THE CULLEN CURRENTS

Winter, 2015

Important Notice to All Cullen Lakes Property Owners

Areas of the aquatic invasive species Curlyleaf Pondweed (CLP) in all three Cullen Lakes will be treated with the DNR approved herbicide Aquathol K this spring. This will be the seventh 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, 2015.

Spring, 2015 Will Be the Seventh Year of Curlyleaf Pondweed Treatment

Last fall the Cullen Lakes Association entered into a three year contract with Clarke Aquatic Services for their continued annual surveys and treatment of curlyleaf pondweed (CLP). Clarke is the applicator CLA has used for the last two years with good results. With CLP treatment costs rising every year, CLA felt the need to sign this three year contract to stabilize the Association's costs over that period of time.

In January, CLA applied for the required DNR Invasive Aquatic Plant Management permits and for DNR AIS grants. While it is uncertain how much will be available each year in DNR grants, in the past five years we have received grants ranging from $6,560 to $10,040 for treatment of CLP in the three Cullen Lakes. These grants, along with the generous annual donations from CLA members for the treatment of CLP ($4,563 in 2014), have helped slow the depletion of the invasive species reserve. This reserve was established by a very successful three year (2008-2010) fund raiser, under the lead of former board member John Szafranski, which brought in $103,000.

However, last year alone the CLP treatment cost was $38,089. DNR grants ($9,039) and CLA member donations ($4,563) helped offset that cost, but the reserve was still reduced by $24,487. At that rate it won't take long to deplete the existing reserve funds. Your Board of Directors is looking into various ways to bring in more money to fund treatment of aquatic invasive species well into the future.

Meanwhile, this winter's snow and ice conditions will likely result in more advanced CLP plant growth this spring. This aquatic invasive species begins its growth cycle in the fall and continues to grow beneath the ice all winter. With almost no snow cover on the lakes for much of this winter, sunlight has been able to penetrate the ice to a greater depth, encouraging more rapid growth of this plant. On the plus side, this should make it easier to find in the early spring surveys that Clarke Aquatic Services will conduct before treatment takes place. On the negative side, since the DNR limits the acres that may be treated in each lake, areas of CLP that are not treated will be healthier earlier this season.

Details of this spring's CLP treatment will be printed in the spring (mid to late May) newsletter.

Save the Date!

2015 CLA Annual Meeting
Saturday morning, August 8

Minnesota Department of Natural Resources
NEWS RELEASE
WWW.MNDNR.GOV

DNR Postpones AIS Training and Trailer Decal Program

The Minnesota Department of Natural Resources will postpone the new aquatic invasive species training and trailer decal program that was due to launch at the end of the month while legislators consider changes to the program.

Under a law passed by the state Legislature in 2012, anyone trailering a boat or water-related equipment such as docks and lifts in Minnesota is required to take aquatic invasive species training and display a decal on their trailer. The effective date is July 1, 2015.

"With the legislative interest in this educational program and ongoing discussions about possible changes, we are postponing the launch until we see if the Legislature acts this session to modify the program," said Bob Meier, DNR assistant commissioner.

The DNR supports the education that would be provided under this law, but recognizes there are some concerns with the way the law is currently written. For example, people transporting boats on trailers through Minnesota to another destination are required to take the course and display a decal even if they don't put their boat in Minnesota waters.

Since the training and decal are currently not required until July 1, the DNR wants to remind people that there will be time to see what happens legislatively and still take the course and receive decals. The agency will post any updates on trailers at www.trailers.mndnr.gov and alert the media if there are any program changes.

CLA Membership

by Charlie Boudrye, Membership Committee chair

We closed the year 2014 with 244 members. Of these, six were complimentary members (new lake property owners), 16 were associate members (former property owners, family members of property owners, or owners of property in the Cullen Lakes watershed) and 222 were Cullen Lakes property owners. There are 50 lake property owners who do not belong to the lake association.

Membership letters were mailed in late January. If you haven't already done so, please take the time now to write your check, complete the either the membership form you received in the mail or the form in this newsletter, and mail your membership form and check to CLA, PO Box 466, Nisswa, MN 56468.

CLA Treasurer's 2014 Year End Report

by Charlie Boudrye

As of December 31, 2014 we had the following balances in our accounts.

