

NEPAHWIN LAKE 2024 FIELD SUMMARY

AMANDA POULIN

LAKE WATER QUALITY PROGRAM COORDINATOR



Nepahwin Lake 2024

- Spring Phosphorus Data
- Ice Free Data
- Secchi Depths
- Algae Analysis
- Chloride Data
- Campaigns



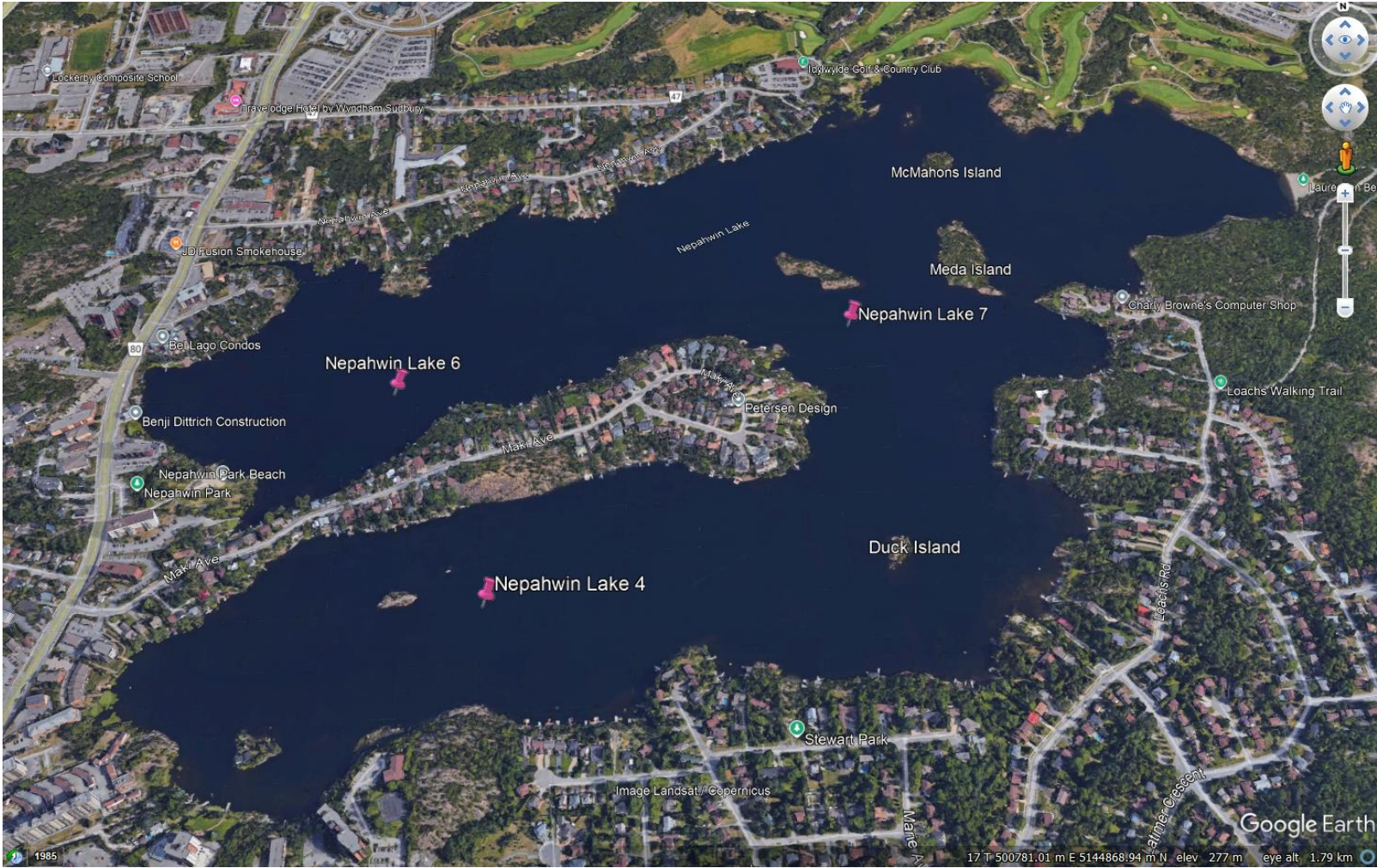
LWQP Mandate

The Lake Water Quality Program Mandate:

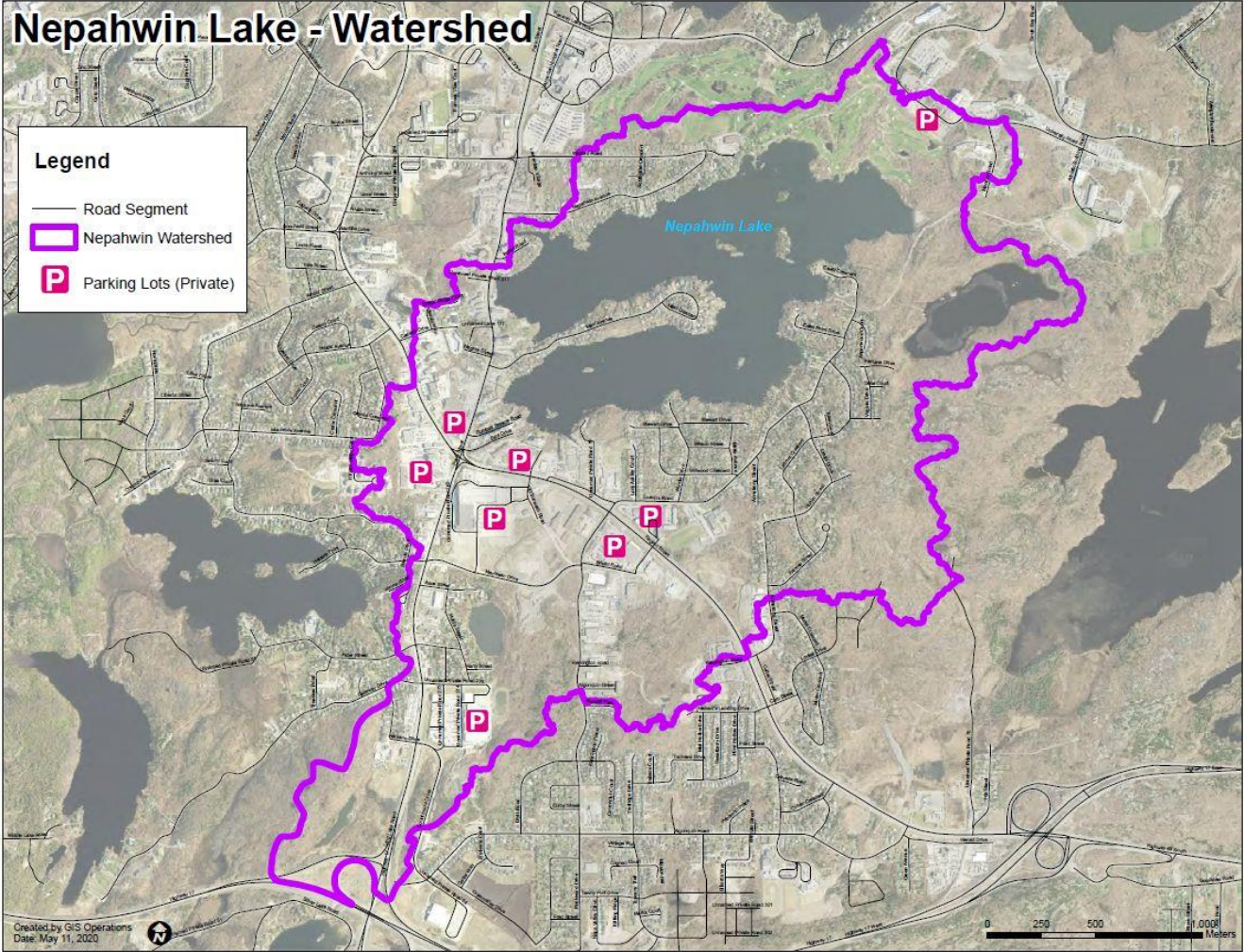
- To monitor various water and shoreline quality parameters of local lakes and work collaboratively with other City divisions, government agencies, lake stewardship groups, and individual residents to address problems as they arise.
- To promote the creation of stewardship groups on individual lakes.



