

From SWCD- 2023 Green Lake Water Quality Report- Compared to all previous years monitored, Green Lake's health improved in 2023.

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Cc: tiffany.determan@mn.nacdn.net; gordon_haubenschild@yahoo.com

Date: Wednesday, January 3, 2024 at 07:58 PM EST

Info GLID Board and Partners,
(Marissa.. please use info to post whatever summary you think on our GLID Facebook)

Our 2023 Green Lake water quality results are in...

And the winner is: ALL OF GREEN LAKE OWNERS and the 1000s of visiting guests!

Read SWCD's full report of 2023 Green Lake water quality in attachment below>>>>

Thank you Tiffany and Staff for the Report!

Exec Summary>> 2023 Good News:

> All Green Lake parameters monitored in 2023 met standards set for deep lakes!

MN Clean Water Goals for Deep Lakes vs **Our Measurements :**

Total Phosphorus (TP): $\leq 40\mu\text{g/L}$ vs **Our Green Lake: $28\mu\text{g/L}$ (TP) - a win!**

Chlorophyll-a: $\leq 14\text{mg/L}$ vs **Our Green Lake: 12mg/L (Chl-a) - a win!**

Secchi Depth: $\geq 4.59\text{feet}$ vs **Our Green Lake: 5.35ft - Another year's win!**

> Compared to all previous years monitored, Green Lake's health improved in 2023!

(See my previous September 28, 2023 email summarizing 2023 data and observations.)

Using Metropolitan Council lake grading system, which creates an easy to understand way to communicate lake health, our Green Lake scored a beautiful "B" in 2023...

compared to 2022's "C", 2018's "B", 2017's "D" grades.

A HUGE THANK YOU to present and past volunteer lake monitors! Volunteers reduce costs making lake monitoring feasible. In 2023, Alex and Marissa Dahlin collected lake samples and Dave Dancik and Pam Mortenson's family gathered periodic transparency readings.

Can you repeat your wonderful water measurement work in 2024, please?

There are sooooo many variables that affect our Green Lake water quality. 2023 was considered a dry year, which may have reduced the amount of watershed nutrient runoff coming into the lake. Even though we had high temps, there was not blue-green algae reports,,, and our summertime green scum was minimal, less nutrient flow?

Also, our important GLID and partnership SWCD projects continue to yield reduced nutrient loading. These include more shoreline restorations, more rain gardens, more cover crops on the watershed, more GLID/DNR curly leaf pondweed management on our 50.5 acres of treatments, and our lake owner's weed removal as observed at the Wyanett Township compost weed pile. There are more SWCD future plans to address watershed opportunities with our Section 319 MPCA Grant funding.

Our Green Lake will still remain on the State of Minnesota's 303(d) list of impaired waters, placed there in 2015. In order for Green Lake to be considered an impaired waterbody, **the 10-year average growing season** total phosphorus (TP) concentration and at least one "response variable" (Chlorophyll-a or Secchi depth) must exceed State water quality standards. *Although our Green Lake's Secchi depth has generally met State water quality standards over the past 10 years, Green Lake is*

still considered impaired since TP and Chl-a have not met State standards over the past 10 years.

Our Green Lake Improvement Plan's focus is to continue to improve Green Lake water quality so it can be removed from that infamous impaired waters list.

Hence, all of GLID's planned actions along with our SWCD and DNR's partnerships' projects need to continue.

Let's keep the drumbeat going!

Grateful for your ongoing volunteerism.

Hope. Respect.

Gordon Haubenschild
with GLID Board

attachments:

Green Lake Monitoring Report 2023

MN Clean Water Goals for Deep Lakes:

