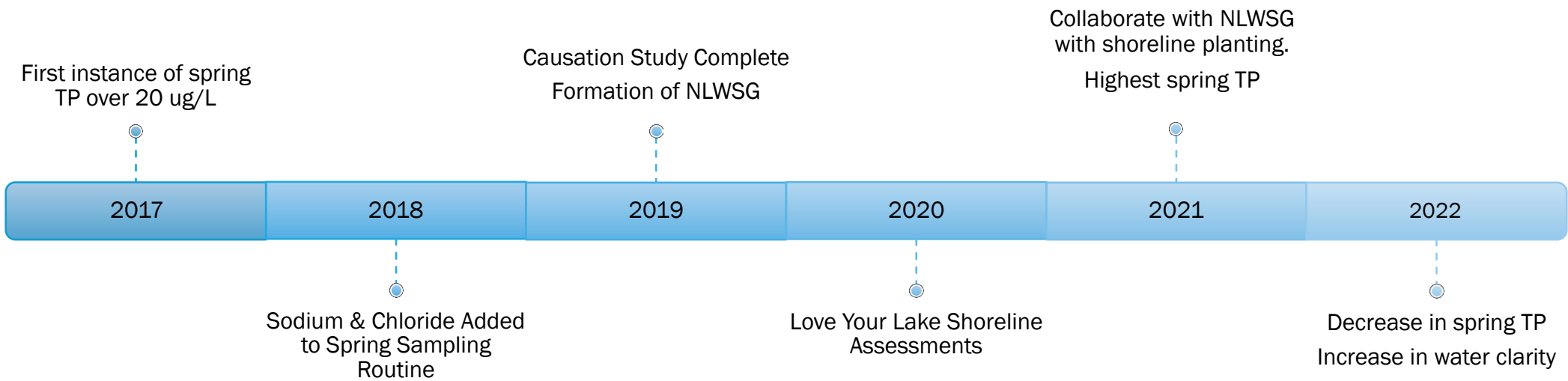

NEPAHWIN LAKE 2022 FIELD SUMMARY

TAYLOR MENARD

LAKE WATER QUALITY PROGRAM COORDINATOR