Sample Locations

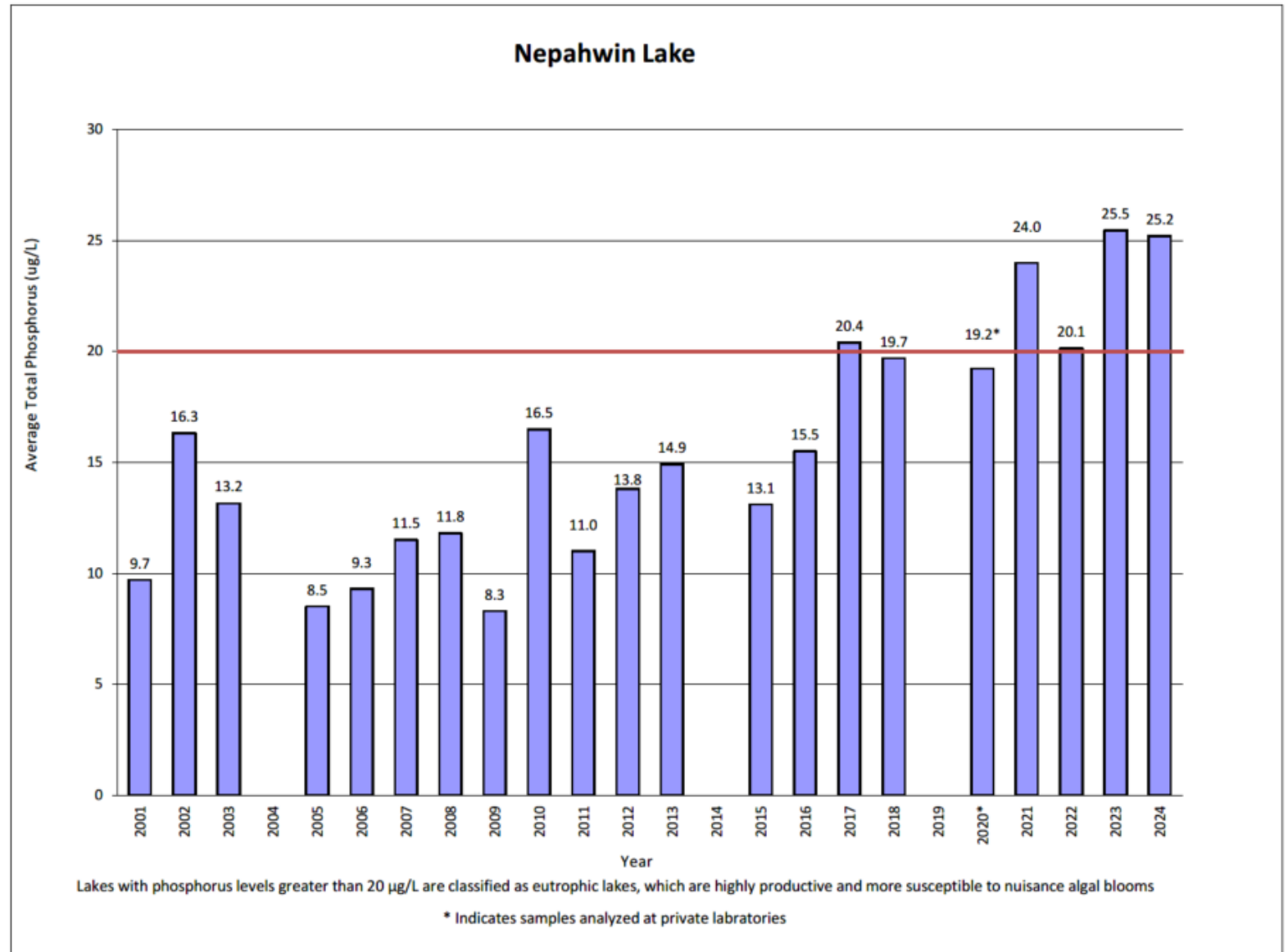


Nepahwin Lake Watershed



Spring Phosphorus

- 2023 TP → 25.5µg/L
- 2024 TP → 25.2µg/L
- Average TP (2001-2024) → 15.59µg/L
- Causation Study conducted in 2020:
 - TP increasing since 1978
 - Hypolimnetic anoxia resulting in internal loading
 - Increase in TP is not clear
 - Most likely reason is urban runoff

