

Getting smart about salt

Guidelines and accurate recordkeeping benefit all

BY SARAH WILLIS



Poor, uncovered salt storage can result in significant losses and negative environmental impacts.

To protect its groundwater sources from rising chloride levels, the Region of Waterloo in Ontario developed a snow management accreditation program for contractors and property managers that focuses on the correct use of salt on paved surfaces.

When regular water quality monitoring showed elevated chloride and sodium in several wells, staff at the Regional Municipality of Waterloo did some detective work and discovered that chloride concentrations in all the Region's wells were increasing. Investigation into potential sources of chlorides in the Region's municipal water supplies led staff and researchers to determine that road de-icing practices were the most significant contributing factor.

The increasing chloride trends were of

Mechanical plowing is the best snow and ice control method available, and is preferable from a salt management point of view. Chemical plowing, melting accumulated snow and ice with excessive amounts of chemicals such as rock salt, is discouraged in the Smart About Salt program.



significant concern, as Waterloo is one of the largest communities in Canada relying solely on groundwater.

Leanne Lobe, Supervisor of Source Water Protection Programs for the Region, explains that since 2003 the Region and local municipalities have implemented a Road Salt Management Plan, which includes integrating new technologies, sophisticated weather forecasting and operator training, to reduce their use of salt while maintaining safe conditions. The Road Salt Advisory Committee meets regularly to identify ways to continually improve. Although this group is actively working to reduce salting applications, given the nature of the issue in Waterloo Region, other significant sources of chlorides needed to be addressed, namely salt applied on parking lots and sidewalks.

There was little information available regarding improving salting practices for this sector — almost all available resources focused on maintaining roads, which has a different set of challenges compared with parking lot and sidewalk maintenance. The

municipality hired salt expert Bob Hodgins of Ecoplans to conduct pilot studies on two Regional properties in 2004 and 2005 to evaluate different salt and ice management practices. Lobe explains, “We used this information and Bob’s considerable expertise to develop our first guide to snow and ice management for parking lots and sidewalks in 2006.

The idea is to reduce the amount of salt needed to make parking lots and sidewalks safe by following the Five Rs of salt management:

- Use the **right** material
- At the **right** time
- In the **right** amount
- In the **right** place and
- Retain** it long enough to do the job.

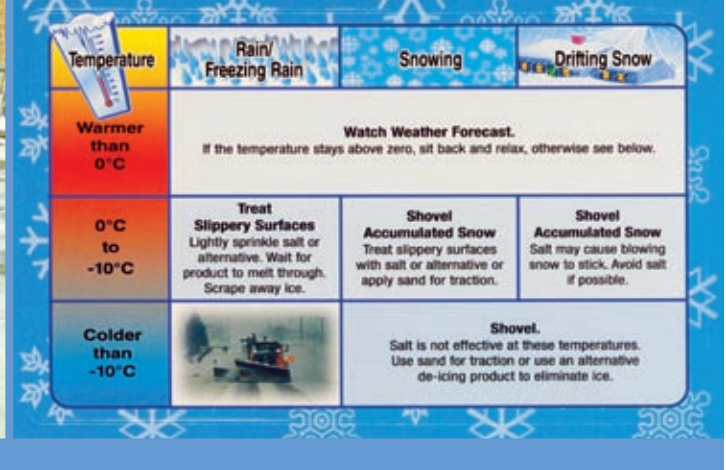
“We felt it was important to target our educational activities at both snow removal contractors and facility owners, because for this initiative to work, both property managers and contractors need to work together.

“We discovered that no facility owners had salt management plans in place and

there was a lot of interest in our guide at first. But, because there was no direct benefit to contractors or property managers, there was no uptake.”

Action plan

Region staff with Bob Hodgins created Waterloo Region’s ground-breaking Smart About Salt (SAS) initiative. This is an education and certification program created to reduce the amount of rock salt applied in winter. It has had the added benefit of intensive record keeping and documentation, which has been shown to help successfully defend against slip and fall claims. SAS requires that contractors and facility managers complete operational and site self-assessments and implement training, contractual, and tracking best management practices. Once a company has completed its self-assessment, it creates a salt management plan using the SAS best practices manual. To receive the SAS-certified designation, the company submits a designation application form verifying its completion of the four program elements.