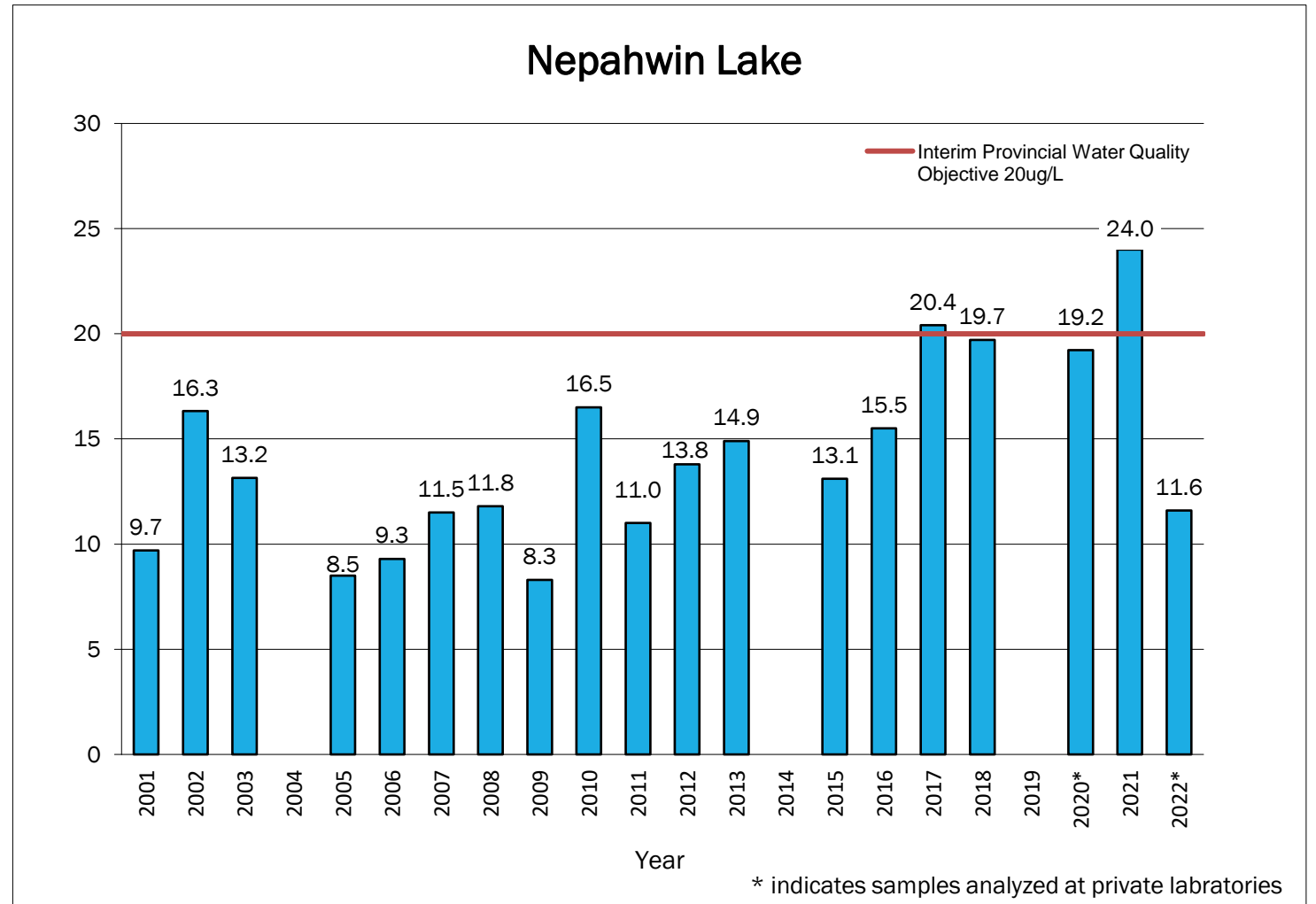
CITY OF GREATER SUDBURY





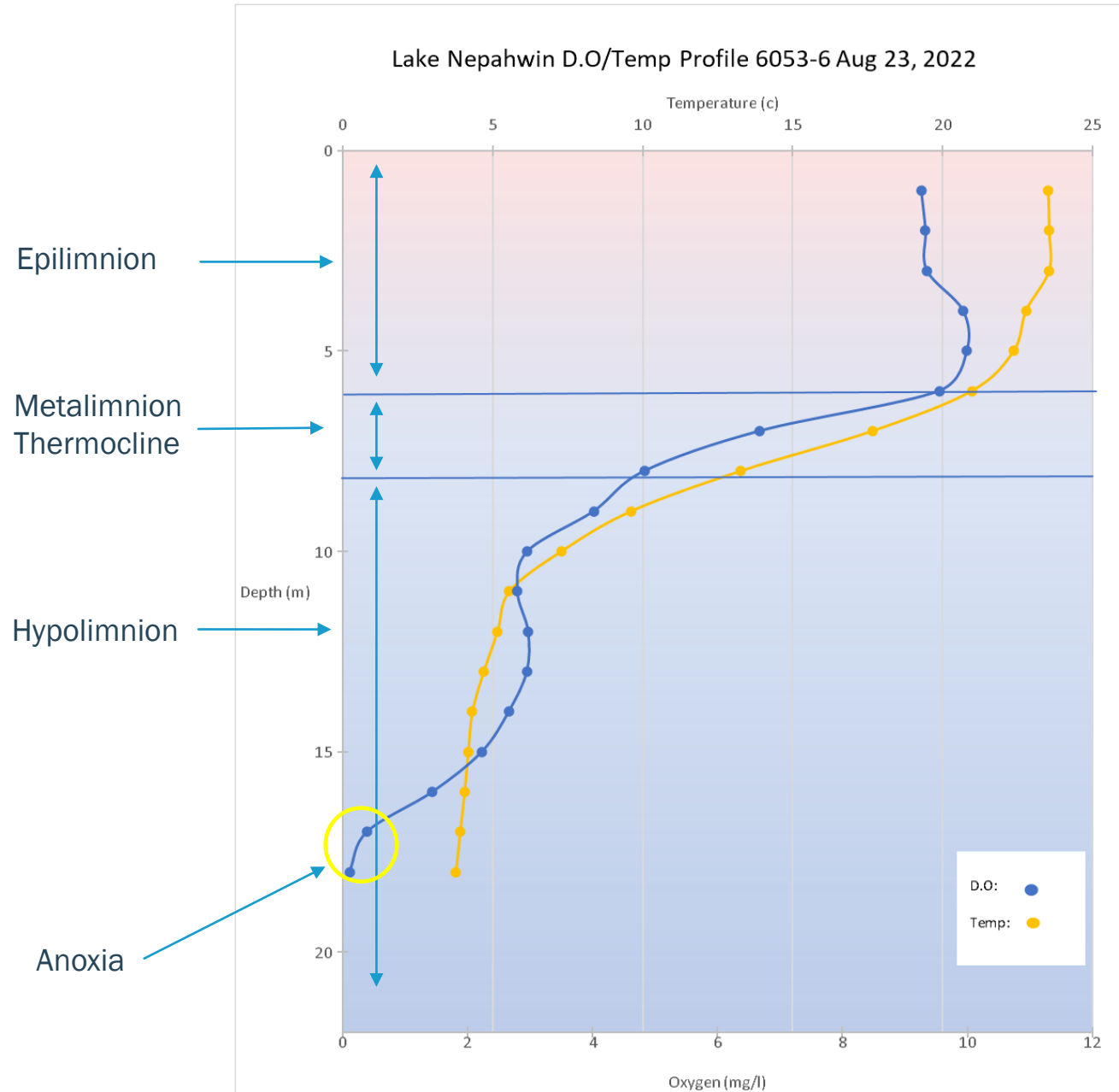
SPRING PHOSPHORUS

- 2021 spring phosphorus samples from Lake Partner Program - 24.0 ug/L
- 2022 spring phosphorus samples sent to 2 private labs and LPP
- Private lab results lowest since 2011 – 11.6 ug/L



