NEPAHWIN LAKE 2023 FIELD SUMMARY

AMANDA POULIN

CITY OF GREATER SUDBURY





Spring Phosphorus Data

Ice Free Data

Secchi Depths

Algae Analysis

Salt Campaign

SPRING PHOSPHORUS

- 2022 spring phosphorus samples from Lake Partner Program – 20.1 ug/L
- 2023 spring phosphorus samples from Lake Partner Program – 25.5 ug/L
- Average from 2001-2023 15.11 ug/L
- 2020 results are from private labs due to Lake Partner
 Program not accepting samples



ICE FREE SAMPLING

- Secchi depth TP ranges from 2.0
 21.0 ug/L at individual sites
- 1m off bottom TP ranged between 40.5 – 184.5 ug/L during hypoxic/anoxic conditions at individual sites
- Hypoxic/Anoxic conditions occurring between July-September with elevated TP values indicating internal loading
- Example shown had surface TP values of 21.0 ug/L and 184.5 ug/L 1m off bottom



Nepahwin Lake Secchi Depth Averages by Month 2018-2023 (CGS & NLWSG)



SECCHI DEPTH

- Bi-weekly secchi reading through City LWQP and NLWSG
- Drop in water clarity between 2018 and 2021
- 2022 water clarity increased dramatically
- CGS to continue to monitor for trends with help from NLWSG volunteers

Nepahwin Lake Phytoplankton Community Makeup – July 5, 2023 Bloom

ALGAE ANALYSIS

- 2023 algae bloom noted by residents and informed the LWQP on June 22, 2023
- Sample taken by CGS staff on July 5, 2023 (special preservative required)
- Sample sent to private lab for phytoplankton analysis
- Lab indicated 66% of algae community was made up by Cyanophytes (bluegreen algae's)
- Cyanophyte species mainly members of the Aphanizomenon gracile complex and not Microcystins





Chloride values between 2018-2023 remain stable

Sodium increasing between 2018-2023

- Ice-free samples include surface and 1m off bottom samples representing full water column
- No evident difference in surface vs bottom results
- No significant increase in salt usage on roads during this period

SODIUM & CHLORIDE

WINTER SALT AND SAND ROUTE UPDATES

- CGS maintains 3, 620km of municipal roads
- 62 roads changed from "salt routes" to "sand routes"
 - ~73km
 - 2% of maintained roads
 - Reduction of ~1, 600 MT of salt



2024 SALT CAMPAIGN







Sidewalk **Savers Unite!**

sprinkle responsibly

To request a salt cup: R

earthcare@greatersudbury.ca

greatersudbury.ca/salt

Salting in moderation works to protect against:

Corrosion of sidewalks and stairs

- · Harm to pets and wildlife
- Increases of sodium and chloride in our drinking water
- Slips and falls





How to Properly Apply Salt Comment épandre correctement le sel

SHOVEL FIRST Shovel all snow as it accumulates on sidewalks and walkways to prevent ice from forming,



PELLETEZ D'ABORD

Enlevez toute la neige qui s'accumule sur les trottoirs et les allées afin de prévenir la formation de glace.

CHECK TEMPERATURE

If ice has formed, you can use salt in temperatures above -12° to help melt the ice.



VÉRIFIEZ LA TEMPÉRATURE

Si de la glace se forme, vous pouvez utiliser du sel pour la faire fondre si la température est supérieure à -12 °C.

SPREAD EVENLY

Use the Salt Cup to evenly distribute salt across sidewalks and walkways where ice has formed. Remember that less is more, the salt cup is 120z and can cover 10 sidewalk squares/500 sq.ft/46.5sq.m.



ÉPANDEZ UNIFORMÉMENT

Utilisez la tasse pour distribuer le sel uniformément sur les trottoirs et les allées où de la glace s'est formée. Rappelez-vous que moins, c'est mieux. La tasse peut contenir 12 oz de sel, ce qui peut couvrir 10 dalles de trottoir, 500 pieds carrés ou 46.5 mètres carrés.

THINK TRACTION

Consider traction aids such as pickled sand when temperatures drop below -12° to help prevent slips and falls.



PENSEZ À LA TRACTION

Songez à utiliser des produits d'aide à la traction, comme un mélange de sel et de sable, lorsque la température est inférieure à -12 °C, afin d'aider à prévenir les glissades et les chutes.

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Whether your business clears the snow or hires someone to do it, you are responsible for the safety of others. Following a complete winter maintenance plan can reduce the risk of slip and fall hazards and property damage from oversalting. Consider including these actions as part of your winter maintenance plan:



l'erre à coeur

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Stop snow from drifting



QUESTIONS?

Contact Information

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