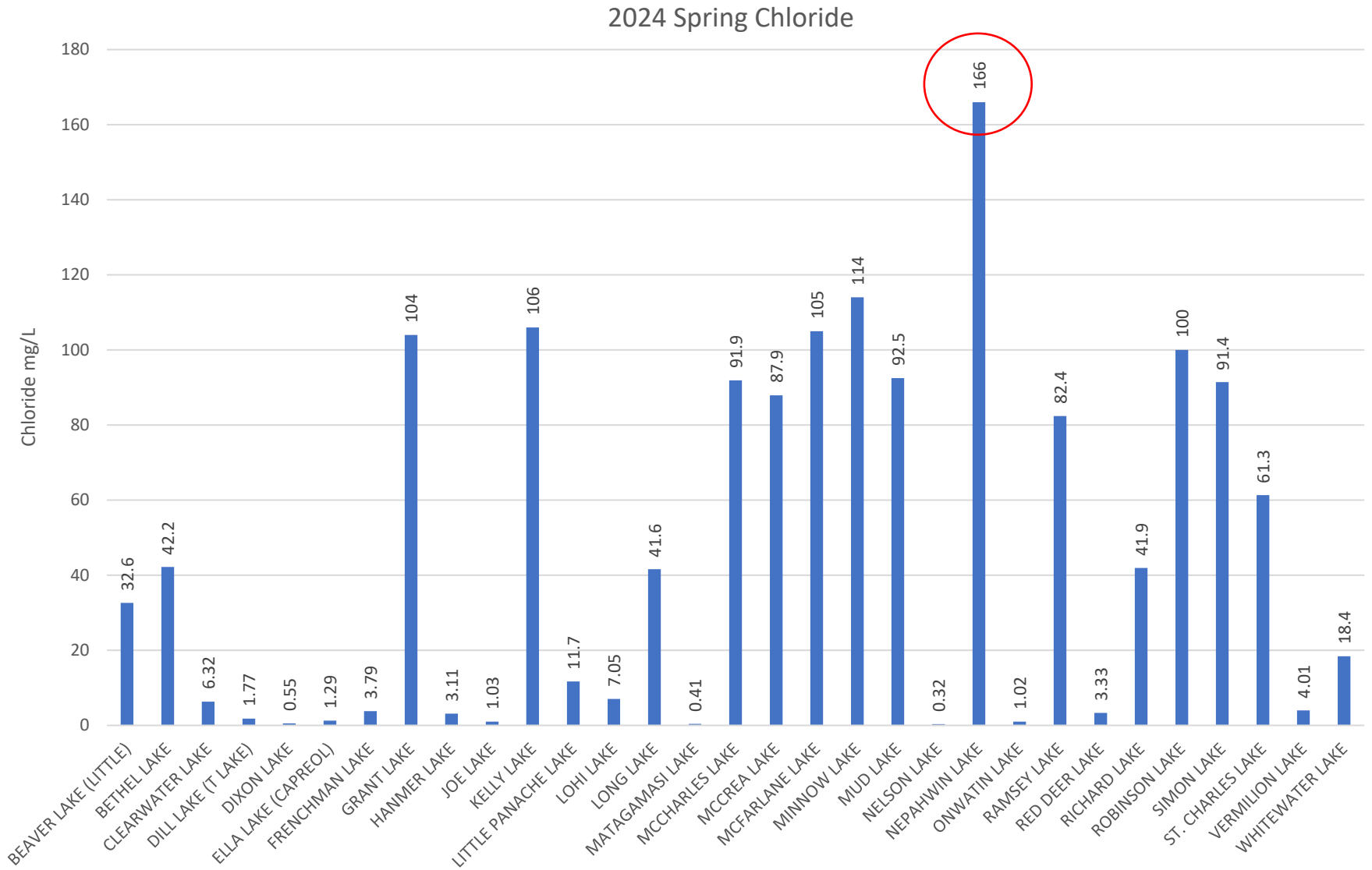


Humans

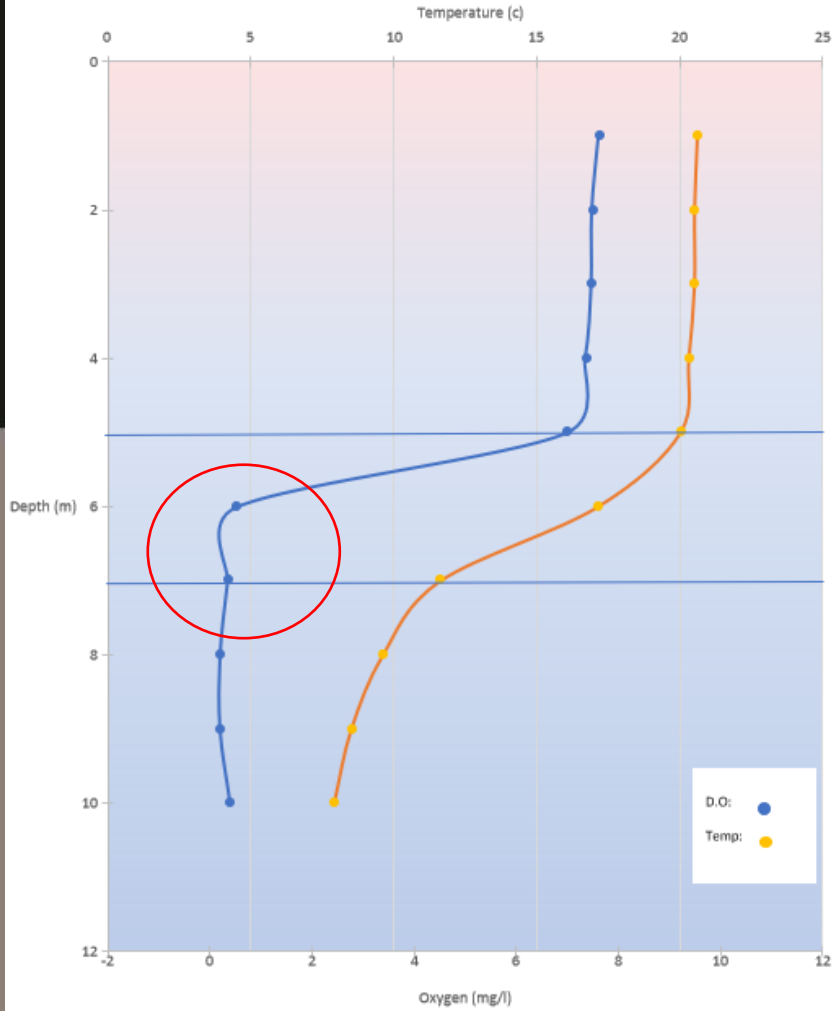
- The aesthetic objective for chloride in drinking water is ≤ 250 mg/L.
- *Nepahwin is not used as a drinking water source

Aquatic organisms

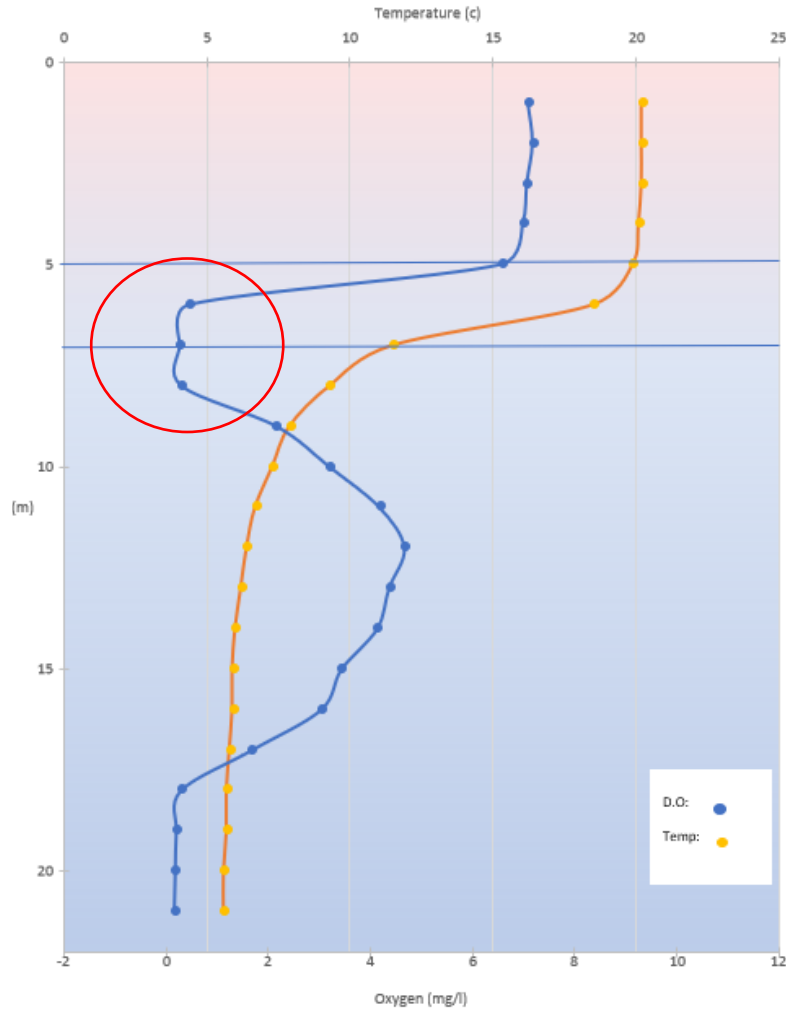
- CCME acute surface water guideline is 640mg/L
- CCME chronic surface water guideline is 120mg/L