ICE FREE SAMPLING

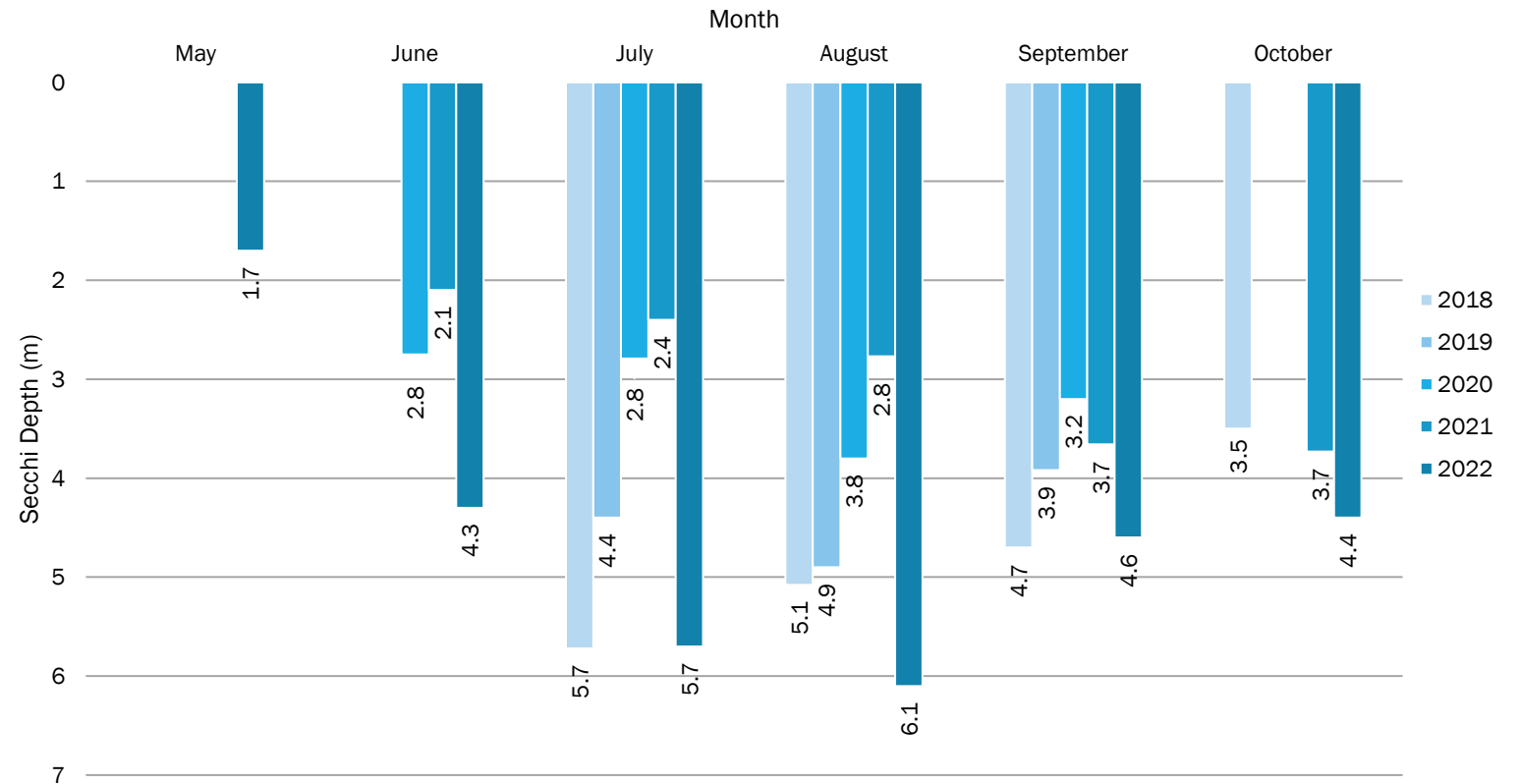
- Secchi depth TP ranges from 2.0 – 29.0 ug/L at individual sites
- 1m off bottom TP ranged between 9.4 – 143.0 ug/L during hypoxic/anoxic conditions at individual sites
- Hypoxic/Anoxic conditions occurring between July-September with elevated TP values indicating internal loading
- Example shown had surface TP values of 7.5 ug/L and 73.5 ug/L 1m off bottom

