Brooke Asleson

Minnesota Pollution Control Agency

Morning Speaker

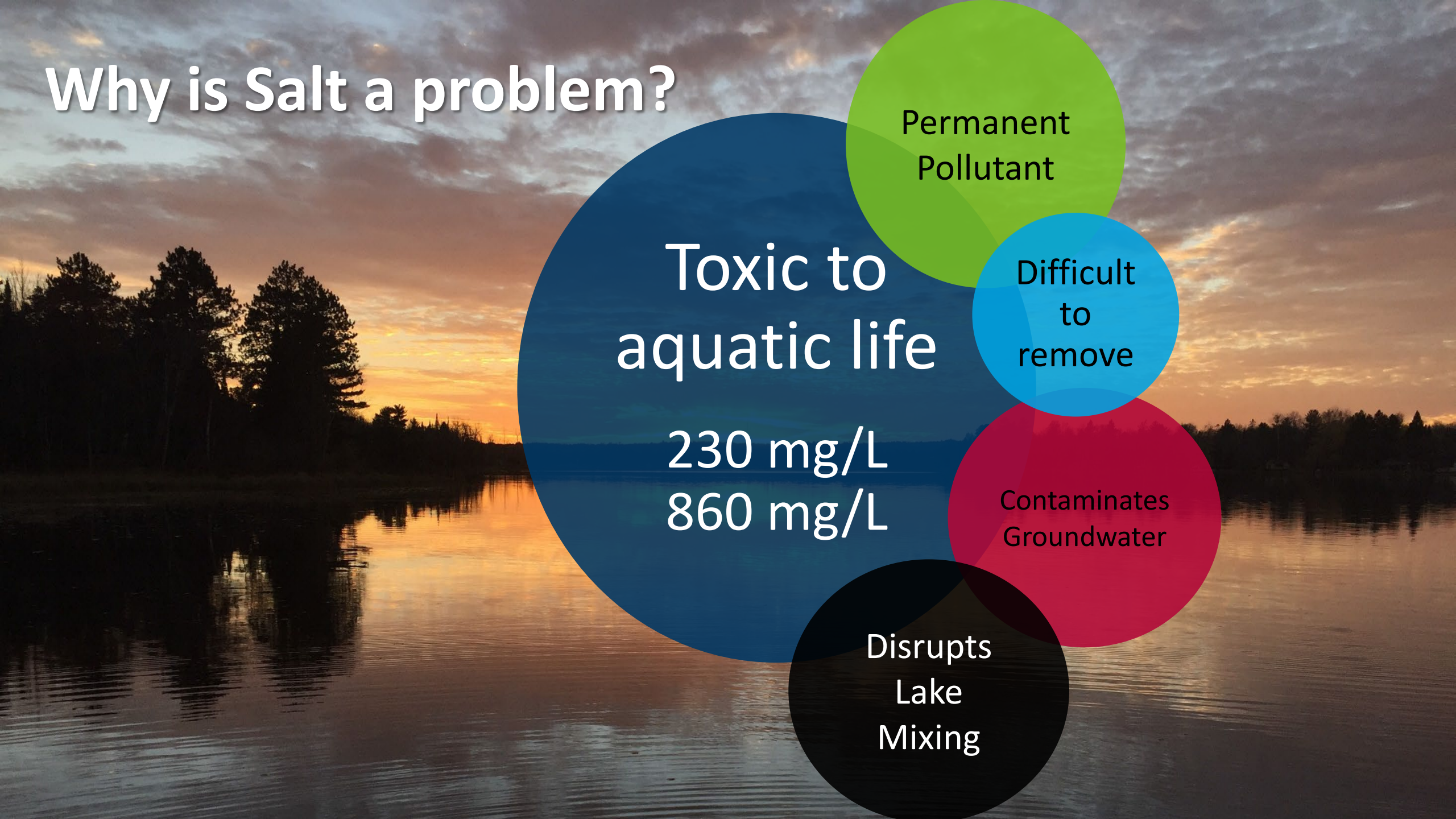
Want Help Reducing Chloride – MPCA has a Program for That!

