

**Little Sand Lake
Healthy Lake Monitoring Volunteer
Original Date: 6/20/21 Revisio: 1/16/24**

Type of Monitoring	Purpose of Monitoring	Frequency of Monitoring	Location of Monitoring	Report or send results to:
Boat Launch Inspections by Hubbard County Environmental Services Department	<p>Inspectors check watercraft entering Little Sand Lake for aquatic invasive species (AIS), such as Eurasian Milfoil, Zebra Mussels, etc.</p> <p>Environmental Services Dept. determines the inspection schedule based on historical data of most frequent days/times watercraft enter/leave the lake.</p>	<p>Each fall, the Little Sand Lake Association Board determines the total number of inspection hours for the lake for the following season—usually a total of 475 hours. The state/ Hubbard County, Lake Emma Township, and LSLAA pay for the inspectors at an hourly rate established by Hubbard County Environmental Services. LSLAA usually pays for about 130 hours of inspection time at the existing hourly rate.</p> <p><i>Note: In 2021, LSLAA paid for about 155 hours due to COVID-related reduction in state funding.</i></p>	Public Boat Launch	<p>Funding Info: <i>In the fall, Hubbard County Environmental Services determines the total number of state/county-funded inspection hours and shares that with the lake associations. Lake Emma Township sends a grant form to the lake's COLA rep, usually in December, for the lake to request funds from the township. Lakes are informed in early January as to what their grant amount will be. Based on the above information, LSLAA determines the final number of hours the LSLAA will pay. LSLAA's treasurer submits a check to Hubbard County by the end a January.</i></p>
County Rd 50 Pick-up	We have “adopted” this highway and are responsible for picking up trash along this road.	3 times/summer	Sides and ditches along CR 50.	Not applicable
Dissolved Oxygen (DO) Water Temperature Testing We have a water monitor instrument that we share with Big Sand Lake. We usually have the instrument calibrated every winter and share the cost of that with BSL.	Warming weather & poor land-use practices threaten our cold & cool water fish species. Tullibee/Cisco are cold water species that walleye & northern pike eat. Amount of DO/water temp can affect Cisco populations.	<p>May - September</p> <p>DNR recommends minimum of 1x/month; 2X in August (usually hottest month).</p> <p>Goal is 2X/month</p> <p>This should be done in September at least one time.</p>	<p>Deepest part of the lake. About straight west of public access.</p> <p>Identify location with waypoint.</p>	<p>Local Fisheries, DNR</p> <p>Wade Massure Area Supervisor MN DNR – Fisheries 301 S Grove Ave Park Rapids, MN 56470 218-732-4153 ext 223 Wade.massure@state.mn.us Calub Shavlik, Asst. Area Supervisor Calub.shavlik@state.mn.us.</p>
Secchi Disc Reading We have a white disc connected to a rope that has a depth gauge.	Monitor clarity of lake water.	<p>May – September</p> <p>Same time as DO₂ testing</p>	Measure water in deepest part of lake (between Bexell's and public launch). Do in EXACT same spot every time.	Sent to DNR with DO ₂ data (See above)
Secchi Disc Reading for MPCA/CLMP** (Same instrument as above)	Monitor clarity of lake water.	<p>May – September</p> <p>Recommended: 1X/week.</p>	Same as above	<p>**Minnesota Pollution Control Agency/Citizen Lake Monitoring Program Shannon Martin, CLM Specialist Environmental Analysis and Outcomes Division MPCA clmp.pca@state.mn.us</p>