The Smart About Salt program encourages property managers to identify problem areas that will require excessive amounts of de-icing salt, and correct them. Here, improperly installed roof drains flow over a pedestrian area and parking lot where the water can refreeze, causing icy conditions.

This fridge magnet was developed by the consumer arm of the Smart About Salt program, and distributed to households across Waterloo region. The salt application guidelines in the centre remind homeowners of the temperatures at which salt is an effective de-icer, and can be punched out to reveal a snowflake bordered magnetic picture frame.

Lobe notes that to stay certified, contractors and facility managers must submit an annual summary report each year.

In addition to serving as a best practices manual, the SAS program gets people thinking about the impact of their operations on the environment, and guides them through an action plan to reduce their company’s environmental footprint.

In addition to targeting contractors and facility owners, the program reaches out to Region of Waterloo residents, asking them to modify their winter activities according to the weather. Residents are asked to use snow tires, wear appropriate footwear, and are being educated in the proper use of ice-melting products.

“Right from the beginning, local insurance companies encouraged the SAS program and approved the direction in which we were going,” explains Lobe. “Council approved the SAS program last December and we launched it in March 2008 with several orientation sessions for contractors and facility owners.”

Broad acceptance

While the program is still new, it is getting rave reviews from all parties. Contractors appreciate the training and documentation, while property owners are buying into the site assessment and salt management plans they are asked to create. Local insurance companies support the program in principle. From an insurance company’s point of view, the documentation SAS requires is a key benefit. Lobe notes that in British Columbia, insurance companies were able to start denying slip and fall claims based on better documentation by contractors or

property managers — and saw the number of cases drop.

Contractors who are designated by the SAS program are given tools to help them make informed decisions about when and how much to salt. They are given access to real-time local data through a secure website that provides pavement and road temperatures, wind speed, and micro-climate updates. Forecasts are e-mailed four-times daily to help them make educated choices about when and where to apply snow-melting products.

“Contractors will be trained on how to interpret the data, and relate it to their snow and ice removal practices,” says Lobe. “Applying salt only when and where it’s needed maintains safe conditions and eliminates waste, which saves money and ultimately will reduce chloride levels in our groundwater.”

Tony DiGiovanni, Landscape Ontario’s executive director, is a fan of the SAS program. “The Region of Waterloo has essentially written a best practices manual that will elevate the professionalism of the snow industry,” he says. Landscape Ontario is working with the Region to take a role in the training and certification process for all snow and ice contractors in Ontario. “SAS is a leading-edge program, and we’re glad to be involved in helping to present it.”

Insurers approve

Insurer Darren Rodrigues of Sinclair-Cockburn Financial Group is a member of Landscape Ontario’s Snow and Ice commodity group. He sat in on the initial SAS presentation by Lobe and Hodgins, and was so impressed that he invited

them to present the program to Sinclair-Cockburn’s staff as well as representatives from Lombard Insurance, Canada’s major underwriter for snow and ice removal operations. “Lombard is excited that this program requires a lot of reporting on when and where salt was applied, along with the amounts and relevant temperature data. For insurance companies, everything is defined in court, and while unfortunately, no one will commit to specific quantities, this program comes close with its reliance on accurate documentation.”

Rodrigues explains that in the past, Lombard has often had to pay settlements because contractors did not have enough documentation about their practices. “They would often bring us the contract and a small sketch of the site. But the log reports required by the SAS program provide finite details and better equip Lombard’s adjusters and lawyers with tools to fight frivolous claims.” With this in mind, Rodrigues says that SAS-certified contractors will be eligible for a preferred rate on top of special trade association member rates.

According to Lobe, “Contractors seem to be the most excited about the Smart About Salt program. A lot of them are already doing most of the necessary work, including record keeping and monitoring temperatures to apply the right product at the right time — but they aren’t getting any recognition for it. If they can become certified Smart About Salt contractors, and save money on product and insurance premiums, it’s a win for them as well as the groundwater in Waterloo Region.”

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