MPCA Chloride Reduction Program

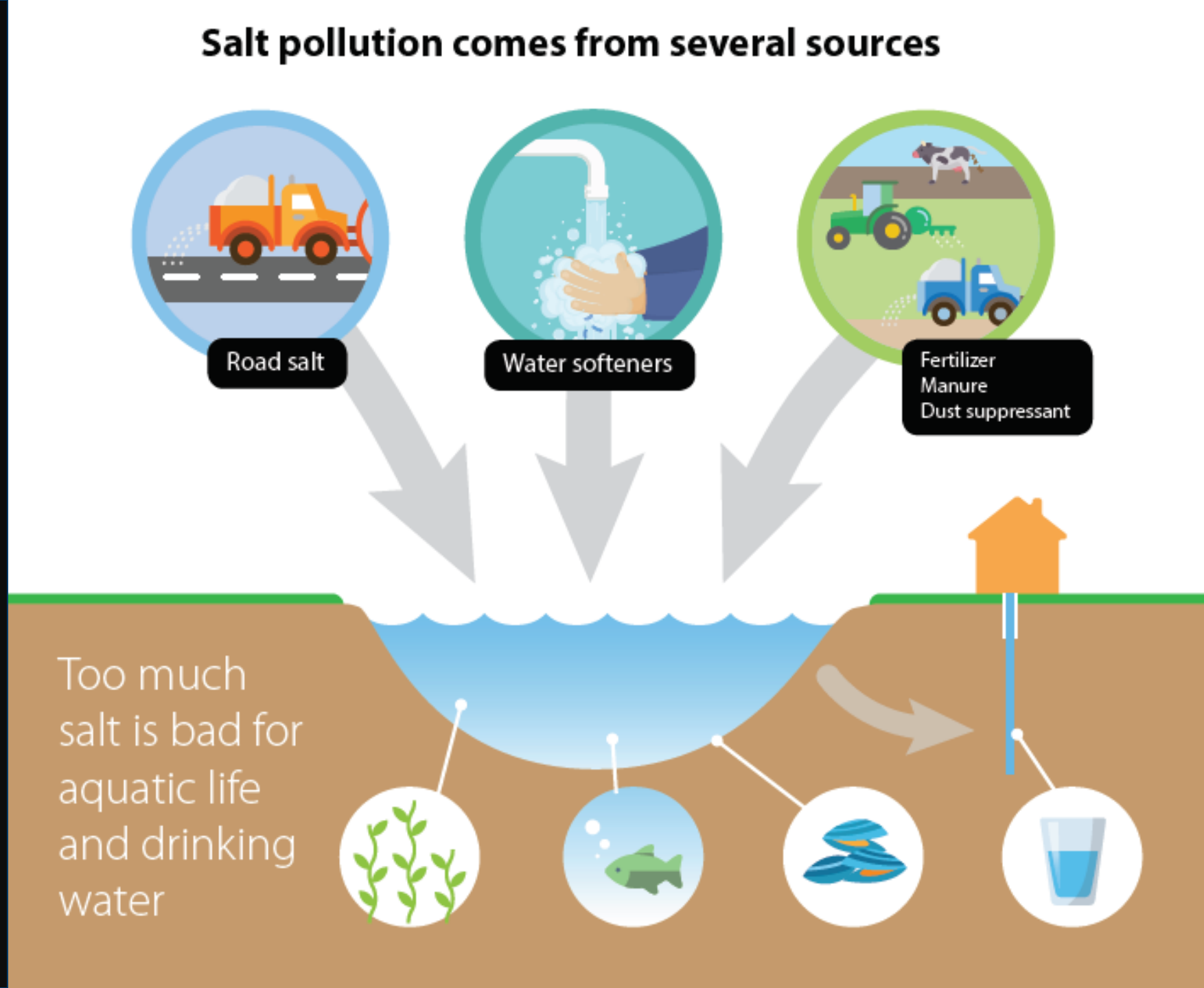
MINNESOTA POLLUTION CONTROL AGENCY

Brooke Asleson| MPCA Chloride Program Administrator