Cash and Bank Accounts	
Operating Checking account	$ 463.31
Project Savings Account	$ 3,044.43
Operating Savings Account	$ 5,355.58
Sub Total	$ 8,863.32
Certificates of Deposit	
CD - 403520 (1/26/14)	$15,000.00
CLP - 403787 (4/23/14)	$60,000.00
CLP - 403881 (10/09/14)	$20,000.00
Sub Total	$95,000.00
Total Assets	**$103,863.32**

The total amount of assets is a decrease of $17,078.27 from last year due to higher costs for CLP treatment.

2014 Ordinary Income/Expenses

In the near future our projects will be focused on CLP and other invasive species control. Total income was $17,078 less than expenses. The difference was covered by converting some CDs to cash.

Income	
CLP Donations	$4,568
DNR Grant	9,039
Support Donations	2,502
Memorials	50
Merchandise Sales	1,456
Member Dues	5,950
CD Interest	4,862
Interest Income	5
Total Income	**$28,432**
Expenses	
Organization memberships	$ 100
Soteroplos Scholarship	250
Annual Meeting	280
Water Quality Committee	630
Merchandise cost	2,828
Education Committee	1,596
Invasive Species Control Services -- Clarke Aquatic	38,089
Membership Committee	732
Miscellaneous	55
Directors & Officers Insurance	950
Total Expenses	**$45,510**
Deficit	**($17,078)**

Lake Ice Is Flexing Its Muscle This Winter

Many property owners will return to their cabins and lake homes this spring to discover their shoreline has fallen victim to the relentless power of lake ice. This may be evidenced by the shoreline being undercut and collapsing into the lake or by the shoreline being lifted and rearranged. Some of the worst damage will be where there is riprap, as lake ice seems to enjoy showing how strong it is by tossing boulders around or driving them like a sledge hammer into the shore. In some cases the result of this winter's extreme ice movement may include damage to retaining walls, docks, boat houses, and any other structure or piece of equipment that sits along the shoreline.

This yearly movement of lake ice is the powerful natural force that forms a feature along the shoreline known as an "ice ridge." Ice ridges are caused by the pushing action of a lake's ice sheet against the shore. Cracks form in the ice because of different contraction rates at the top and bottom of the ice sheet. This is especially true in years that the ice sheet lacks an insulating snow cover. Ice cracks also develop because the edges of the ice sheet are sometimes firmly attached to the shore. When water rises in the cracks and freezes, the ice sheet expands slightly. Rising air temperatures warm the ice, leading to additional expansion, which exerts a tremendous thrust against the shore. Alternate warming and cooling of the ice sheet leads to additional pushing action, causing the ice to creep shoreward and scrape, gouge, and push soil and rock into mounds.

Ice ridges are natural berms that provide the lake with ecological benefits by creating a barrier to nutrients entering the lake. Nutrients collect on the landward side of the ridge, producing fertile soil where plants and trees thrive. The root systems of this near-shore plant community help protect the shore from erosion and soak up additional nutrients.

While ice ridges do provide ecological benefits, it is not always practical to leave them exactly as you find them. Annual (not historic) ice ridges may be altered. For information on what you may do, contact your local MN DNR office.

Currents On the Cullens

New owners, Lower Cullen:
Adam Hahn & Amy Crum (L64)
Raymond & Diane Kotrba (L61)
William & Sara Kotrba (L62)
David & LeeAnn Scovil (L63)

New owners, Middle Cullen:
David & Rachael Lick (M87)
Thomas & Cindy McDonald (M101)
Dennis & Susan Paulson (M97)
Ricky & Kathleen Russell (M63)
Paul & Barbara Zeller (M97)

DNR Fisheries Will Conduct Lake Surveys in 2015

information from the MN DNR web site

The DNR Section of Fisheries is the lead agency responsible for fisheries management in the State of Minnesota. The primary tool that guides fish management is the lake survey. Lake surveys consist of periodic monitoring of fish populations, water chemistry, and fish habitat. Lake survey data is used to track fish population trends, evaluate the effectiveness of management actions such as stocking, and establish realistic management goals for a given lake.

The last Fisheries survey of the three Cullen Lakes was done in 2009. The last stocking of walleye fingerlings was done in 2011 in Middle Cullen Lake.