		Record data on MPCA/CLMP record-keeping data sheet and send data in at the end of the season.		651-296-6300 See Sample MPCA form – Appendix A
Lake Chemicals Test Coolers and water sampling tubes are received from RMB labs in early May.	Monitor levels of phosphorus, chlorophyll-a and water transparency (secchi depth) in the lake water.	May – September Usually 1X/month Schedule is established by HC COLA	Deepest part of lake (between Bexell’s and public launch). Do in EXACT same spot every time.	Samples are collected and taken to HC COLA collection site. HC COLA then takes all samples from Hubbard County lakes to RMB Labs for chemical analysis of lake water. RMB Labs link: RMBEL - RMB Environmental Laboratories, Inc
Veliger (baby zebra mussel) Testing <i>We use a net that was purchased for Little Sand Lake by MaryJo Groehler. (NEVER allow it to be turned in to COLA. We own it.)</i>	Gather water samples to monitor for zebra mussels. A video about how to conduct this test is available on the RMB Labs website: Zebra-Mussel-Veliger-Monitoring-Procedure05132020.pdf (rmbel.info) .	May – September (This is usually done in conjunction with COLA’s water sampling. 2 samples collected and sent in with the water samples to RMB Lab. Approx. dates July 1 and 15 th .)	Sampling done near river inlet by Zorbaz, south of public access, and at the river outlet. (could mark with waypoint)	HC COLA collects water samples and brings them to RMB labs in Detroit Lakes
Vegetation Sampling Use a rake-type device to drop to the bottom of the lake to bring up/gather vegetation.	Checking vegetation at bottom of lake at specified locations. Monitoring for AIS.	3X/season: mid-June, mid-July, mid-August	-Public access -Zorbaz -Little Sand Villas (formerly North Star Resort) -Loonies -Near Rossman’s -Near Hallstrom’s	Report to DNR if suspicious plant or invertebrate is found. Contact Nicole Kovar, MN DNR Northwest Region Invasive Species Specialist Ph: 218-616-8102 or nicole.kovar@state.mn.us
Water-Level Gauge A water gauge is set up in a specific area (currently at the Howe-McMillen lakeshore)	Monitor water level	May – September 1X/weekly (Sundays)	Currently gauge is set up at the Hallstrom lakeshore.	Data is submitted in an excel file at the end of each month to: sandy.fetch@state.mn.us . Across the top of each file, the exact location of the lake in the state as is reiterated as: Little Sand Lake, Hubbard County, ID# 29015000
Ice In/Ice Out	Monitor date lake is completely frozen over in fall/winter (Ice-In or Ice-Over) and is completely free of ice in spring (Ice Out).	November-ish March/April-ish Record data on MPCA/CLMP record-keeping data sheet and send data in at the end of the season. (**Same data sheet used to record secchi disc readings for MPCA/CLMP.)		**Minnesota Pollution Control Agency/Citizen Lake Monitoring Program Shannon Martin, CLM Specialist Environmental Analysis and Outcomes Division MPCA clmp.pca@state.mn.us 651-296-6300
Loon Monitoring	Historical and General Interest.	Observe over the summer		

	<p>Watch over summer:</p> <ul style="list-style-type: none"> • #Nests • #Baby Loons/nest in spring (May-June) • #Baby Loons/nest end of summer (September) 	<p><i>NOTE: HC COLA has a loon-monitoring opportunity going on now (see June 2021 HC COLA newsletter.) This year only 13 Hubbard County lakes have LoonWatcher Survey volunteers. If you would like to volunteer, please contact Andrew Herberg, MN DNR Nongame Wildlife Specialist at andrew.herberg@state.mn.us. See Loon Watcher Letter 2021 (state.mn.us).</i></p>	<p>Across the lake. We usually have 4 nesting couples on Little Sand</p>	<p>HC COLA and/or andrew.herberg@state.mn.us</p>
<p>Monitoring for adult zebra mussels with Settlement Samplers or PVC Tubes.</p> <p>Notify DNR if your lake association has a Settlement Sampler at public access. (Via HC COLA)</p>	<p>Early detection of zebra mussels.</p>	<p>Identify "Citizen Watch Volunteers" on Little Sand.</p> <p>Check monitoring device weekly starting in July/August.</p>	<p>Suspend device:</p> <ul style="list-style-type: none"> • On shaded side of dock one foot off bottom. • Place monitoring devices on all sides of lake. 	<p>HC COLA, DNR</p> <p>Participate in HC COLA's "Eyes on the Water" survey.</p> <p>Eyes on the water link: http://hubbardcolumn.org/eyes-on-the-water---early-detection.html</p> <p>Contact Nicole Kovar, MN DNR Northwest Region Invasive Species Specialist Ph: 218-616-8102 or nicole.kovar@state.mn.us</p>
<p>COLA Rep</p>	<p>LSLAA has a COLA rep who works with Hubbard County Coalition of Lakes and helps coordinate the monitoring activities described above.</p> <p>Attends monthly meetings the last Thursday of the month during the months of April thru October.</p> <p>HC COLA REP RESPONSIBILITIES COLA Representative List of Responsibilities The COLA representative from each lake shall:</p> <ol style="list-style-type: none"> 1. Communicate with their lake association president on all COLA issues. 2. Have official voting rights for their lake association. 3. Ensure an alternate attends the COLA meeting if they are not available. 4. Be a member of a committee. 5. Attend at least one government meeting per year, if possible. 6. Keep COLA informed on any issues on their lake. 7. Act as the compliance coordinator for any lake issues. 8. Provide education information to their lake association. 9. Present COLA information at their annual lake association meeting. 10. Provide information about their lake to the HCOLA website coordinator. 11. Provide articles about their lake (when appropriate) for the COLA newsletter. 12. Act as the coordinator for Restore-the-Shore on their lake (or designate a coordinator). 13. Ensure their lake's water monitor knows the date/time for the annual water monitor training and pickup. 			
<p>Restore the Shore Coordinator</p>	<p>Work with SWCD to sell bundles of shrubs and tree seedlings to help keep our lake shore healthy. Order forms typically go out in late fall (usually late October) to lake residents. The RTS Coordinator collects the money for the orders, gives the money to our treasurer who then writes a check to SWCD. Seedlings usually arrive in early May; the RTS Coordinator picks them up for the lake and has folks who ordered them pick them up.</p>			
<p>Lake Vegetation Mapping</p>	<p>Vegetation mapping benefits:</p>			