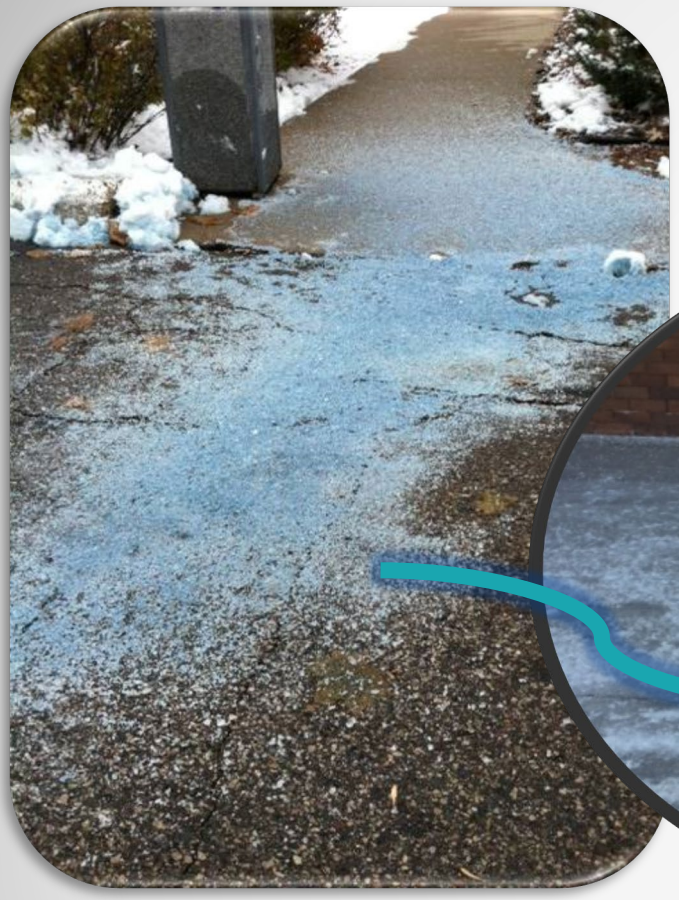
Why is Salt a problem?

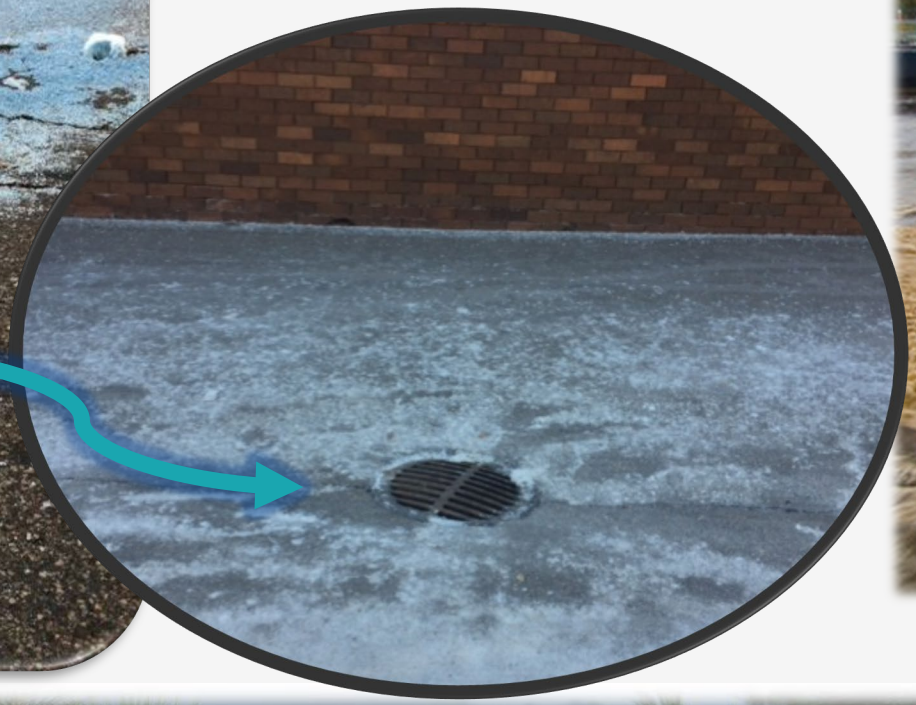


Where is all this salt coming from?



