

Vol. 50, No. 03 P.O. Box 21, Battle Lake, MN 56515 June 2020

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SPECIAL THANKS TO OUR 2019 - 2020 WATER TESTERS



Water testers for last summer & for this summer are:

Scott Simdorn Ottertail River
Paul Oxberry Long Lake
Steve Mouritsen Round Lake
Ken Wentz Blanche Lake
Marc Wing and his sister two tests on Ottertail Lake
Not pictured: Stan Satre Walker Lake

See page 8 for results

Minnesota Aquatic Invasive Species Research Center - University of Minnesota April 2020

Exciting findings in recent zebra mussel research

In previous management studies, copper sulfate has been used for controlling zebra mussels. In 2019, the Minnesota Aquatic Invasive Species Research Center and United States Geologic Survey partnered to study the effectiveness of low-dose copper application to control zebra mussel populations in lake ecosystems. The concentration used in the study was substantially lower than previously used in Minnesota lakes—60 parts per billion (ppb) vs. one part per million (ppm) of free copper.

The objectives of the study were to determine the effectiveness of low-dose copper treatments for reducing zebra mussel populations and to monitor the response of native species. Researchers selected two similar bays in Lake Minnetonka to conduct the study—St. Alban's Bay was treated while Robinson Bay was used as a control.

In early July 2019, the research team conducted pre-treatment assessments of zebra mussel density, native zooplankton and benthic invertebrate communities in both bays. They then began treating St. Alban's bay to a targeted concentration of 60 ppb of free copper. The team maintained the concentration for 10 days.

Data is currently under review, and results are still preliminary; however, the study suggests that the treatment effectively reduced zebra mussel veliger density, juvenile zebra mussel recruitment, and live zebra mussel density. Potential treatment-related impacts to native species varied. Zooplankton mean density declined after exposure in the treated bay compared to an increase in the control bay. Similar trends were observed in abundance and family richness of benthic invertebrates that were collected. No treatment-related adverse

Continued on page 4

Street Sweeps Keep the City Clean

A sure sign of the changing seasons is a procession of sweeper trucks combing the metro for their annual spring street sweep. Street Maintenance Manager Morreim, who has worked for the City of Saint Paul for nearly a decade, manages the multiple crews who criss-cross the city, clearing the curb of gravel, grit, and leaves. In a single year, approximately they pick-up 15,000 cubic yards of debris, one truckload at a time.

During Saint Paul's residential sweep, which happens just twice a year, each crew consists of eight people who work with precision to maneuver vehicles through the neighborhoods. The includes a flusher, two sweepers, two truck drivers, two sign posters/pullers, and a supervisor. A crew usually covers twelve to fifteen miles each day, with a complicated choreography of trucks that spray, sweep, and collect debris on the street, then deliver it to licensed facilities for

Continued on page 5

President's Corner



Scott Simdorn OTLPOA President

As of this writing, the first week of June, we have a little over 950 memberships turned in. Thanks to everyone for your support! If you have new neighbors or know of anyone who isn't a member, please tell them about your association and the work it does. There are approximately 1700 property owners and we would like to see all of them members. Last year we had our largest membership at over 1100 members.

The membership committee has processed these memberships. Some of you had comments and concerns listed on your membership form. These items will be reviewed by the board and grouped into categories which will be featured in future issues of the Lakeshore News. Please be patient as this takes time. Keep in

mind the membership committee has 1100 or so forms to review.

Worms were found on many of the area lakes around the first of June. All lakes in our association were sprayed during this week. The weather and timing were perfect this year and the results should be very good. Thanks to everyone who has contributed to this program. If you have not, please consider contributing as this is an expensive project.

We receive a few calls regarding the Ottertail Water Management District. They do have a website, otwmd.org, that has leadership and history information. Please take a minute to review this site and the contact information for your reference.

The Rearing Pond Trails project is progressing nicely. Plans are to have it completed late summer and have a dedication following. This will be a great opportunity for everyone to enjoy. Further information to follow as the summer rolls along.

Due to the Covid 19 rules, the Foundation will not be sponsoring their annual Red Cross swimming lessons on Ottertail Lake. While these are a great opportunity to get your kids/grandkids out into the lake and learn the difference

between lake swimming and pool swimming, the Red Cross is not currently providing this service. We are looking at the possibility of other services. Please look for updates on our website, otlpoa.com or call one of your directors.

Also due to the current Covid 19 guidelines we will not be having our annual meeting in June. We are looking at other possibilities and will have updates in future Lakeshore News or online.

We've had some great summer weather this past few weeks! Hopefully everyone has had a chance to get out and enjoy it at our lakes. Rumors are the early fishing has been pretty good.

The Foundation still has a couple of buoys left for sale. These are lighted, include the weight, and are in great shape. Please contact any one of us if you are interested.

Although Memorial Day will have passed by the time you're reading this, I would like to extend a special thanks to all our Veterans past and present for their service to our great country! Please remember them not just on Memorial Day, but all year long!

Have a great summer on the lake.