<p>In 2005 & 2006 Little Sand conducted the following mapping projects in conjunction with Park Rapids DNR Fisheries & Wildlife office.</p> <ul style="list-style-type: none"> • Emergent vegetation • Submerged vegetation (Point Intercept Lake Vegetation Survey) 	<ul style="list-style-type: none"> • Demonstrate beneficial role that bulrushes, cattails, water lilies play in the ecology of the lake. • Encourages lakeshore owners to preserve their lakeshore in the natural state. <p>Provides a benchmark for ongoing monitoring of the health of the lake.</p>	<p>Conduct vegetation mapping every 5 years. This was an extensive project and has not been done since the initial project.</p> <p>This is different than the current vegetation monitoring for AIS.</p>	<p>This was a lake-wide project done over 2 years.</p> <p>The Point Intercept Survey was conducted at 180 waypoints all around the lake.</p>	<p>This project was done in conjunction with the DNR Fisheries and Wildlife Office.</p>
<p>Aquatic Lake Vegetation Survey (Mapping)</p> <p>Completed in Summer 2022 funded by a HC COLA grant and LSLAA</p>	<p>Contracted with RMB Labs from Detroit Lakes to do the survey.</p>	<p>One time. Plan to follow up and do the full sampling survey again in 10 years (2033).</p> <p>Enhanced vegetation monitoring model is being planned for the lake. We envision the system will be an enhanced version of the Vegetation Sampling currently being done (described in the green section on page 2 of this document).</p>	<p>180 points on the lake to coincide with points mapped in 2006</p>	<p>RMB Labs provided a final report to LSLAA and to MAISIC in August 2022.</p>

APPENDIX A follows:



520 Lafayette Road North | St. Paul, Minnesota 55155-4194 | 651-296-6300
800-657-3864 | Use your preferred relay service | info.pca@state.mn.us | Equal Opportunity Employer

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April 2021

Dear Citizen Lake Monitoring Program Volunteer:

Spring has arrived. Warmer days and melting ice mean Secchi season is right around the corner. Soon we will be launching our canoes, kayaks, fishing boats and pontoons, enjoying all Minnesota's lakes have to offer. We want to thank you all in advance for the monitoring work you will do this summer!

Enclosed, you will find your official 2021 Secchi datasheet(s) and return envelope. Please use the enclosed datasheet(s) to record the Secchi disk readings that you take this year. As always, please let us know as soon as possible if any of the contact or monitoring site information listed on your datasheet (s) is incorrect.

Here are a few reminders for the 2021 season:

- 1) Try to take your readings on bright, calm days.
- 2) Avoid taking readings at dawn and dusk, when light is limited.
- 3) Remember to take your reading on the shaded side of your boat.
- 4) If you are wearing sunglasses, remove them before taking your reading.
- 5) The "PC" and "RS" columns on your datasheet are for recording "Physical Condition" and "Recreational Suitability." **The PC and RS scales are located on the back of your datasheet.**
- 6) The "Water Color" section on your datasheet has been refined to include a list of 4 colors to choose from to create more consistency in reporting. **Water color definitions are located on the back of your datasheet.**
- 7) Secchi disk ropes are marked in feet. Whether you are using a rope marked in ½ foot increments, or a tape marked with inches, please round your reading to the nearest ½ foot (e.g. 4.0 ft., 4.5 ft., 5.0ft, etc.)
- 8) If you have had your Secchi disk for a few years, check your disk for rust, and your rope to make sure the markings are legible and reflect accurate measures. **If you need a new rope or disk, please contact us and we will send you a new one at no cost.**

Please contact us by phone at 651-296-6300 (Twin Cities Metro) or 800-657-3864 (Greater MN) or email at clmp.pca@state.mn.us with any questions.

Thank you for participating in the Citizen Lake Monitoring Program! Have a fun and safe monitoring season.

