it did not help us accept the idea of purposely directing stormwater into the lake.

On October 19, I received via email (and later by U.S. mail) a letter from the MnDOT Project Manager regarding my request for a supplement to the EIS. Here is an excerpt from his letter:
"Thank you for meeting with the project staff. As explained at the meeting, under the current work the surface water is directed to an infiltration pond and through a series of swale ditches before (being) discharged into Cullen Lake. This best management practice exceeds the National Pollutant Discharge Elimination System (NPDES) Permit issued by the Minnesota Pollution Control Agency for this project, which was committed to in the EIS." After further explanation he concluded, "Therefore, MnDOT respectfully denies this request to prepare a supplement to an EIS."

So, the culvert is in and all we can do now is monitor how much water flows through it into Lower Cullen Lake. If there is measurable water, we will need to collect water samples to see what contaminants and/or nutrients the water contains. If, in fact, the culvert system functions as MnDOT says it will — "It is a relief outlet system designed for extraordinary rain events and is designed to rarely have water in it." — it may not have much effect on the lake. However, if it frequently directs stormwater into the lake it will have the potential of being very harmful. We will monitor the frequency and amount of flow from the culvert into the lake and take further action as necessary.

Currents on the Cullens

New owners

Thomas & Shelley Peterson, Middle Cullen (M50.5)
Dan & Ann Lund, Middle Cullen (M19)

Deaths

David Rydberg, Middle Cullen (M85)

CULLEN LAKES ASSOCIATION
P.O. BOX 466
NISSWA, MN 56468

To protect, preserve, and enhance the three Cullen Lakes and their environs in order to ensure the continued vitality of the lakes, high quality fish and wildlife habitat, safe and healthful family living, and the survival of these natural gifts for future generations.

CLA BOARD 2016-2017

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