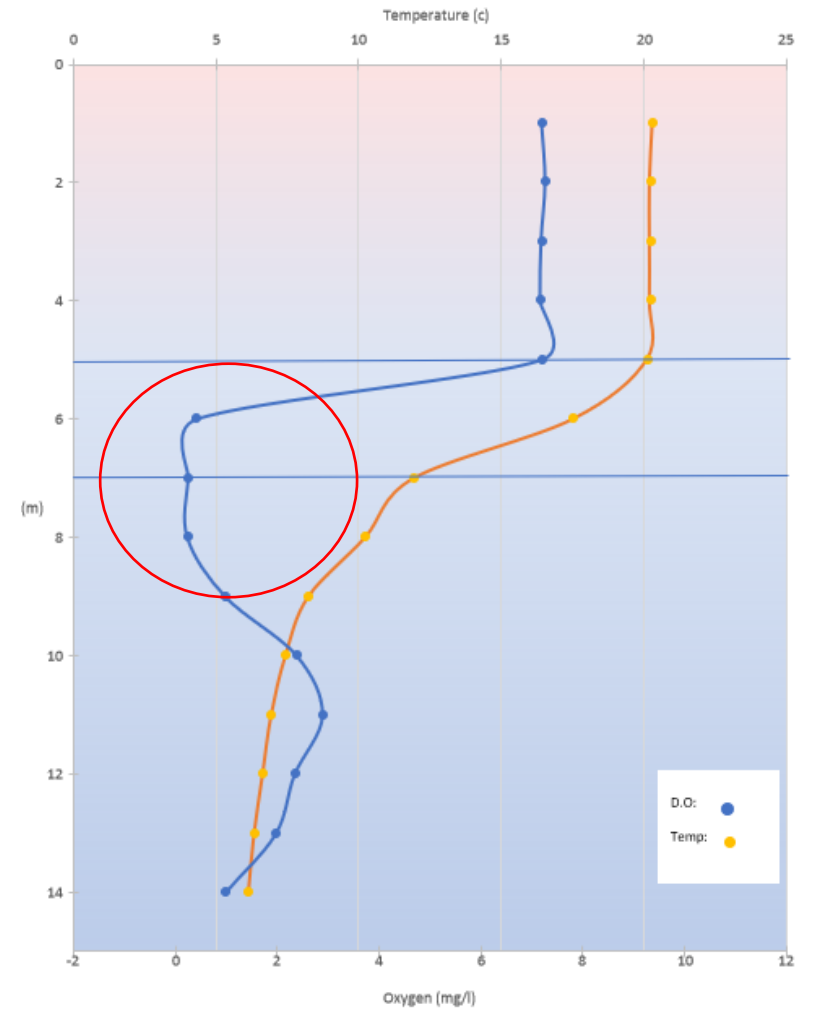
Nepahwin Lake D.O/Temp Profile 6053-4 August 22, 2024



Nepahwin Lake D.O/Temp Profile 6053-6 August 22, 2024

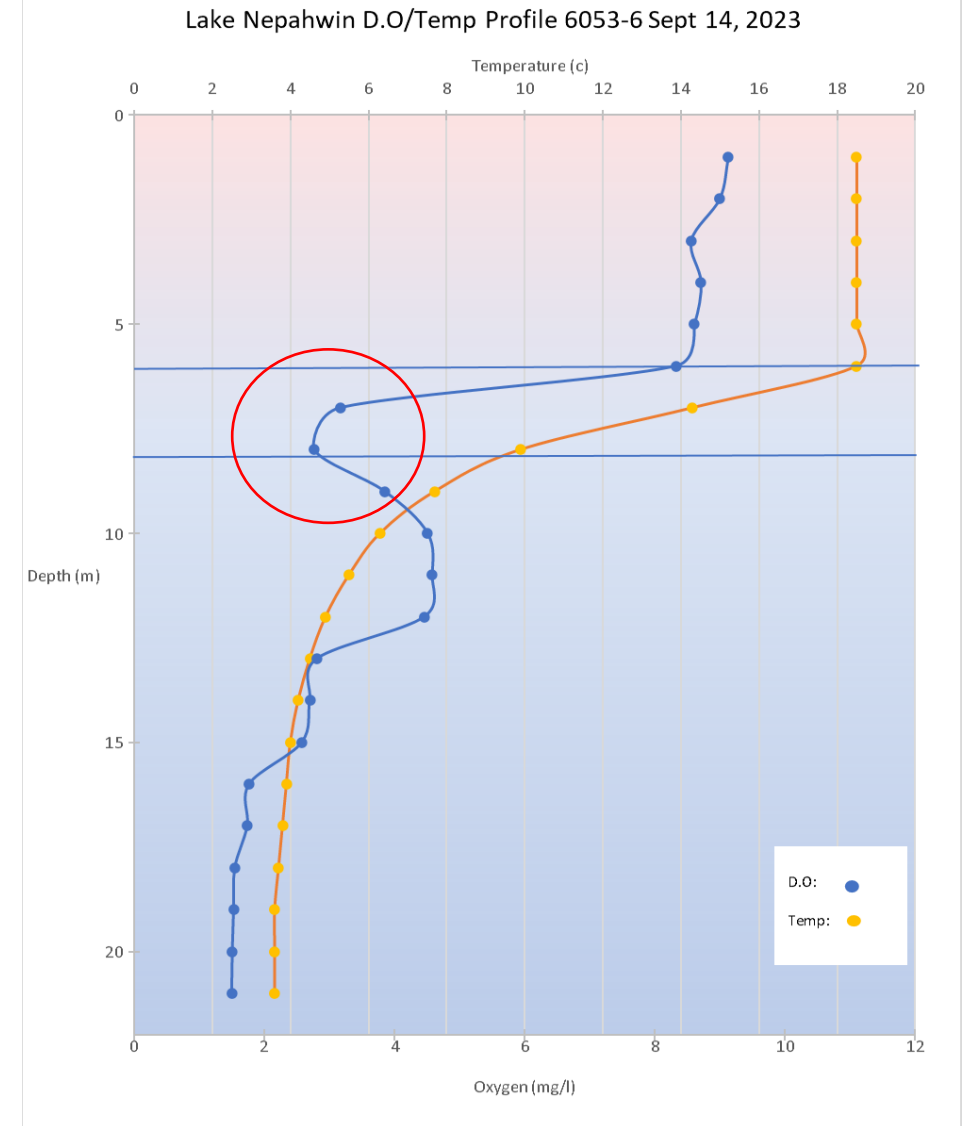
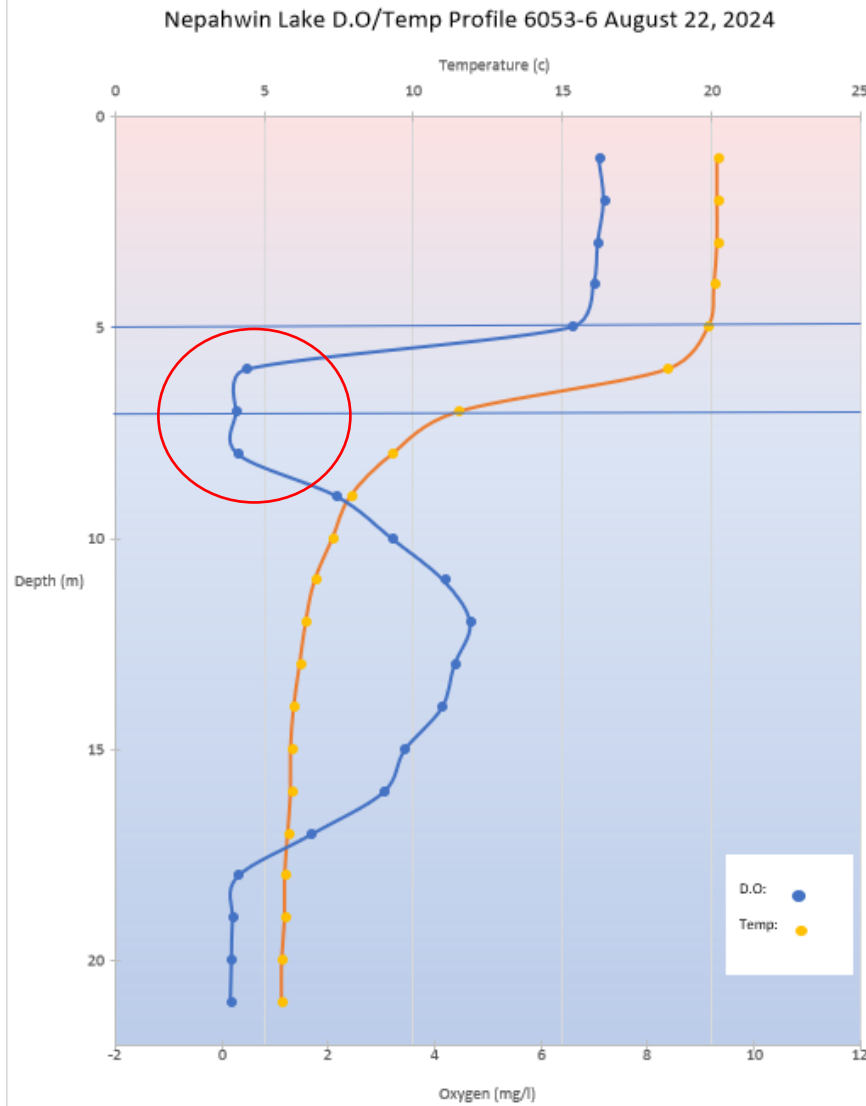