The DNR uses three methods to survey fish populations:

Gill net: This is the main piece of equipment used for sampling walleye, northern pike, yellow perch, cisco, whitefish, trout, and salmon. The standard gill net is 6 feet tall by 250 feet long, with 5 different mesh sizes. Gill nets are generally set in off shore areas in water deeper than 9 feet. Nets are fished for a period of 24 hours. Fish are captured by swimming into the net and becoming entangled. Fisheries workers record length and weight data from each fish, determine the sex, look for parasites or disease, and remove several of the fishes scales for determining the fishes age. Most of the fish taken in gill nets are killed, but only a small portion of the lakes fish population is sampled during an individual survey event. The number of gill nets set during a survey is dependent on the lake acreage.

Trap net: This is the main piece of equipment used for sampling bluegill, crappie, and bullheads. The standard trap net is 4 feet tall by 6 feet wide with a 40 foot lead. Trap nets are generally set perpendicular to shore in water less than 8 feet in depth. Nets are fished for a period of 24 hours. Fish are captured by swimming into the lead and following it towards the trap. Most of the fish collected in trap nets are returned back to the water as soon as the necessary biological data is recorded. The number of trap net sets during a survey is dependent on the lake acreage.

Electrofishing: This is a specialized type of equipment that is most often used for sampling largemouth bass, smallmouth bass, and young of the year walleye. A boat-mounted generator is used to induce electrical current into the water that stuns the fish, allowing fisheries workers to net the fish for placement in live wells. Most of the fish caught by electrofishing recover rapidly and are promptly returned to the water after the necessary biological data is recorded. Electrofishing usually takes place when water temperatures are at or just above 60 F.

In general, it takes about 18 months from the time the nets are lifted during a lake survey until the results of that survey are published on the DNR Web site or available as printed reports from the **DNR central office.**

Name(s) _____

Mailing address(es) _____

_____

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): _____

_____Previous owner of a Cullen Lakes shoreland property

_____Owner of real property within the Cullen Lakes watershed

2014 Dues $25.00

Contribution to support programs . . . . _____

CLP treatment contribution . . . . . _____

TOTAL . . . . . _____

Cullen Lakes Water Quality Report

by Ann Beaver, Water Quality Committee chair

There are quite a few new property owners on the Cullen Lakes since I reported to you last year, so please bear with me as I repeat the background information on how we determine the lakes' water quality.

Water samples were collected by committee members in 2014, as in previous years, from May through September and analyzed by a certified laboratory for **total phosphorus (TP)** and **chlorophyll *a* (chl. *a*)**. Secchi disk readings for **water clarity** were also taken. These are the three most commonly used parameters in assessing a lake's water quality.

TP indicates how much phosphorus is available for algae and aquatic plant growth and reproduction.
Chl. *a* is a pigment found in algae, so it indicates how much algae is present in the water.
Secchi disk readings measure water clarity, which also indicates, among other things, the abundance of algae present. Using these three parameters, we are able to calculate a lake's **trophic status index (TSI)**, a uniform measure used to describe the overall health of a lake.

The TSI classifies lakes into four categories. **Oligotrophic** (relatively nutrient-poor, clear, deep, with bottom waters high in dissolved oxygen); **mesotrophic** (nutrient levels high enough to cause temporary algae and aquatic plant problems); **eutrophic** (nutrient-rich, usually shallow, "green", with limited oxygen in the bottom waters); and **hypereutrophic** (extreme algae and aquatic plant problems and well on their way to being "dead").