What happens to all the salt?

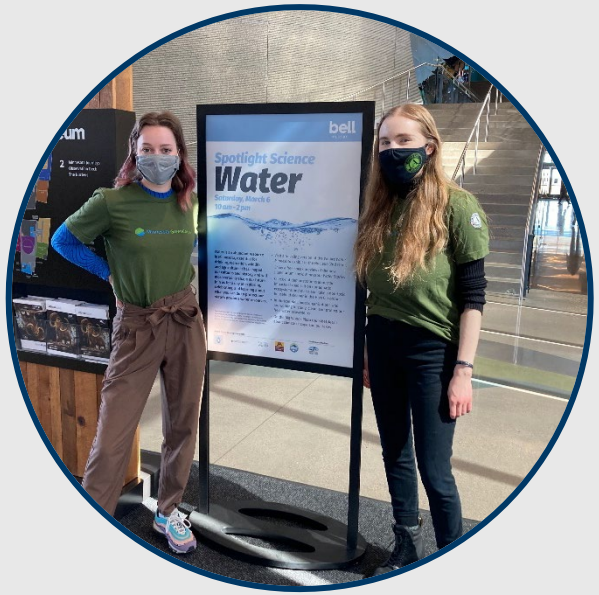




MPCA Chloride Reduction Program

Agency Water programs

Training



Assistance

Resources

MINNESOTA POLLUTION CONTROL AGENCY

https://www.pca.state.mn.us/water/chloride-salts




Minnesota Statewide Chloride Management Plan

MINNESOTA POLLUTION CONTROL AGENCY

CLEAN WATER LAND & LEGACY AMENDMENT

Purpose

- Highlight chloride impacts on water quality
- Inform and guide best practices
- Demonstrate success and cost savings of improved practices