Nepahwin Lake D.O/Temp Profile 6053-7 August 22, 2024

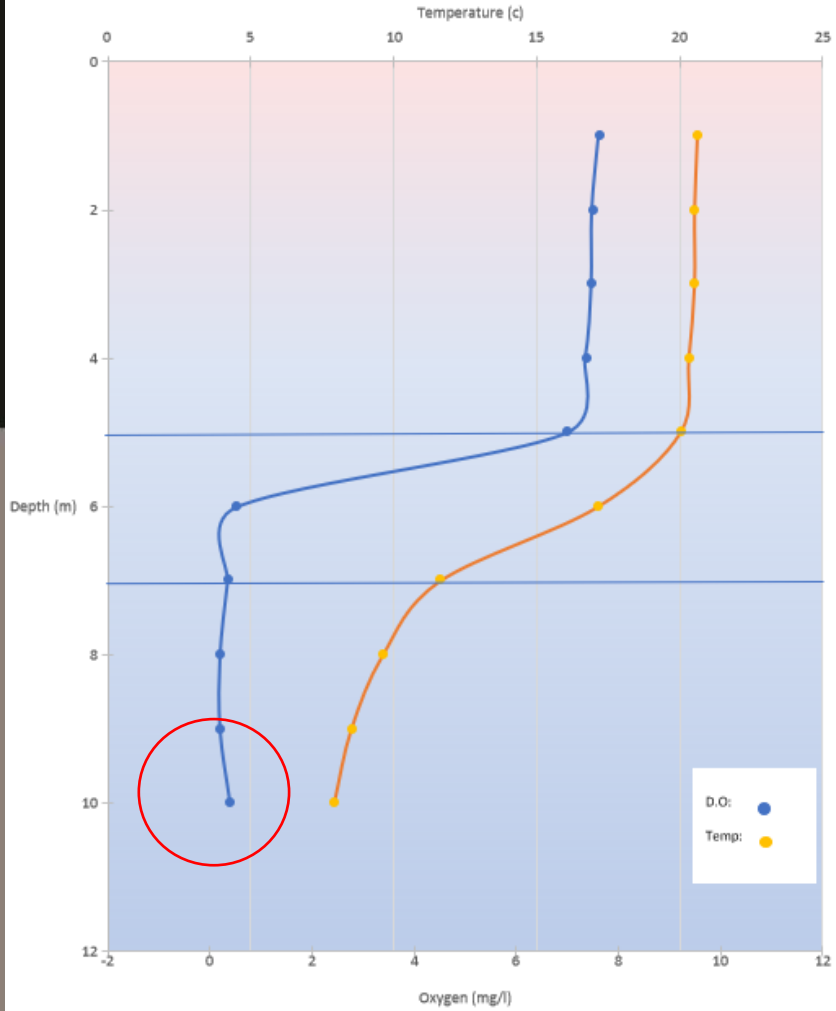


Oxygen Depletion

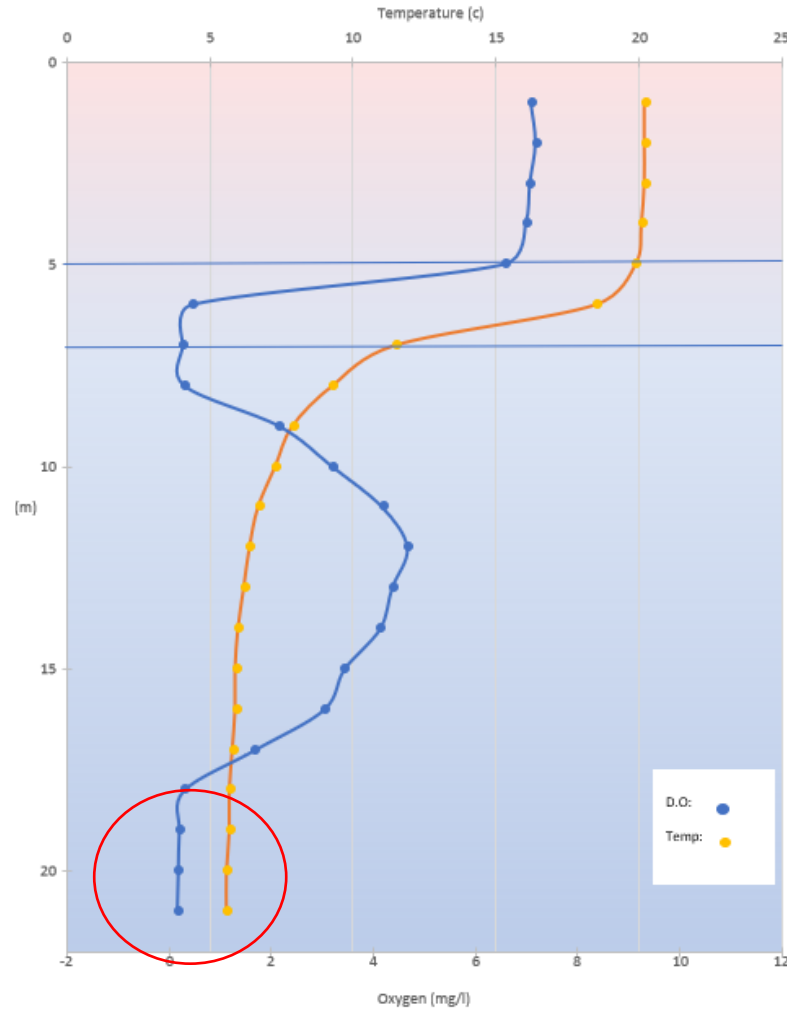
- Similar results in 2023
- Something is using up the oxygen between 6-8m