Scott

BUG OFF INSECT AND MOSQUITO SPRAYING SERVING CENTRAL LAKES AREAS CALL DARIN 218-640-1857



DNR Asks Motorists to 'Give Turtles a Brake'

Watch for turtles on roadways

The Minnesota Department of Natural Resources is reminding people that turtles are now crossing roads moving to familiar nesting locations. Allowing turtles to cross the roads is vital to the preservation of regional populations. Roadway mortality is believed to be a major factor in turtle population declines throughout the United States. The DNR provides a few tips for helping turtles cross safely:

- Mostly importantly, don't put yourself or others in danger. Simply pulling off the road and turning on hazard lights may alert other drivers to slow down. Be aware of surroundings and traffic.
- Allow unassisted road crossings. When turtles can safely cross roads unaided due to a lack of oncoming traffic, allow them to do so. Observe from a distance and avoid rapid movements, as doing otherwise will often cause turtles to change direction, stop, or seek shelter within their shells.
- If necessary to pick them up, all turtles except snappers and softshells (also known as leatherbacks) should be grasped gently along the shell edge near the mid-point of the body. If it is a snapping turtle or softshell turtle, try to use a car mat and pull it across the road. Many turtles empty their bladder when lifted off the ground, so be careful not to drop them if they should suddenly expel liquid. Avoid excessive handling that can disrupt turtle behavior.
- Maintain direction of travel. Always move turtles in the same direction they were traveling when encountered. Turtles should always be moved across roadways in as direct a line as possible.
 - Help document turtle crossing and mortality areas by participating

in the Minnesota Turtle Crossing Tally and Count Project. More information can be found at mndnr.gov.

• Turtles injured while trying to cross the road may be taken to your nearest permitted wildlife rehabilitator.

Turtles injured while trying to cross the road may be taken to your nearest permitted at mndnr.gov/eco/nongame/rehabilitation.

Article and Photo provided by Kristi Coughlon, Public Information Officer of the Minnesota Department of Natural Rewsources



Volunteers Needed in Otter Tail and Becker Counties for DNR **Loon Survey**

The Minnesota Department South Nelson, South Stang, of Natural Resources is seeking volunteers to help monitor the loon population in Otter Tail and Becker counties. The survey will take place from June 26 through July 06, 2020. Volunteers can choose one (or more) lakes to count the number of adult and juvenile loons seen and report these observations to the MNDNR for data analysis.

For the past 26 years, with the assistance of hundreds of volunteer observers, the MNDNR has gathered information about common loon numbers on more than 600 lakes distributed among six regions, or "index areas," throughout the state.

Lakes that need volunteers include:

Otter Tail County: Crane, Dane, Johannes, Long, Mud,

Stalker, Tamarack and a number of unnamed lakes.

Becker County: Raspberry, Rice, St. Clair, Twentyfive, Werk, Wettles and three unnamed

For more information on Minnesota's loon monitoring program or to view a map of where these lakes are located, visit mndnr.state.mn.us/eco/ nongame/projects.

People interested in being a volunteer loon surveyor should contact Netti Cole, Northwest Region, at 218-308-2620 or netti. cole@state.mn.us.

Article and Photo provided by Kristi Coughlon, Public Information Officer of the Minnesota Department Natural Rewsources







Secchi Disk Depth (Clarity)

For the month of June readings were

Blanche Deer 16 ft. Long 1 ft. Otter Tail 20 ft. Round 14 ft. Walker 7 ft.

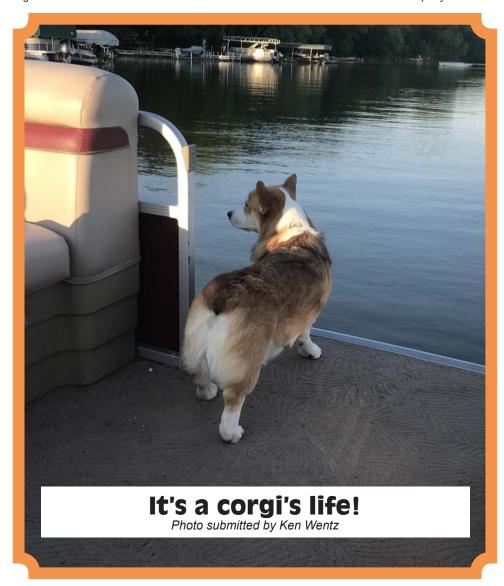
Readings provided by Ken Wentz

Otter Tail County wants to remind you about 21 DAY DRY TIME for docks and lifts.

LETS ALL WORK **TOGETHER!**







Continued from page 1

impacts were observed to the native mussels 24 hours after exposure.

Post-treatment monitoring is planned for 2020 and 2021 in order to determine the long-term effectiveness of the treatment. Follow-ups will inform the need for retreatment and will help determine the recovery response of the native community.

These findings are exciting for a number of reasons. By identifying the lowest quantity of free copper needed to effectively treat zebra mussel infestations, researchers hope to reduce the cost of future treatments and limit impacts to native species. Looking forward, our researchers hope to replicate the results observed in St. Alban's Bay in additional lakes before providing final recommendations.

Visit the project website or view a project summary PDF to learn more.

Announcements

Dr. Nick Phelps awarded the 2020 Richard C. Newman Community Impact Award

Join us in congratulating MAISRC Director, Dr. Nick Phelps, who has been selected to receive the 2020 Richard C. Newman Community Impact Award. This annual award recognizes a faculty member who exemplifies the best of the University of Minnesota's land grant tradition as a "people's university" by demonstrating powerful community impact. It acknowledges faculty members who are innovative in building partnerships within and outside the University and creating effective connections between the discovery and application of knowledge in the natural resource sciences.