Total Phosphorus (TP): $\leq 40 \mu\text{g/L}$

Chlorophyll-a: $\leq 14 \text{ mg/L}$

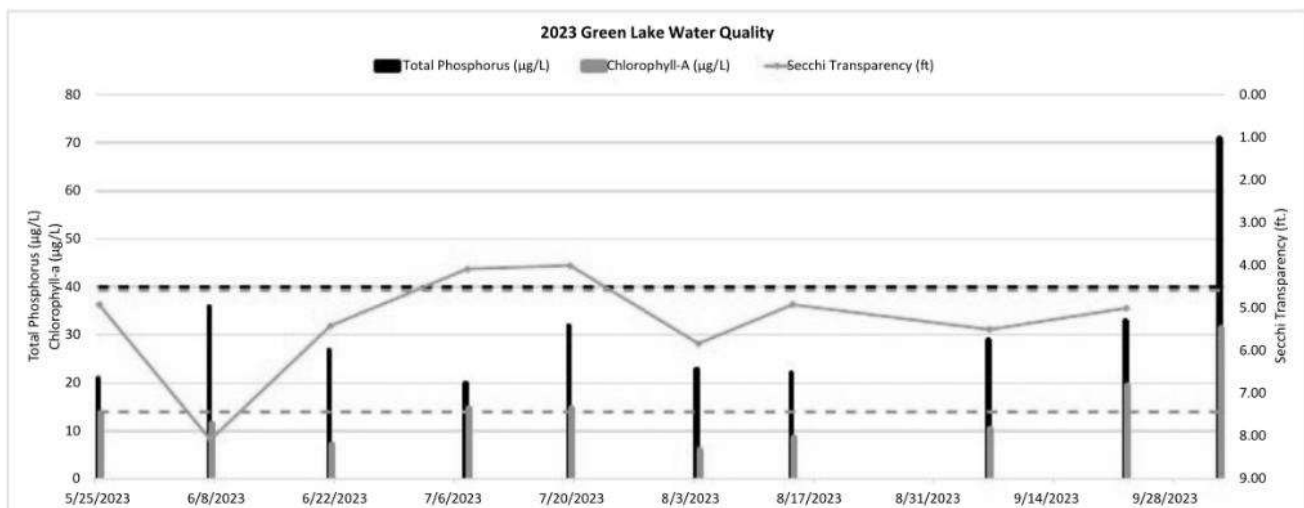
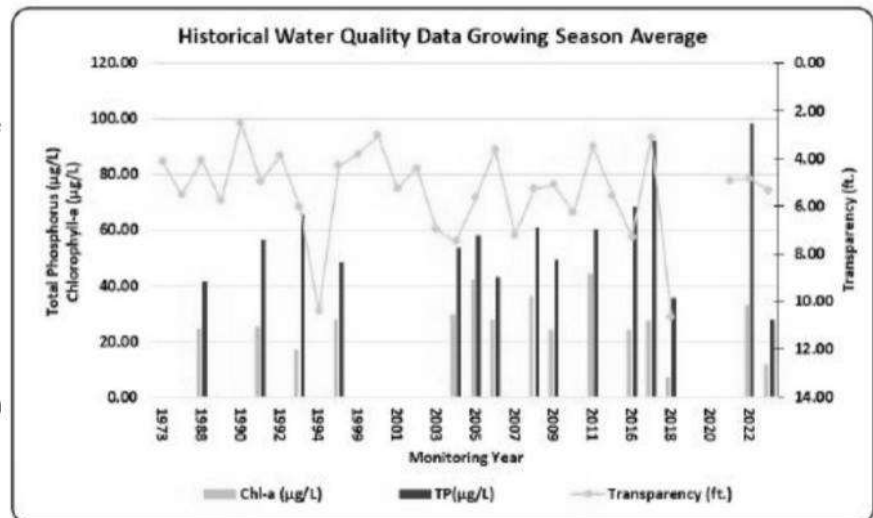
Secchi Depth: $\geq 4.59 \text{ feet}$