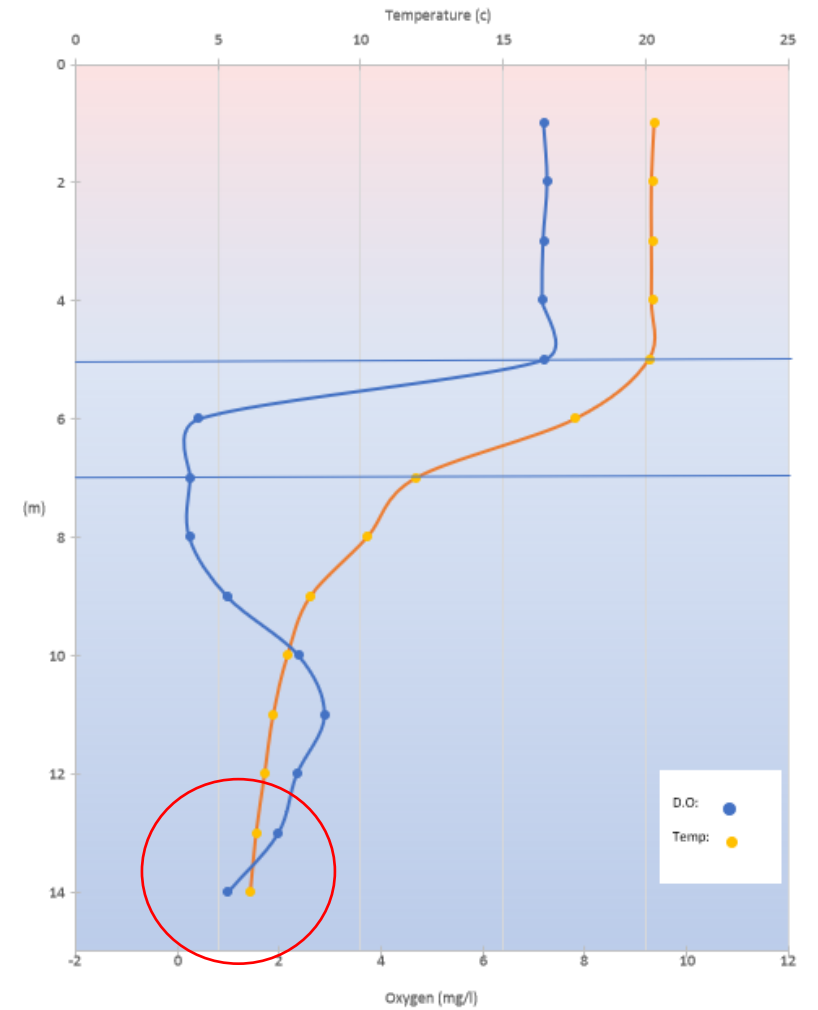
Nepahwin Lake D.O/Temp Profile 6053-4 August 22, 2024



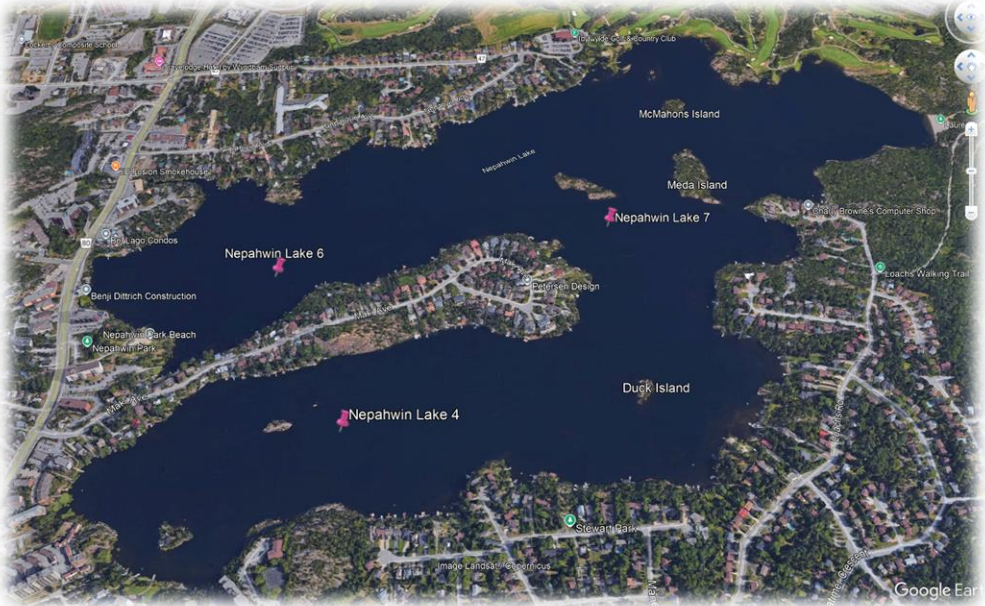
Nepahwin Lake D.O/Temp Profile 6053-6 August 22, 2024