AIS Detectors workshops cancelled.

Due to safety considerations associated with COVID-19 and its spread, the University of Minnesota Extension has canceled all inperson events through May 31—this includes AIS Detectors Core Courses and workshops. Our program team will be redirecting our efforts and elevating the priority of making online-only programs available to our audience. We will let you know as soon as possible whether the workshops will be rescheduled for later this year. Check our AIS Detectors website for updates.

Source: https://www.maisrc.umn.edu/news/zm-findings



DNR plan for water quality improvement of The Riviera Channel & Long Lake

The Otter Tail River Watershed Restoration and Protection Strategies (WRAPS) and Total Maximum Daily Load (TMDL) Reports are still being developed by the East Otter Tail Soil and Water Conservation District, Houston Engineering, and the Minnesota Pollution Control Agency (MPCA). This group hopes to have the two draft reports near completion and ready for public review by the fall of this year.

Long Lake (Waterbody ID 56-0210-00) is included in the TMDL report because this lake is identified by the MPCA as "impaired" due to excess nutrients, meaning the lake does not meet applicable water quality standards for total phosphorus, chlorophyll-a, and water clarity as measured by secchi disk. The applicable water quality standards for Long Lake are no more than 60 micrograms per liter for total phosphorus, no more than 20 micrograms per liter for chlorophyll-a, and no less than 1.0 meter for secchi disk depth. The observed water quality conditions in Long Lake from 2016 – 2018, according to the TMDL report, were 126 micrograms per liter for total phosphorus, 54 micrograms per liter for chlorophyll-a, and 0.464 meters for secchi disk depth.

As you can see, the current water quality conditions of Long Lake are more than double of what the applicable water quality standards say they should be for phosphorus and chlorophyll-a, and less than half of what it should be for water clarity – which is quite the problem.

Meanwhile, the TMDL report suggests that phosphorus carried by "nonpoint" source runoff from impervious areas like roads, buildings, and driveways, as well by runoff from cropland and farm land, are the main contributors of phosphorus to Long Lake. The TMDL estimates that a 71% reduction, or a reduction of approximately 538 pounds of phosphorus per year, is needed for Long Lake to recover to a point where it meets applicable water quality standards.

This means that significant efforts need to be made to reduce the amount of phosphorus getting into Long Lake from all potential human-made sources, not just farm land, in order for Long Lake to recover to a point where it meets water quality standards. Potential strategies to address and reduce excess phosphorus getting into Long Lake might include addressing upland erosion that carries phosphorus into the lake,

Continued on page



Continued from page 1

composting and re-use. In total, they clean over 1,200 miles of curbside that flank the 600 miles of residential streets throughout the city. It can take weeks, or in some suburbs, months to accomplish.

Sweep, sift, reuse

In the City of Blaine, a spring cleanup is well underway. This year a new screening process has made the street sweep much more environmentally friendly. Swept-up materials are sifted through a revolving trommel screen that separates leaves and garbage from fine debris such as sand and grit. The fines are crushed and mixed with rubble to become a structural base laid beneath pavement and roadways, while the leaves are composted.

Blaine's trommel screen separates the fine debris, pictured here, from swept-up leaves and litter.

After sifting, the remaining trash is painstakingly hand picked out of the leaves, and no matter how efficient the trommel screen is, certain items like crumbling styrofoam and cigarette butts remain a problem. Even more sinister are microplastic pollutants that abrade off plastic litter as it sits in the gutter. These tiny plastic particles end up in the waterways, harming aquatic life, and they can build up our drinking water sources.

Blaine anticipates being able to reuse 90% to 95% of their street sweepings.

Adopt a storm drain to help year-round

Residents who commit to cleaning up around storm drains in their neighborhoods play a crucial role by keeping them clear of debris between the city's fall and spring sweeps. According to

the Capitol Region Watershed District, Adopt-a-Drain participants removed more than 12,000 pounds of debris from Saint Paul streets last year. If those grass clippings and leaves had been allowed to wash into the storm drains, it would have fed over 1,000 gallons of algae growth on local lakes and rivers.

Residents who sweep up around storm drains help protect our waterways year-round.

The misconception that city street sweepers double as a residential leaf pick-up service is a costly problem for many cities. When residents push extra debris into the street, the moisture that collects under the leaves and grass causes it to stick to the pavement, making it much more difficult for the city to thoroughly clean up.

In fact, clearing your drain in advance of a street sweep can be especially helpful. When you see the no parking signs posted before the city comes to your block, consider cleaning up around any nearby storm drains before the trucks arrive. Simply clearing material out of a storm drain grate and leaving the debris by the curb outside the catch basin can make the city's work on your block go a little faster. "Every little bit helps," Matt said.

Rebecca Haug, Blaine's Water Resources Manager, sees the role of citizens as integral to the fight to protect our waterways. She encourages everyone to take pride in defending our lakes and rivers. Although the street sweeping can't make it to every block more than twice a year, she reminds people that they can make a difference: "You are the city."

The post Street Sweeps Keep the City Clean appeared first on Clean Water Minnesota.









