



The Unsavoury Sting of Salt

An Objective Look at the Impact of Winter Salt on our Drinking Water

Salt is essential to life. It helps our cells function properly. It provides our bodies with important minerals. And it improves the flavour of our food. But like so many things in life, too much of it can be a bad thing! It's no different when it comes to winter salt. It's an important ingredient in keeping our streets and properties safe in the winter – but too much of it can cause harm as well.

Tests show that sodium chloride from winter salt is showing up in increasing levels in underground sources of drinking water. For most people, the presence of sodium and chloride does not make tap water unsafe – it's a very minor source of salt compared to the salt we consume in our food. But higher concentrations may, over time, affect the taste of our water. That's why the Region of Waterloo is taking proactive steps to combat rising levels of sodium chloride in our sources of drinking water.

Addressing Our Region's Unique Challenge

Unlike other regions, much of our drinking water comes from underground sources. In fact, approximately **80%** of our drinking water is pumped out of underground aquifers by a network of wells. And every winter, some of the salt used to maintain public and private roads, parking lots and sidewalks finds its way into our water sources. Even in rural areas, tests show the presence of sodium and chloride.

Unfortunately, once salt enters our drinking water, it's expensive to remove. It only takes one small teaspoon of winter salt to make approximately 20 litres of water taste salty. We must take action now, to prevent sodium and chloride from building up in our water sources.

The challenge is, there is currently no other known material as affordable and effective as salt. And that means we can't fully eliminate the use of winter salt just yet. However, what we *can* do is protect our water sources by reducing our reliance on salt.

So how do we use less salt while still keeping our roads, parking lots and sidewalks safe? We can all make a difference by:

1. Preventing ice from forming in the first place.
2. Using salt only when necessary, applying it sparingly, and giving it time to do its job.
3. Being prepared and adjusting to winter conditions.

FastFact

If we prevented 1 tonne of salt from being used, we would protect 1.65 million litres of water!

And Now for the Good News

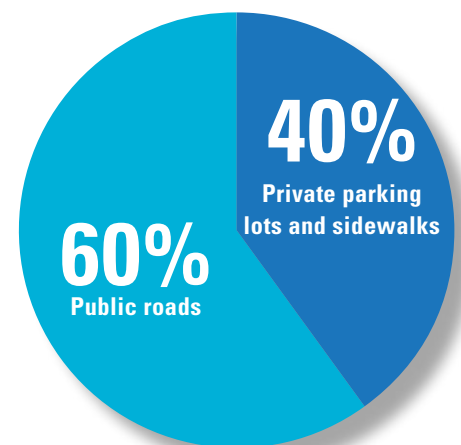
The truth is, we're not alone. Sodium chloride is a growing problem in areas with winter climates similar to ours. But there is also positive news to inspire us! A recent example is the University of Minnesota. Its Twin City Campus took a number of steps to reduce the amount of winter salt and other materials used for clearing snow. Their initiatives included a staff training program, the use of liquids

to improve salt effectiveness, and proactive measures to prevent icy conditions. The outcome was positively remarkable. The university reduced their use of salt and alternatives by nearly 2 million pounds (900,000 kg) while still ensuring safe roads and walking surfaces. Not only did the university save more than \$55,000 U.S., it was also honoured with an environmental leadership award for its work to protect the environment.

Public vs. private: who uses the most salt?

When we hear the phrase "winter salt", many of us immediately picture our public roads being cleared and salted. But what you may not know is that a substantial amount of salt is also used on private parking lots and sidewalks. In fact, a recent study at Plymouth State University in New England found that approximately **40%** of all salt is used on private sidewalks and parking lots. Without a doubt, this tells us we all play an important role in reducing the over-application of winter salt, whether we are government, private business, an institution, organization or individual.

Sources of Winter Salt





The Region's Action Plan to Reducing Winter Salt Use

The Region is taking action to reduce the overuse of winter salt by:

- Using new technologies, equipment and materials that reduce the amount of salt used on our public roads
- Requiring new developments such as condominiums and shopping malls to design their sites for suitable winter maintenance
- Educating residents and school children about winter salting and how they can be part of the solution
- Promoting best salt management practices with the **smart about salt™** program

smart about salt Program for Snow Removal Contractors and Their Customers

In January, 2008, the Region launched the **smart about salt** program to encourage private snow removal contractors and their customers to reduce winter salt. To receive the program designation, businesses must train staff, review current practices, and implement an action plan to successfully reduce salt. Designation offers many benefits including:

- Strategies to help demonstrate due diligence and potentially reduce insurance costs
- Community visibility and recognition as a responsible and caring business
- More efficient use of equipment and staff
- Competitive advantage

The Region not only developed this innovative program – it's also an active participant! Many Regional facilities are already well on their way to improving their salt use.

Residents Can Make a Difference Too

To minimize the effect of salt on our water, everyone in the community needs to work together. As a resident, you can protect our water and still stay safe around your home and neighbourhood this winter. You just have to be adequately prepared!



Region of Waterloo



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Wintertime Tips:

Stay Safe on a Low Sodium Diet

As Canadians, we know better than anyone how to enjoy winter – and if you follow these tips, you can be prepared, stay safe and have fun.

1. Shovel walkways and driveways immediately after a snowfall to avoid ice buildup.
2. Apply salt, if necessary, to remove ice only – not snow!
3. If you must use salt, lightly sprinkle it on, wait till it melts through the ice, and then scrape the ice away.
4. Know when to use salt. Salt is not effective below -10°C and not needed above 0°C.
5. For faster action and to avoid waste, use fine granules rather than coarse salt.
6. Check the label and buy a product that's chloride-free.
7. Wear footwear that keeps you safe and dry on ice and snow. Look for thick soles with treads for traction. Leave dress shoes at work or carry them by hand.
8. Plan ahead – get your car ready with snow tires before the snow flies. For a list of models and to watch an informative video demonstrating the benefits of using winter tires, visit www.betiresmart.ca. When buying, look for tires with this symbol:



Did You Know?

Tires marked with this symbol meet specific snow traction requirements.

Drinking water sources may be out of sight, but they shouldn't be out of mind. Water: it's ours to protect.

For more information on the Region of Waterloo's **smart about salt** program please visit www.region.waterloo.on.ca/smartaboutsalt