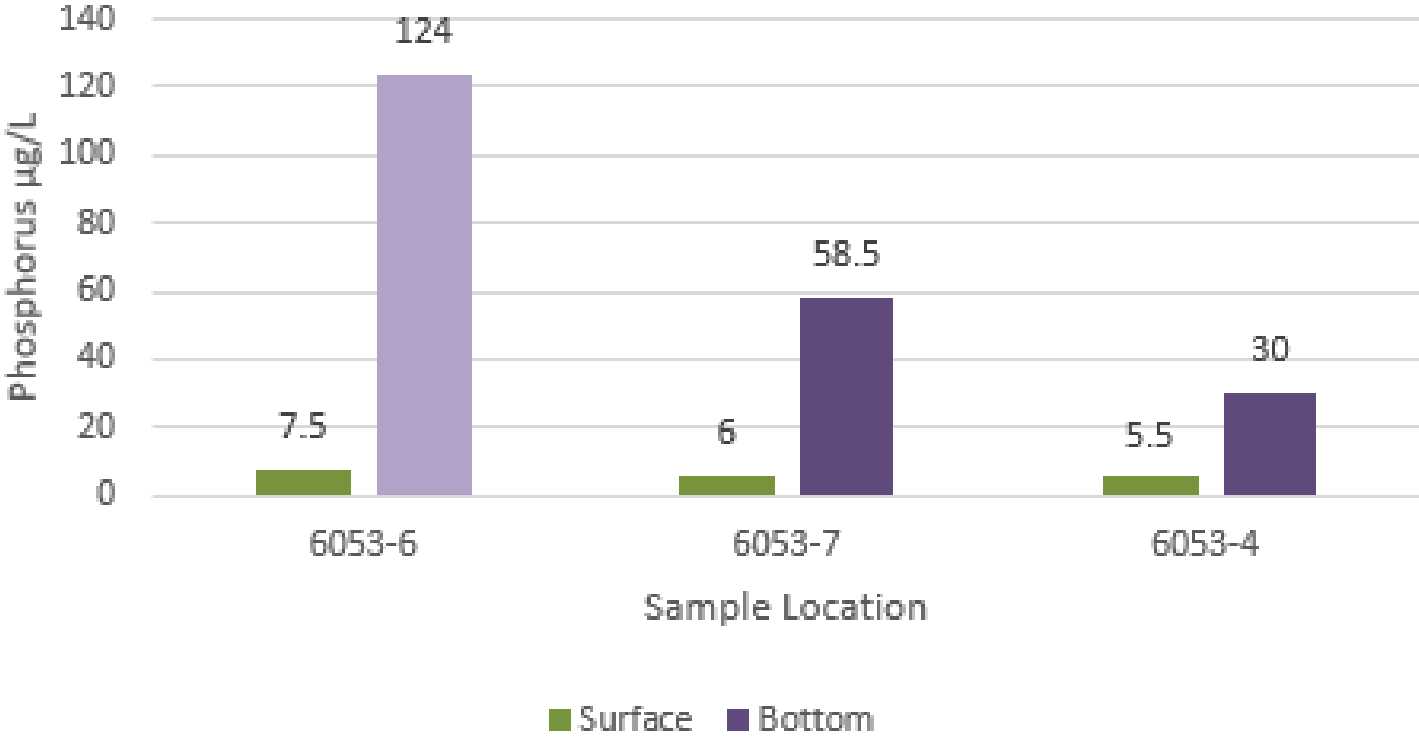
Nepahwin Lake D.O/Temp Profile 6053-7 August 22, 2024



Internal Loading



Nepahwin Lake August 22 2024



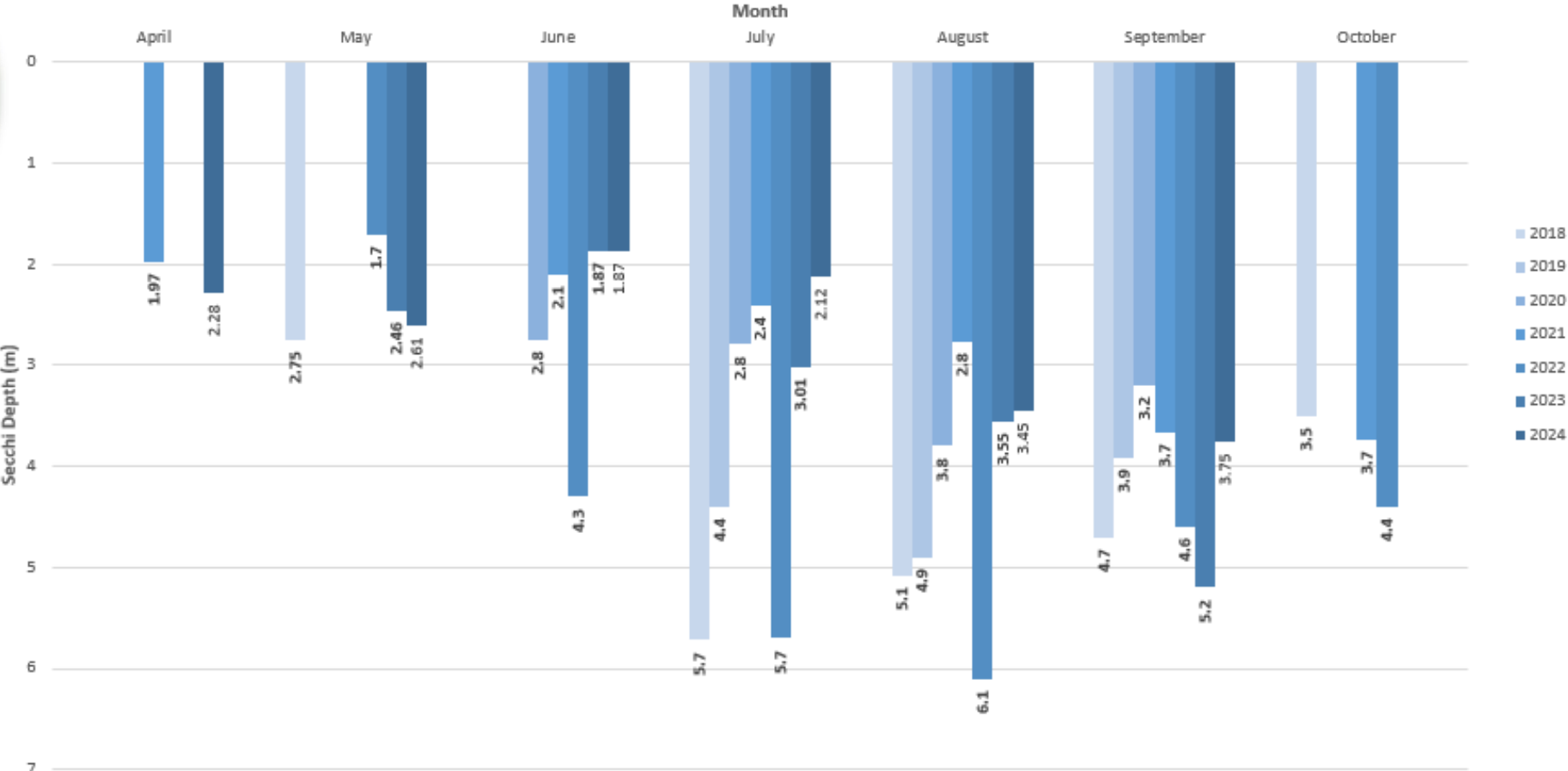
6053-6 - sediment was disturbed when sampling