• Lakeshore Specialists • Rural Properties

Thymis Tysver, Agent210-300-3

MARK YOUR CALENDAR

2020 Upcoming OTLPOA Board Meetings

June 25 • July 23 Aug. 27 • Sept. 17 • Oct. 22

7pm • Ottertail Community Center (103 Lake Ave. S)

Annual Meeting Postponed

Zion Lutheran Church, Amor

www.otlpoa.com

Summer Fun at the Lake (Long Lake)

Photo submitted by Lynn Cave



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Lakescaping and Shoreland Restoration

Shorelands are naturally full of a rich diversity of life: plants, animals, and microorganisms, including humans. As we understand more about the structure and function of shoreland, we also become aware of the importance of our role in keeping these systems healthy. Our efforts can lead to the restoration of a quality outdoor resource, and a community full of life and beauty.

The problem

Traditional lawns, while not particularly harmful, have few of the benefits of a more natural shoreline. Lawns are shallow rooted, provide little wildlife habitat, need frequent maintenance and are often over-fertilized. These factors can lead to problems on your lake such as:

- Shoreline erosion and lake sedimentation
- · Algal blooms and excessive aquatic plant growth
- · Loss of wildlife habitat, but an increase in nuisance animals
- · Loss of leisure time

The buffer zone solution

Creation of a buffer zone is the essence of the lakescaping concept. It is an opportunity to balance our needs and priorities with the needs and priorities of those with whom we share life at the edge of the water.

Lakescaping and shoreland restoration can return many desirable features to your shoreline:

- Provide habitat for a wide variety of wildlife
- Filter out pollutants and runoff that degrade water quality
- Prevent shoreline erosion by absorbing wave action
- Enjoy abundant nature: flowers, shrubs, trees, aquatic plants, fish, insects, birds
 - More leisure time to relax and enjoy the nature of life at the lakeshore

The restoration of a buffer zone using native plants.

Restoring the balance of nature enhances the aesthetic quality and recreational opportunities we appreciate. It will also balance your lifestyle with the needs of the natural communities of plants and animals that also call the shoreland home.

To learn more about lakescaping and shoreland restoration check out these resources:

- Restore Your Shore
- · Shoreland Alteration Information on Lakescaping PDF
- Lakeshore "makeovers": before and after photos
- Landscaping with native plants

Source: https://www.dnr.state.mn.us/lakescaping/index.html



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June 2020 Featured Plant: Wild strawberry (Fragaria virginiana)



Planting Recommendations

The species is a popular choice as an edging plant or as a groundcover mixed with wildflowers such as violets, Jacob's ladder and bluebells. Spreading by stolons (above-ground runners) and rhizomes, new plants form clumps just above the soil surface. As new growth appears in early spring, plants can be dug up and transplanted into areas of full

sun to partial shade and rich, well-drained soil. Containerized plants are available from native plant nurseries. Hybrid varieties crossed with a species from the Pacific Coast of North America and South America are cultivated for mass consumption. Lightly covering the soil around plants with straw or shredded leaves can help plants retain moisture and adapt to their new surroundings.

Developed by Dan Shaw, senior ecologist and vegetation specialist at BWSR

Family: Rose (Rosaceae)

DESCRIPTION: Coexisting with native grasses, sedges and wildflowers, wild strawberry is a versatile groundcover for native gardens and restorations. Its oval, white flowers bloom April through June; its leaves provide reddish fall color. Tolerating a range of environmental conditions, it's common across Minnesota and eastern North America, preferring dry, open fields, prairies, meadows and woodland edges.

USES: The fruit is highly desirable to humans, and a good source of vitamin C. Wildlife eat the fruit, leaves and other plant parts. Pollinators — including the

skipper family of butterflies and several fly, bee, moth and wasp species — feed on flowers' nectar and pollen. A tea made from the leaves and roots has been used to treat intestine, kidney and liver ailments.

SIMILAR SPECIES:

Woodland strawberry (Fragaria vesca) flowers rise above the leaves. Pointed, green sepals may extend beyond petals. Teeth at leaflets' tips are similar in size, often extending beyond adjacent teeth. The larger, egg-shaped fruit may be tasteless. The seeds (achenes) are on the surface instead of





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Please submit to secretary@otlpoa.com and include a byline and brief description



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beckykemling@msn.com

Becky Kemling

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The LLRPOA Board

has been very busy this past month Here are the updates.

- 1. The landscaping project at the entry to Sugar Maple Drive is now completed. Than you to Kristy Meyer & Morgan Sande for all your hard work. This 2 year project was funded by the Long Lake/ Riviera Property Owners Association.
- 2. Last September, the Ottertail Township Board approved the request from the residents of Sugar Maple Drive for speed limits to be reduced due to safety concerns.

The new speed limit signs are now in place. Please note that the maximum speed limit is now 35 mph on Sugar Maple Drive and 30 mph on the 3 blind curves. The LLRPOA spearheaded the petition to make this change.

3. Due to Coronavirus ordinances the Annual Meeting for the LLRPOA scheduled for June 20th is postponed, the Annual 4th of July Parade & Root Beer Floats is cancelled for this year.

You can contact Lynn Cave, LLRPOA President, if you have questions.