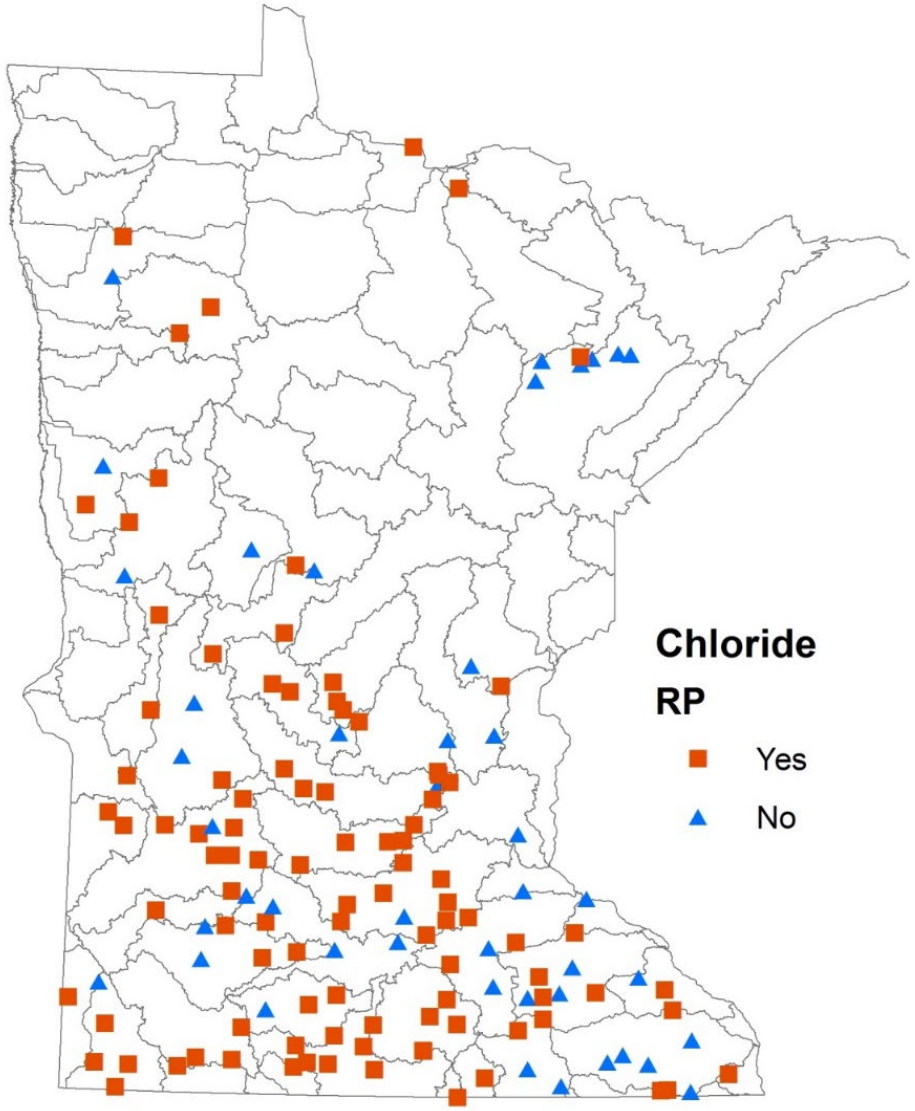
Scope

- Surface and groundwater trends
- Chloride sources identified
- Goals for protecting MN waters

Audience

- State and local government entities
- Winter maintenance workers
- Elected officials and general public

MPCA Wastewater program



- This program regulates wastewater treatment and disposal
- Chloride is one of the pollutants being monitored and evaluated for potential impacts to receiving waterbodies
- About 100 Wastewater Facilities in MN have been identified as having high chloride impacts
- These facilities will receive chloride limits in their permits as they are renewed

MPCA Stormwater Management & Permitting Program

- Program includes municipal (MS4), industrial and construction stormwater management
- New chloride management requirements were included in the 2020 general MS4 permit
- Industrial stormwater program includes salt storage, use and management requirements
- MS4 Permit and Chloride program staff shared tools, resources, and training available to assist permit holders in meeting these new requirements – watch the video!

https://www.pca.state.mn.us/water/chloride-management-and-new-ms4-permit

Pollution Prevention Partnership with MnTAP

- Partnering with MnTAP to investigate Industrial uses of chloride
- Explore water softening needs at Industrial facilities
- Need to better understand Industry use of chloride products
- Find opportunities to reduce chloride discharge

MnTAP Industrial Chloride

Sidharth Laxminarayan
Chemical Engineering
University of Minnesota Twin Cities

Organization Background

The Minnesota Pollution Control Agency (MPCA) is committed to ensuring every Minnesotan has healthy air, sustainable lands, clean water and a better climate. MPCA works with the Minnesota Technical Assistance Program (MnTAP), an outreach program in the School of Public Health at the University of Minnesota. This partnership provides pollution prevention technical assistance to businesses and organizations around the state to reduce pollution at its source to improve public health and the environment.

MINNESOTA POLLUTION CONTROL AGENCY

Project Background

This project sought to develop Best Management Practices (BMPs) to reduce chloride discharge in industrial wastewater effluent from water softeners. This work compiled a list of BMPs and created a flowchart for operations that should be considered during a water softener audit. These BMPs and audit strategies were tested during site visits at five facilities with a goal of making recommendations to companies to implement the BMPs.

UNIVERSITY OF MINNESOTA MnTAP MINNESOTA TECHNICAL ASSISTANCE PROGRAM

MPCA Chloride Reduction Program

Agency Water programs

Training

Assistance

Resources

MINNESOTA POLLUTION CONTROL AGENCY

https://www.pca.state.mn.us/water/chloride-salts

What is Smart Salting?

A suite of techniques that does not compromise public safety and public needs while minimizing environmental and economic impacts of chloride.