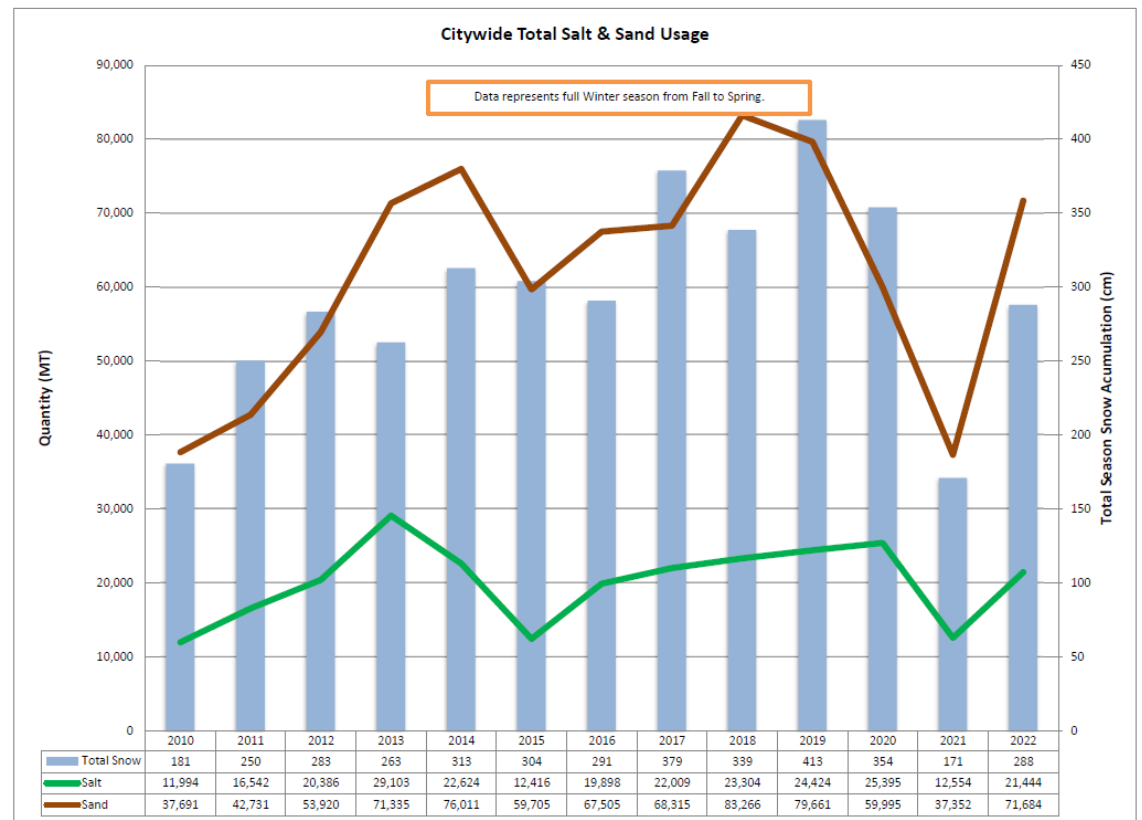
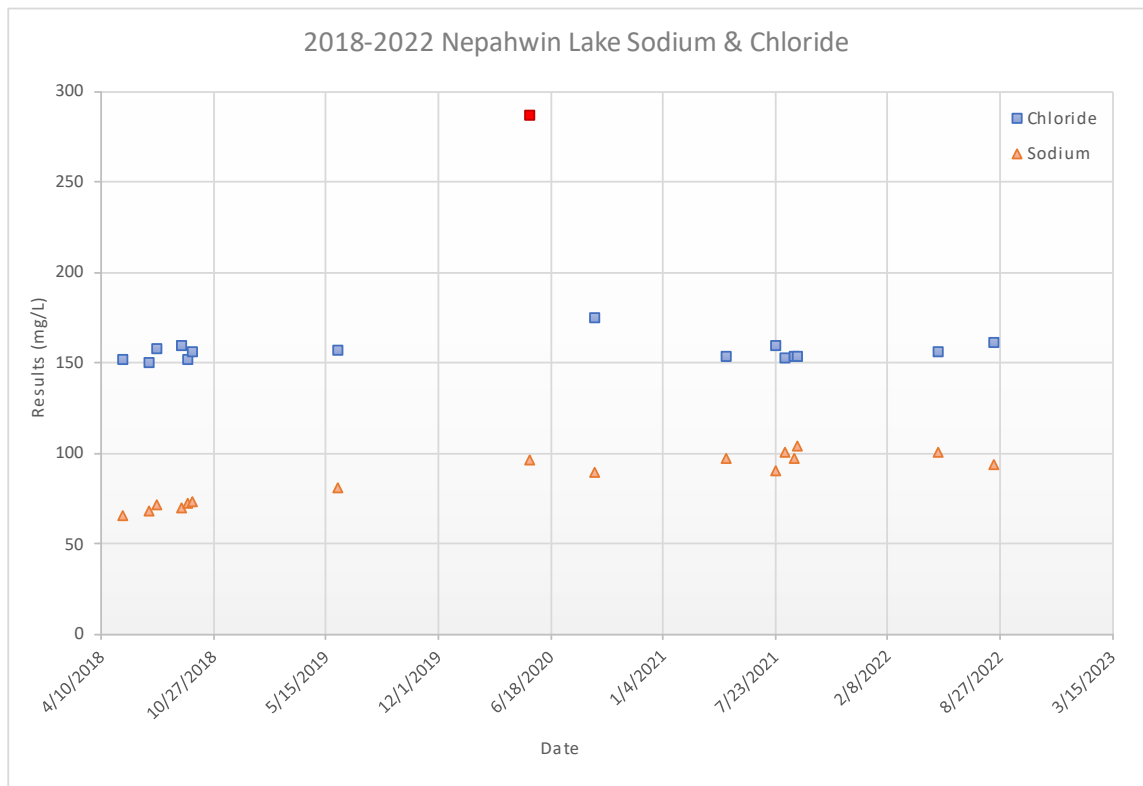