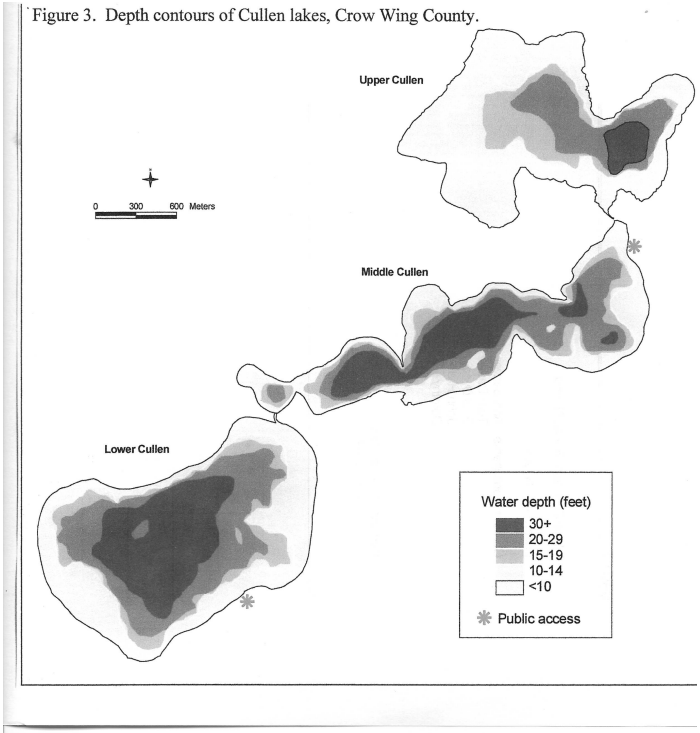
Most of the lakes in our ecoregion (the north central part of Minnesota) are in the mesotrophic TSI range, although some of them have an occasional foray into the eutrophic range, usually in late summer or early fall. This holds true for the three Cullen Lakes, although usually only Upper Cullen, the shallowest of our three lakes, has periods when it is slightly eutrophic.

Although it fluctuates from year to year, the water quality of all three Cullen Lakes, as measured by the above parameters, has remained fairly consistent in recent years. However, as I'm sure many of you have noticed, there has been an increase in the amount of aquatic vegetation in the lakes.

The amount of aquatic vegetation and the number and severity of algae blooms has been increasing the last few years, likely due to unusual spring and summer weather and the extremes in lake water levels, as well as the natural aging of the lake.

The depth contours shown in the following map from the 2007 DNR Vegetation Survey Report of the Cullen Lakes show you how much of each lake is shallow enough for aquatic plant growth. Most aquatic plants are found in water depths of 15 feet or less.

Figure 3. Depth contours of Cullen lakes, Crow Wing County.



During the past several years the water depth of the Cullens has varied greatly because of weather extremes. During dry periods and the resulting low water levels, aquatic vegetation thrives in areas where under average conditions it is less abundant or not present at all because the water is too deep. And the vegetation in areas where we are used to seeing it seems more abundant or contains plants we may not normally see because the water is much shallower.

An example of this took place off the Beaver shoreline during the low water summer of 2012. Where a variety of pondweed usually grows in water 2-3 feet deep, we had a dense stand of wild rice. Evidently the seeds had lain dormant in the lakebed and that spring and summer the water was so shallow they were able to sprout and grow into very heathy plants, crowding out and/or preventing the usual aquatic vegetation from developing. It happened that year only and I can only assume it was due to the extremely low water level which hasn't recurred since then.

Property Owners' Survey

As of February 16, 95 of the 268 surveys that were sent out have been completed and returned to CLA. If you have not yet returned your completed survey, please do so by March 1. We value your input!

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 2014-2015

BEAVER, Ann (Lower Cullen)
218-568-5904
beaver@uslink.net

BEILFUSS, Paul (Lower Cullen)
218-963-6028
boomer284@charter.net

BOUDRYE, Charlie (Middle Cullen)
218-963-7494
eagleye@nisswa.net

BURRELL, Jim (Lower Cullen)
218-568-5363
burrell@tds.net

HURLEY, Dan (Lower Cullen)
612-481-3766
lonegoose15@aol.com

JOHNSON, Rich (Lower Cullen)
218-330-2655
rhdbjohnson@yahoo.com

KOSTREBA, Jim (Lower Cullen)
320-333-2425
jakostreba@gmail.com

KRIEWALD, Kathy (Middle Cullen)
218-963-4590
thekriewees@gmail.com

LINDAHL, Carol (Lower Cullen)
651-206-1330
lindahlcarol@hotmail.com

MACGIBBON, John (Lower Cullen)
612-860-5864
jmacgibbon@mactek-inc.com

MCNAMARA, Jack (Lower Cullen)
651-307-9754
jmac237@comcast.net

MEIXNER, Dan (Middle Cullen)
218-568-8367
dmeixner@tds.net

OPSAHL, Denny (Upper Cullen)
651-482-1297
djopsahl@gmail.com

Officers
President: Ann Beaver
Vice President: John MacGibbon
Secretary: Carol Lindahl
Treasurer: Charlie Boudrye

Newsletter editor: Ann Beaver
CLA web site:
www.cullenlakesassoc.org
Web master: Dan Meixner