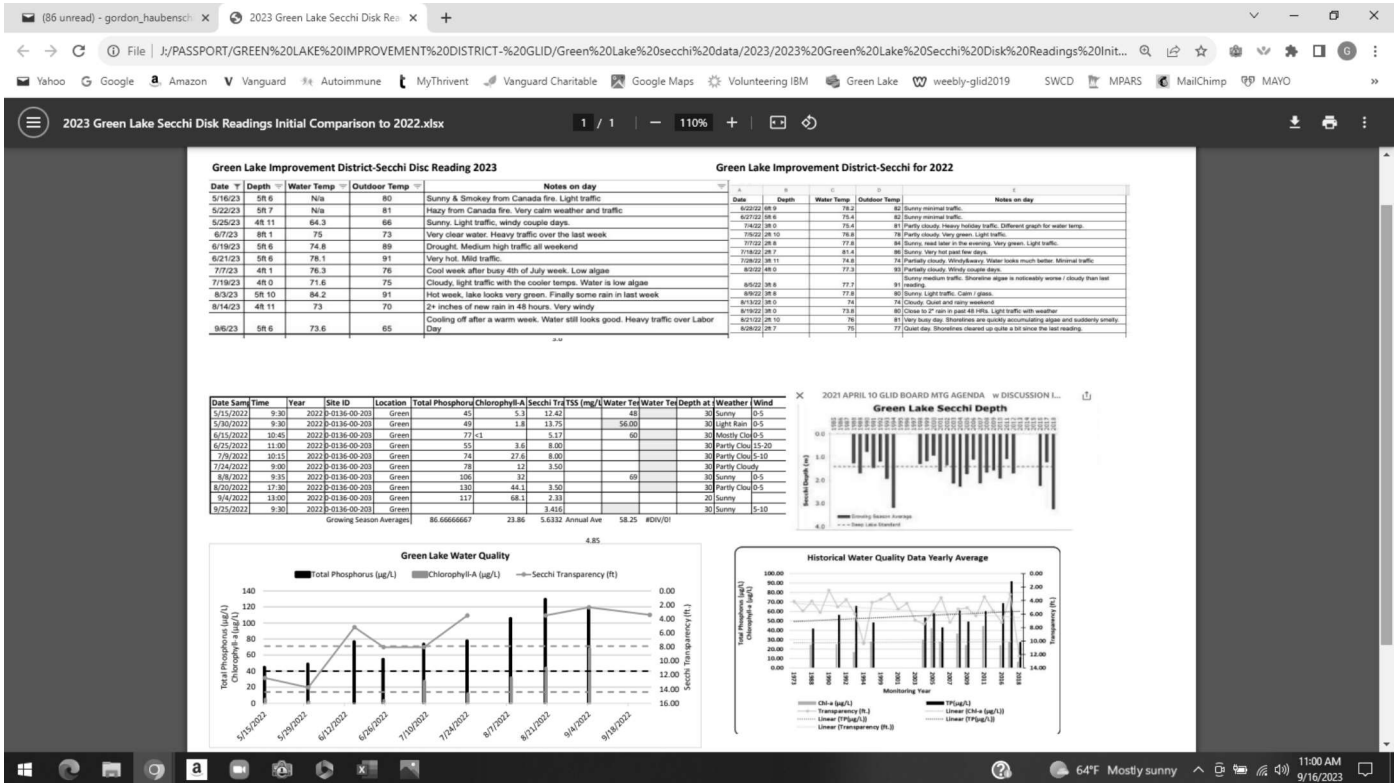
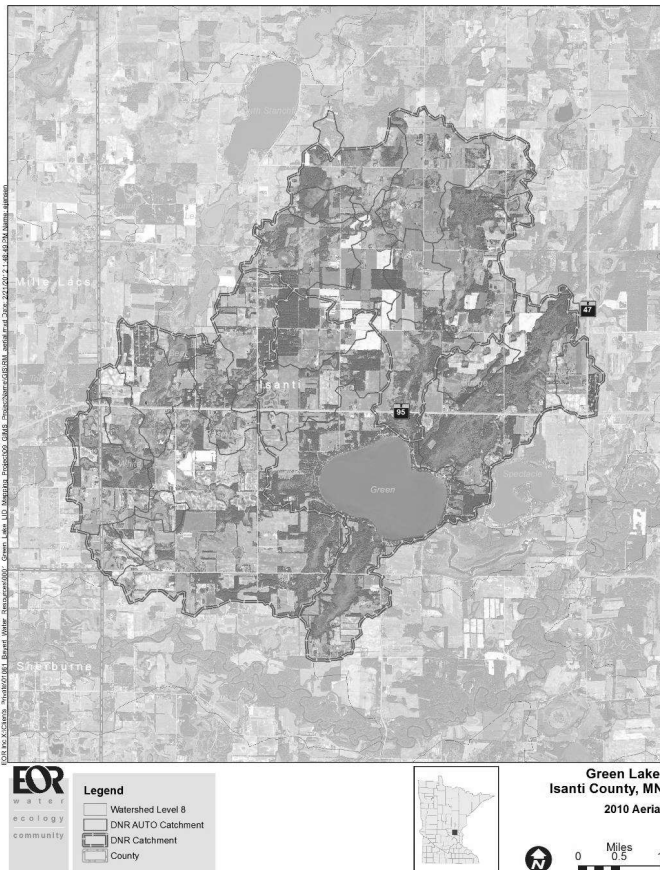
2023 Growing season average (June-September)	28 $\mu\text{g/L}$ (TP)	12 mg/L (Chl-a)	5.35 ft. (Secchi)
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Data Summary:

- Grades are based on the Metropolitan Council lake grading system, which creates an easy to understand way to communicate lake health.
- The physical appearance of the lake was rated as “low-algae” throughout nearly the entire season. The appearance was rated as “clear” early in the season; this differs from previous years where the lake was rates as having “medium or high algae”.
- The recreational suitability of the lake was rated as “very good” through mid-July and then “good” following that. Previous years were rated between “good” and “fair.”
- Sampler notes indicated there were five inches of rain in the weeks preceding the final sample of the season. The combination of rains carrying nutrients into the lake and lake turnover likely caused the phosphorus spike.
- All parameters monitored in 2023 met standards set for deep lakes!
- Compared to all previous years monitored, lake health improved in 2023.

Year	Grade
2016	C
2017	D
2018	B
2022	C
2023	B





----- Forwarded Message -----

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To: Gordon Haubenschild <gordon_haubenschild@yahoo.com>

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Sent: Friday, December 29, 2023 at 04:22:00 PM EST

Subject: 2023 Green Lake Report

Happy New Year Gordy!

Anyways, Green Lake has been on my mind and the top of my list to complete a report. DONE! It might need a few tweaks but I know you have been waiting for it. Looks like 2023 was good to the lake and it's users- it met water quality standards for phosphorus, chlorophyll-a and secchi transparency. Please share this with all of our lovely partners.

Be well and we'll talk soon.

Tiffany Determan


District Manager

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Green Lake Report 2023.pdf
695.5kB