SECCHI DEPTH

- Bi-weekly secchi reading through LWQP + 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

2018-2022 Nepahwin Lake Secchi Depth Averages by Month (CGS & NLWSG)





SODIUM & CHLORIDE

- Chloride values between 2018-2022 remain stable * $R^2=0.001$, $P>0.05$
- Sodium increasing between 2018-2022 *statistically significant $R^2=0.88$, $P<0.05$
- 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 in this time period

WINTER SALT USE CAMPAIGN

- EarthCare Minute on road salts available online and aired on CTV
- Short ad on reducing residential salt use to air on CTV
- Is Your Business Winter Ready package available for businesses to help reduce salt use
- Salt Cup Campaign – available at libraries

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.

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.

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

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

greatersudbury.ca/salt



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Is your business winter-ready?



Having a business in the North means managing snowy and icy walkways and parking lots. You, or a hired service, may use salt as your first choice to ensure the safety of your workers, clients and customers. However, salting may not be the best choice and over-salting may lead to a variety of problems!

Reasons to Limit Salt Use

- Causes corrosion of concrete, wood and metal.
- Damages aquatic ecosystems in local lakes and streams.
- Increases sodium and chloride levels in our drinking water sources.
- Causes irritation and damage to pets and wildlife.

How to use less salt

Limit Hazard Potential

- Close unneeded areas, i.e. overflow parking, but do not impede emergency exits, accessibility ramps or entrances.
- Display health and safety signs to remind staff and visitors of potential hazards.

Limit Ice Formation

- Shovel often and do not let snow or slush accumulate.
- Direct roof runoff away from paved areas.
- Pile snow in a lower area close to a storm sewer.
- Limit drifting snow by using snow fences or landscaping features.
- Fix any potholes and uneven areas to reduce pooling water.

Increase Traction

- Use an ice chipper to remove the ice or at least roughen its surface.
- Spread sand, small gravel or volcanic mineral.

Consider Salt Alternatives

- Look for salt-free deicers that do not contain any chlorides, especially sodium chloride.
- Use acetate-based products.

Things to Consider When Hiring Winter Maintenance Contractors

- Hire a contractor that is Smart About Salt certified.
- Ensure payment is based on the number of snowfall events or per season and not tied to salt usage.
- Require a salt management plan.

SMART ABOUT SALT

- Information on what Smart About Salt certification included in business package
- Who can do training, costs and benefits for facility owners/operators
- Offer is included in the business package for reduced cost certification

What is Smart About Salt?



The Smart About Salt Council (SASC) is a not-for-profit organization that offers award-winning training and certification on winter maintenance in an environmentally conscious way. Once an individual has been trained, their company may choose to become certified, which may be a requirement for property managers.

Why should I do training?

- Learn how to effectively balance winter safety and environmental protection
- Learn how to be more efficient with salt usage and reduce liability and maintenance costs
- Use the train the trainer approach. Only one employee at a company needs to do the official training in order for the company to be certified

Who should participate?

Operators/Winter Maintenance Contractors:

- Owners and staff who conduct snow and ice control operations
- Owners and staff who are responsible for operation and application decisions
- Suppliers of salts/brine and other de-icing or traction materials

Facility Owners/Operator Training:

- Supervisors of contractors or staff who apply salt around your facility
- Employees responsible for winter maintenance contracts at your facilities

How much does it cost to be trained?

- Complete Essentials of Salt Management Training (\$375), valid for five years

How much does it cost to be a certified company?

- Complete Essentials of Salt Management Training every 5 years (\$375)
- Complete Refresher course every two years (\$175)
- File Annual Renewal (\$250/year) and Annual Reporting on maintenance area, salt use and storm events

How do I sign up?

To sign up and find out more about the program please visit smartaboutsalt.com

greatersudbury.ca/salt



SALT CUP – RESIDENTIAL SALT USE

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 12oz 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.

greatersudbury.ca/salt

grandsudbury.ca/sel





QUESTIONS?

Contact Information

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