Sincerely,

Shannon Martin
Citizen Lakes Monitoring Specialist
Environmental Analysis and Outcomes Division

Josh Stock
Environmental Specialist
Environmental Analysis and Outcomes Division

SM/JS:ds

Enclosure(s)

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2021 CLMP Secchi Datasheet
Citizen Lake Monitoring Program (CLMP)

Volunteer ID : 243792
Dan Kittilson
22924 County 7
Park Rapids, MN 56470
Phone (1): 218-732-5586
Phone (2): 218-616-2272
Email: drkittil@q.com

Lake name: Little Sand
Lake ID: 29-0150-00-204
Site ID: 204

Lake depth at sampling site: _____ feet
Did you monitor this site last year? Yes No

Important note: If your contact information is different from what is listed above, please make edits directly on this form. Please read Tennessee Warning on page two regarding private data.

	Date	Time	Secchi (nearest 0.5 ft)	B*	PC (1-5)	RS (1-5)	Water color choices: Clear, green, stained, sediment	Other notes
Ex.	5/20/20	11:00	<input type="checkbox"/> am <input type="checkbox"/> pm 5.5 ft		2	3	Green	Breezy, temp: 70 F°
1			<input type="checkbox"/> am <input type="checkbox"/> pm ft					
2			<input type="checkbox"/> am <input type="checkbox"/> pm ft					
3			<input type="checkbox"/> am <input type="checkbox"/> pm ft					
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20			<input type="checkbox"/> am <input type="checkbox"/> pm ft					
21			<input type="checkbox"/> am <input type="checkbox"/> pm ft					
22			<input type="checkbox"/> am <input type="checkbox"/> pm ft					

Lake ice data (Optional)

Date ice completely formed last fall: _____ X

Date ice completely melted in the spring: 04/05/2021
(mm/dd/yyyy)

*Trying to obtain info

Monitoring guidance

Secchi readings

- Take readings between dawn and dusk on calm days.
- All readings should be recorded to the nearest 1/2 (0.5) foot.
- If disk is on lake bottom, put a 'B' in the 'B' column on the datasheet.
- If you monitor more than one site, each site **must** have a separate datasheet.

Algae level ratings and water color description

Each day that you sample, please record the **one** option that best describes the lake water **at your sampling site**.

Physical condition (PC)	Recreational suitability (RS)	Water color
1 = Crystal clear water	1 = Beautiful, no aesthetic problems due to algae	Clear = clear/blue with limited particles
2 = Not quite crystal clear – a little algae	2 = Minor aesthetic problems	Green = green with suspended algae
3 = Definite algae (green, yellow or brown)	3 = Swimming/boating slightly impaired	Stained = tea stained, transparent
4 = High algae levels, limited clarity, possible odor	4 = Swimming/boating substantially impaired	Sediment = muddy, cloudy brown
5 = Severely high algae levels, possible scum, odor or fish kill	5 = Swimming/boating nearly impossible	

Sending in your datasheet

- Keep a copy for your records
- Return this form to the Minnesota Pollution Control Agency (MPCA) by October 31, using the postage paid envelope included with each datasheet mailing. All postage paid envelopes are sent first to a bulk mail facility on John Ireland Boulevard in St. Paul, and then get forwarded on to the MPCA building. If you have lost your envelope, you can send your datasheet directly to our office at:

Minnesota Pollution Control Agency
Citizen Lake Monitoring Program
520 Lafayette Road North
St. Paul, MN 55155
- Submit your data electronically through our On-Line e-Service found on the MPCA website at: <https://rsp.pca.state.mn.us>. If you were a volunteer before October 2020 please contact us to receive your User_ID and temporary password.

If you have any questions, please contact the MPCA at 651-296-6300 (Twin Cities Metro Area) or 800-657-3864 (Greater Minnesota). You can also email your questions to clmp.pca@state.mn.us.

Tennessee Warning: The MPCA is committed to protecting volunteer information. By providing the above mentioned information to the MPCA Citizen Monitoring Programs (CMP), the MPCA is obligated to tell you that some of the information is classified as private data per state law rules. The MPCA is legally bound to restrict access to your private information to CMP staff and to those entities/persons authorized by state court order or law. You are not legally required to provide private information; however, in this instance it is impossible for us to work and communicate with volunteers without this information. Should you have any concerns, please contact us at clmp.pca@state.mn.us or csmp.pca@state.mn.us. (References: Minn. Stat. § 13.02, subd. 12; Minn. Stat. § 13.43; Minn. R. 1205.0200, subp. 9; and Minn. R. 1205.0400)