Secchi Disk Measurements

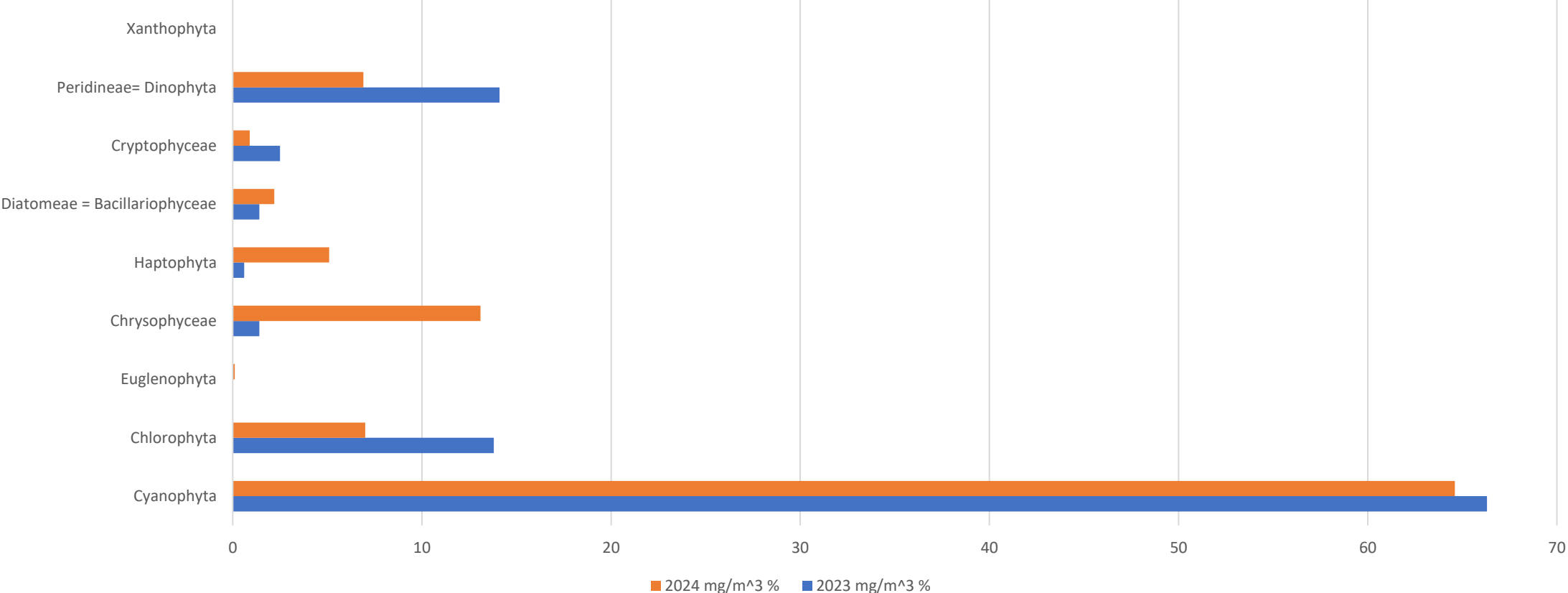


Nepahwin Lake Secchi Depth Averages by Month 2018-2024 (CGS & NLWSG)



Algae Analysis

Algae Analysis 2023 vs 2024



What the City of Greater Sudbury is Doing

- Continuing to gather long term phosphorus data for Nepahwin Lake through the LPP
- Continuing to monitor Nepahwin Lake during ice-free season
 - D.O and temperature profiles
 - Phosphorus testing if anoxic conditions appear at the bottom of the lake
- Education
 - Working with businesses around Nepahwin Lake
 - Campaigns
 - Phosphorus
 - Salt



Salt Campaign

- 2025 targeting businesses
- Canvassing businesses throughout the municipality
- Weekly “Salty Tips/Salty Facts” social media posts
- Survey to help determine the next steps for the campaign

50% OFF!

Smart About Salt Training

CONTACT US NOW
to receive 50% off your training costs.
Offer is on a first come, first served basis.
Limited to 1 person per organization

Contact EarthCare Sudbury for more details: Jennifer Babin-Fenske
e. earthcare@greatersudbury.ca
p. 705-674-4455 ext. 4398

smart about salt EarthCare Term: à cœur SUDBURY Greater | Grand Sudbury



Take our short salt-use survey!

For a paper copy call 311.

smart about salt | 311 services | Greater | Grand Sudbury

Répondez à notre courte enquête sur l'utilisation du sel!

Pour une copie papier, appelez le 311.



Salt Campaign

Is your business winter-ready?

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:

Prevent ice from forming
Stop stormwater and melted snow from freezing across paved areas. A rainy day is the perfect time to watch the water running on your property to understand how stormwater pools and drains.

Fix leaky eaves troughs and keep eaves troughs and storm drains clear.

Redirect downspouts away from walkways and parking lots.

Locate your snow pile on the lower section of the property near a storm drain.

Close areas instead of salting
Reduce your risk from potential slip and fall hazards by closing areas not needed in the winter.

Close unnecessary overflow parking.

Close unnecessary stairs, walkways and outdoor seating.

Repair pavement
Fix potholes to allow for complete removal of snow and ice and reduce pooling water.

Stop snow from drifting on to paved areas
Landscaping or snow fences can help keep drifting snow off paved areas and reduce icy areas from forming due to wind. Consider wind direction and elevation changes when choosing locations.

Clean up spilled and excess salt
Store salt in a water resistant closed container and clean up spilled and excess applied salt to save for another time. Display reminders near storage bins to encourage the responsible use of salt.

Use salt alternatives
Most Greater Sudbury parking lots maintain snow-packed surfaces rather than bare pavement and use pickled sand as a traction aid. Pickled sand can also be used as an economical solution for walkways.

Promote winter safety
Display health and safety messaging on signs or doors to caution staff and visitors of slippery areas.

greatersudbury.ca/salt

Logos: City of Lakes, Ville de Lac, Conservation Sudbury, EarthCare Terre à cœur SUDBURY

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Don't Risk It, Just Kick It!

Our lakes provide drinking water, support wildlife and offer opportunities for recreation. Slush on tires can contain salts, antifreeze and other substances that can harm our lakes.

Before driving onto a frozen lake:

- Kick slush out of your wheel wells.
- Ensure the vehicle has no leaks.

When leaving the frozen lake:

- Take all your garbage with you.
- Ensure dog waste is properly collected to dispose of in the garbage.

To report a pollution spill on land or water, please call 1-800-268-6060

Logos: City of Lakes, Ville de Lac, Conservation Sudbury, EarthCare Terre à cœur SUDBURY



Phosphorus Campaign

- Strictly social media based
 - City of Greater Sudbury Social Media Pages
 - EarthCare Social Media Pages
- Will re-share EarthCare Minute – Phosphorus Free Lawn Care
- Phosphorus By-Law information
- Phosphorus and lake health information



Strategic and Environmental Planning Initiatives
Initiatives de planification stratégique et environnementale

Amanda Poulin

Lake Water Quality Program Coordinator

Coordonnatrice du Programme de la
qualité des eaux lacustres

 amanda.poulin@greatersudbury.ca

 705.674.4455 ext. | poste 4604



200, rue Brady St.
Sudbury, ON P3A 5P3

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