We accept online payment

Annual Membership
 Worm Spraying

Foundation Donations

The 2019-2020 results for levels of phosphorus, chlorophyll-A and secchi ft. on Blanche, Deer, Long, Otter Tail, Pelican Bay, Round & Walker Lakes

Blanche Lake - Tester: Ken Wentz, Site 202

Continued from page 1

| | TP ug/L | ChIA ug/L | Secchi Ft | TSI Phos. | TSI ChIAIT | SI Secchi | Ft.TSI Avg. |
|------------------------|---------|-----------|-----------|-----------|------------|-----------|-------------|
| 6/16/19 | 12 | 7.56 | 13 | 40 | 50 | 40 | 43 |
| 7/14/19 | 14 | 5.34 | 11 | 42 | 47 | 43 | 44 |
| 8/18/19 | 11 | 5.78 | 11 | 39 | 48 | 43 | 43 |
| 9/15/19 | 14 | 5.78 | 14 | 42 | 48 | 39 | 43 |
| 6/01/20 | 9 | 4.45 | 13 | 36 | 45 | 40 | 40 |
| Historical Mean | 26.3 | 5.78 | 12.4 | 39.8 | 47.6 | 41 | 42.6 |

Deer Lake 56-0298 - Testers: Mark Long, Site 201

| | TP ug/L | ChIA ug/L | Secchi Ft | TSI Phos. | TSI ChIAI | TSI Secchi I | Ft.TSI Avg. |
|-----------------|---------|-----------|-----------|-----------|-----------|--------------|-------------|
| 6/16/19 | 21 | 1.78 | 18 | 48 | 36 | 35 | 40 |
| 7/14/19 | 28 | 2.67 | 14.5 | 52 | 40 | 39 | 44 |
| 8/18/19 | 21 | 4.9 | 13 | 48 | 46 | 40 | 45 |
| 5/31/20 | 118 | 0.89 | 16 | 73 | 24 | 37 | 45 |
| Historical Mean | 47 | 2.56 | 15.38 | 55.25 | 36.5 | 37.75 | 43.5 |

Long Lake 56-0210 - Tester: Paul Oxberry, Site 202

| | TP ug/L | ChIA ug/L | Secchi Ft | TSI Phos. | TSI ChIAIT | SI Secchi | Ft.TSI Avg. |
|------------------------|---------|-----------|-----------|-----------|------------|-----------|-------------|
| 6/17/19 | 102 | 42.7 | 1 | 71 | 67 | 77 | 72 |
| 7/15/19 | 88 | 42.7 | 1 | 69 | 67 | 77 | 71 |
| 8/19/19 | 57 | 64.1 | 1 | 62 | 71 | 77 | 70 |
| 9/16/19 | 62 | 42.7 | 1 | 64 | 67 | 77 | 69 |
| 5/31/20 | 81 | 32 | 1 | 68 | 65 | 77 | 70 |
| Historical Mean | 78 | 44.84 | 1 | 66.8 | 67.4 | 77 | 70.4 |

Otter Tail Lake - Testers: Marcus Wing, & Sister, Site 206 & 208

| | TP ug/L | ChIA ug/L | Secchi Ft. | TSI Phos. | TSI ChIAI | TSI Secchi | Ft.TSI Avg. |
|-----------------|---------|-----------|------------|-----------|-----------|------------|-------------|
| 6/16/19 | 17 | 1.34 | 20 | 45 | 33 | 34 | 37 |
| 7/14/19 | 16 | 1.34 | 19 | 44 | 33 | 35 | 37 |
| 8/18/19 | 14 | 5.34 | 20 | 42 | 47 | 34 | 41 |
| 9/15/19 | 20 | 3.56 | 21 | 47 | 43 | 33 | 41 |
| 5/31/20 | 7 | 1.34 | 19.5 | 32 | 33 | 34 | 33 |
| Historical Mean | 16.1 | 5.3 | 12.4 | 43.6 | 46 | 41 | 43.3 |

Pelican Bay - Tester: RMB Staff, Site 201

| | TP ug/L | ChIA ug/L | Secchi Ft | TSI Phos. | TSI ChIAI | TSI Secchi | Ft.TSI Avg. |
|------------------------|---------|-----------|-----------|-----------|-----------|------------|-------------|
| 9/28/17 | 21 | 22.2 | 6.5 | 48 | 61 | 50 | 53 |
| 6/5/18 | 22 | 8.9 | 10 | 49 | 52 | 44 | 48 |
| 6/26/18 | 21 | 4.9 | 8 | 48 | 46 | 47 | 47 |
| 7/18/18 | 18 | 3.56 | 6 | 46 | 43 | 51 | 47 |
| 9/25/18 | 17 | 7.12 | 8 | 45 | 50 | 47 | 47 |
| Historical Mean | 19.8 | 9.34 | 7.7 | 47.2 | 50.4 | 47.8 | 48.4 |

Round Lake 56-0522 - Steve Mouritsen, Site 201

| | TP ug/L | ChIA ug/L | Secchi Ft | TSI Phos. | TSI ChIAI | TSI Secchi | Ft.TSI Avg |
|------------------------|---------|-----------|-----------|-----------|-----------|------------|------------|
| 7/17/18 | 33 | 17.4 | 5 | 55 | 59 | 54 | 56 |
| 8/21/18 | 45 | 20.5 | 3 | 59 | 60 | 61 | 60 |
| 9/11/18 | 46 | 28.5 | 5 | 59 | 63 | 54 | 59 |
| Historical Mean | 41.33 | 13.10 | 4.33 | 57.67 | 60.67 | 56.33 | 58.33 |

Walker Lake - Tester: Stan Satre, Site 201

| | TP ug/L | ChIA ug/L | Secchi Ft | TSI Phos. | TSI ChIAIT | 'SI Secchi I | t.TSI Avg. |
|-----------------|---------|-----------|-----------|-----------|------------|--------------|------------|
| 6/16/19 | 22 | 4.9 | 9 | 49 | 46 | 45 | 47 |
| 7/14/19 | 26 | 9.79 | 7 | 51 | 53 | 49 | 51 |
| 8/18/19 | 29 | 18.2 | 5.5 | 53 | 59 | 53 | 55 |
| 9/15/19 | 41 | 11.9 | 5.5 | 58 | 55 | 53 | 55 |
| 5/31/20 | 30 | 6.68 | 13 | 53 | 49 | 40 | 47 |
| Historical Mean | 29.6 | 10.29 | 8 | 52.8 | 52.4 | 48 | 51 |

TP ug/L - Phosphorus, Total (TP) Data, ug/L - Phosphorus: a nutrient needed for plant growth. Phosphorus can enter a lake through runoff from manure and fertilizer or through seepage from leaking septic and holding tanks.

ChIA ug/L - Chlorophyll-a: the pigment that makes plants and algae green. Chlorophyll-a is measured in lakes to determine algal concentration.

Secchi Ft. Secchi Depth: a measure of water clarity that can indicate the overall health of a lake. A black and white metal disc is lowered into the water on a rope until it can't be seen anymore and raised to the point it can be seen. The depth of the disk to the surface of the water is the Secchi Depth.

TSI: Trophic State Index is a measurement of overall lake productivity (nutrient enrichment). The overall TSI of a lake is the average of the TSI for phosphorus, chlorophyll-a and secchi depth. Source: www.rmbel.info

Did You Know?

Ten most common lake names in Minnesota:

Mud, Long, Rice, Bass, Round, Horseshoe, Twin, Island, Johnson, **Spring**

Otter Tail Lake at 13,725 acres, is the 10th largest lake in MN



Battle Lake, MN

www.daveerwinconstruction.com

Continued from page 4

proper manure and fertilizer application methods on farmland and proper fertilizer application on lawns and other properties, maintaining compliant septic systems and fixing non-compliant septic systems, having adequate buffers on lakeshores and streams - both on cropland and non-farm land, and maintenance and protection of native forests and native lakeshore vegetation.

I say "human-made" above because the TMDL also suggests that atmospheric or natural sources are also contributing about 19% of the phosphorus in Long Lake. This means that this percentage of phosphorus is getting into the lake in ways that are harder for us to address, such as natural deposits from the atmosphere, from wildlife or other natural causes, or from internal sources. Internal sources means that the phosphorus that is already in the lake can be re-circulating in the lake and contributing to the impairment, instead of that phosphorus leaving the lake and flowing downstream.

Which brings me to Otter Tail Lake. Otter Tail Lake is identified in the WRAPS report, as is Long Lake and other area lakes. The WRAPS report identifies Otter Tail Lake as meeting applicable water quality standards, which is good, especially considering that the Riviera Channel connects Long Lake and Otter Tail Lake. The WRAPS report also identifies Otter Tail lake as a high priority lake for protection.

Applying many of the strategies listed above to reduce the amount of phosphorus in Long Lake, and therefore reduce the amount of phosphorus moving downstream into the Riviera Channel and into Otter Tail Lake, should help to improve the water quality both in the channel and in Otter Tail Lake in the future. Even if those strategies don't ultimately restore Long Lake all the way to a point where it meets applicable water quality standards. Completely restoring Long Lake might take quite the effort at a necessary reduction of over 500 pounds of phosphorus per year. However, it would be an effort worthwhile. The efforts to restore Long Lake, and also effectively protect the channel and Otter Tail Lake, will require a partnership and joint efforts by all landowners on the lake and in the Long Lake subwatershed, the MPCA, the East Otter Tail Soil and Water Conservation District, and others.

Some programs are already in place to address nonpoint sources of pollution. The MPCA regulates livestock farms and manure application through its Feedlots program. The Minnesota Department of Agriculture addresses fertilizer application. The MPCA and Otter Tail County regulate septic systems. The East Otter Tail Soil and Water Conservation District can provide technical and financial assistance to help landowners. But the area landowners will need to be the driving force behind these efforts, working together and with the state and county agencies to implement some of the strategies listed above.

To follow along with the Otter Tail River WRAPS and TMDL process, visit the MPCA's Otter Tail River Watershed webpage here: https://www.pca. state.mn.us/water/watersheds/otter-tail-river.

Scott Schroeder | Environmental Specialist Minnesota Pollution Control Agency (MPCA) Northwest Watershed Unit | Watershed Division 714 Lake Avenue, Suite 220 | Detroit Lakes, MN | 56501 Direct: 218-846-8134 | Office Main: 218-847-1519 scott.t.schroeder@state.mn.us | www.pca.state.mn.us

Article provided by Lynn Cave

Upcoming Training Events

BWSR Training

July

July 14 - Minnesota Wetland Regulation & Delineation - Classroom,

July 15 - Minnesota Wetland Regulation & Delineation - Field, Alexandria

Technical Training & Certification Program Events

July

July 27-28 - Grazing Facilitating Practices, TTCP, Northeast Minnesota

July 30-31 - Grazing Facilitating Practices, TTCP, Southeast Minnesota

August

Aug 3-7 - Engineering Boot Camp, TTCP, Morris

Related Partner Training Opportunities

Construction Stormwater Certification, UMN, Statewide

August

Aug 3-7 - The Fundamentals of River Science: Applied Geomorphology & Ecology, DNR, Fergus Falls

Learn on Your Own

Not all training takes place in a classroom. We've put together a searchable library of recorded modules, webinars, videos and other resources to help our staff and partners find professional development information on a variety of topics. You can visit BWSR's Online Learning page to find web-based technical training resources sorted by category.

Program Contacts

Barbara Radke Jon Sellnow **Training Coordinator Technical Training & Certification Program Coordinator** (507) 844-0442 (218) 340-3521 barbara.radke@state.mn.us jon.sellnow@state.mn.us

WE STILL NEED YOUR PHOTOS!

Please submit to secretary@otlpoa.com and include a byline and brief description



OPEN TO THE PUBLIC ENTER THROUGH CHURCH PARKING LOT

Play & Picnic Areas - Walking Trails - Disc Golf

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ZIONAMOR.ORG

2020 Student Poster Contest - RESULTS -

July has been Lakes Appreciation Month for the past 22 years; to celebrate, we invited elementary, middle, and high school students to submit posters reflecting on how important lakes are to all of us. Submitted artwork will be a big part of NALMS' celebrations through July across North America.

Each of our winners will receive a \$50 cash prize, as well as \$250 for their school to use on STEM or lake ecology curriculum/materials, activities, and/or field trips. They will also be featured on the NALMS website, social media, and conference program!

With nearly 60 entries, our volunteer judges had a tough job deciding our three winners (one per grade category). Entries were judged on creativity and originality, how well they represented Lakes Appreciation Month, and overall presentation. We are excited to share the results with you today!



Isabella Garcia-Whitko, grade 2

Hawken School, Lyndhurst, OH • WINNER (1st-4th grade division)



Eliot Lundt. grade 9

East High School, Denver, CO • WINNER (9th-12th grade division)

Annaliese Horvath, grade 7

Brandywine Heights Middle School, Topton, PA • WINNER (5th-8th grade division)



Articles and Photos Submitted by Scott Simdorn

BAPTIST

Basswood Baptist Church B.G.C.

38188 340th St., Richville, MN 56576 Bert Holmquist, Pastor—218-495-3800 Church—218-495-3771

Sunday School 9:30 am, refreshments following Worship Service 10:45 am

Bible Study, Youth Group & Kids Club - Wednesday 7:00 pm Ladies' Bible Study - 3rd Thursday Men's Prayer Breakfast - 1st Saturday 7:00 am

First Baptist (ABC) - Battle Lake 'The Little Brown Church on the Hill' Lynn Hansen, Pastor—651-485-7378 www.firstbaptistbattlelake.org Sunday Worship 9:30 am

Potluck Dinner - 2nd Sunday

Fellowship & refreshments 10:30 am

BATTLE LAKE ALLIANCE

401 W. Gilbertson St., Battle Lake Derek Mansker, Pastor • Church—218-864-5539 👃 Sunday Worship Service 10:00 am Fellowship & refreshments after service Find us on the web at battlelake.org

CATHOLIC

Father LeRoy Schik, Pastor Mass Times—218-864-5619 www.ollsj.org

St. James Catholic - Maine Township Sunday Mass 8:30am, May 1 - Sept. 30

Saint Edwards - Henning

Saturday Mass 4pm, May 1 - Sept. 30

Our Lady of the Lake - Battle Lake Saturday Mass 6pm, Memorial Day-Labor Day Sunday Mass 10:30 am



Lakes Area **Church Directory** 2020

LUTHERAN

Bethel Lutheran Church

Battle Lake Campus: Meets at Lakes Area Community Center 112 West Main St., Battle Lake 218-862-4903

Sunday School 9:15 am (no Sunday School during summer months) Worship: 10:30 am Website: bethellutheran.church

First Lutheran - ELCA

505 W. Holdt St., Battle Lake Bradley Skogen, Pastor Rob Nelson, Visitation Pastor blfirstlutheran org Church—218-864-5686 Coffee Fellowship: 9:00 am Worshin: 10:00 am Communion 1st & 3rd Sundays

Sverdrup Lutheran Church

PO Box 70 209 Southern Ave. E., Underwood Martha Halls, Pastor Church-218-826-6919 Worship 9:00 am

Tingvold Lutheran Church

6 miles north of Underwood, Co. 1 & Co. 35 Martha Halls, Pastor Church—218-826-6487 September 1-May 31: Service 11:00 am Fellowship 10:00 am June 1-August 31: Service 10:30 am Fellowship 9:30am

Zion Lutheran - ELCA

36051 Co. Hwy. 74, Amor Hwy. 1 & 74, 10 miles north of Battle Lake James Gronbeck, Pastor • Church—218-495-2563 Email: zionamoroffice@prtel.com Website: www.zionamor.org Summer Services May 12-September 15 Worship 8:15 am & 10:00 am Communion 1st & 3rd Sundays 8:15 am - Traditional Service Weekly 10:00 am - Informal Service 1st & 4th Sundays (Piano)

Contemporary Service; 2nd & 3rd Sundays (Praise Team)

Fellowship and refreshments between services Bible Study - Tuesday 10:00 am, Evening Bible Study Contact church office for date and time



Join us in worship!

& Indicates Barrier-Free Access

METHODIST

Ottertail United Methodist Church

104 Shores Drive, Ottertail Rod Turnquist, Pastor Church—218-367-2270 Worship 8:45 am Coffee Fellowship following Worship

Richville United Methodist Church

130 SW 1st Ave., Richville Rod Turnquist, Pastor Church-218-346-5656 Worship 10:30 am Coffee Fellowship following Worship 2nd & 4th Sunday

PRESBYTERIAN

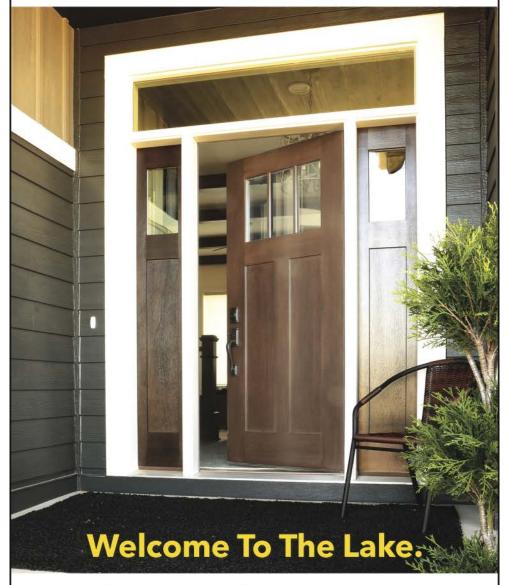
Winter - Worship 10:00 am

Maine Presbyterian

30761 Co. Hwy. 45, Maine Township 2 miles north of Phelps Mill Ed Morgan, Reverend Website: mainepresbyterianchurch.org Church—218-495-2539 Summer - Worship 9:30 am (Thru August) Coffee Following Worship Service

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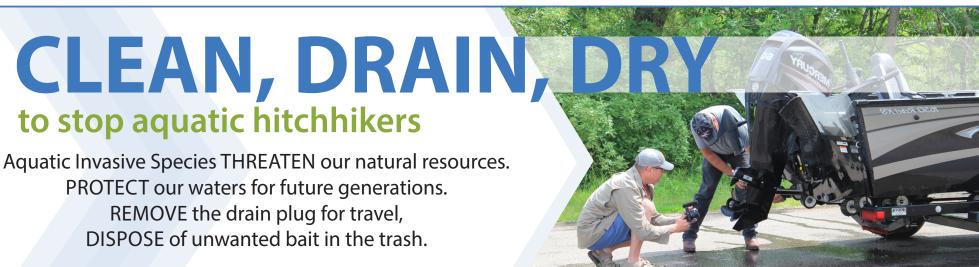
MEMBERSHIP APPLICATION

Otter Tail Lakes Property Owners Association Inc. 1

| 2019 Me | ember | ship (Check one) | | | | |
|--|--|------------------|------------------|-------|--|--|
| Property Owner Member: (Owners Lake Property) | Associate Member:(Does <u>not</u> own lake property or shares ownership) | | | | | |
| Name of Property Owner living at lake property address: | | | | | | |
| Address of Property | | | | | | |
| (this is the blue house number/street for your lake home) | City/State Zip | | | | | |
| Summer "mailing" address (5/15 – 8/30): | House/Street #_ | | | | | |
| (must be valid US Postal deliverable address) | City/State Zip | | | | | |
| Winter mailing address (9/1-5/15): | House/Street #_ | | | | | |
| • | | | | | | |
| Email: (please print legibly) Notification of date for tent caterpillar/worm spraying have an email address, you can substitute one for a far | amily member v | | ese notification | ons). | | |
| Includes \$10 donation to OT | LPOA Foun | dation | \$ | 35.00 | | |
| Additional support for the Found | lation (ta | x deductible) | | | | |
| \$10.00 \$20.00 \$50 | | | \$ | | | |
| The OTLPOA Foundation was established to c maintain water quality for recreation, fishing, Government resources are not provided. | btain financial r | esources to | Ψ | | | |
| (Total enclosed) | | | \$ | | | |
| Make check payable to: OTLPOA Or visit www.OTLPOA.com to pa | | | | | | |

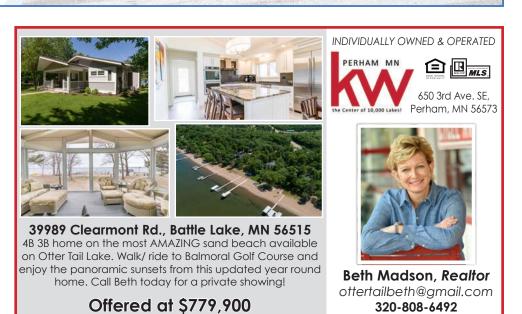
How can the association better serve you? (On another sheet of paper)

What lake related topic or issue is most important to you? How do you think our Association can help?



ottertailcountymn.us/department/aquatic-invasive-species





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