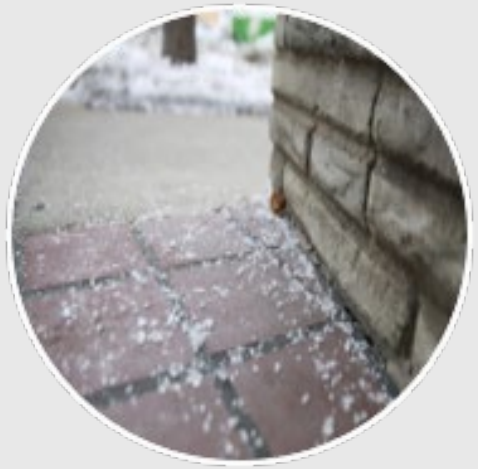
MPCA Smart Salting Training Certification program

Hands on professionals

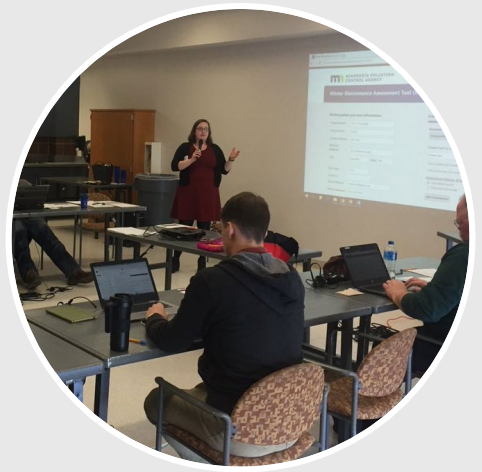
Parking Lots & Sidewalks

Roads

Managing



Property Management



Level 2 – Organization Certification

NEW MPCA Smart Salting Workshop and Refreshers*

Check the Training Calendar for dates!

Local Leaders Workshop

101 Refresher

Weather Refresher

Other Suggestions

**Refreshers are for current MPCA Smart Salting certificate holders*

MINNESOTA POLLUTION CONTROL AGENCY

www.pca.state.mn.us/water/smart-salting-training

Why Training is Important

- Improves operator effectiveness
- Saves money
- Reduces damage to infrastructure and properties
- Maintains & improves safety conditions
- Protects MN's water resources

Smart Salting Training promo video!!
https://www.youtube.com/watch?v=Kjt5Oiqx6ps&feature=youtu.be

Mayo puts campus on low salt diet

John Molseed jmolseed@postbulletin.com Nov 8, 2019 Updated Nov 9, 2019

Sidewalk seasoning

Steve Lee, owner of The Half Barrel and Bar Buffalo, salts the sidewalk along Third Street Southwest after freezing rain over night Tuesday in downtown Rochester.

Joe Ahlquist / jahlquist@postbulletin.com

Talking about winter precipitation this early in the season can make people a little salty.

Last winter was the snowiest on record in Rochester. Despite that, Mayo Clinic used 60 percent less salt to de-ice its campus paved surfaces than was used the previous winter.

August 2022

Prev | Next

Sun	Mon	Tue	Wed	Thu	Fri	Sat
31	1 Local Leaders - Online Interactive Alexandria Lakes Area Sanitary District, We Are Water MN	2 Salt Symposium 2022 (Aug 2-3) Minnesota's Salt S	3	4 Roads - Interactive online Minnesota's Salt Symposium - Online event Property Management - Interactive Online Minnesota's Salt Symposium - Online event	5 Parking Lots & Sidewalks - Interactive online Minnesota's Salt Symposium - Online event	6
7	8	9	10	11	12	13
14	15 Local Leaders Workshop - Interactive online-12pm City of Rochester & We are Water	16 Local Leaders Workshop - Interactive online -6pm City of Rochester & We Are Water MN	17	18	19	20
21	22	23	24 Roads - Interactive online MN GreenStep Cities & MPCA	25	26	27
28	29	30 Roads - In-person Capitol Region Watershed District & City of St. Paul Manejo de la Propiedad - Presencial Lower Mississippi River Watershed Management Organization	31	1	2	3

SAFER FOR LAKES & STREAMS
CERTIFIED
SMART SALTER
SAFE FOR PEOPLE

MPCA Smart Salting training calendar

https://www.pca.state.mn.us/water/smart-salting-training-calendar

MPCA Chloride Reduction Program

Agency Water programs

Training

Assistance

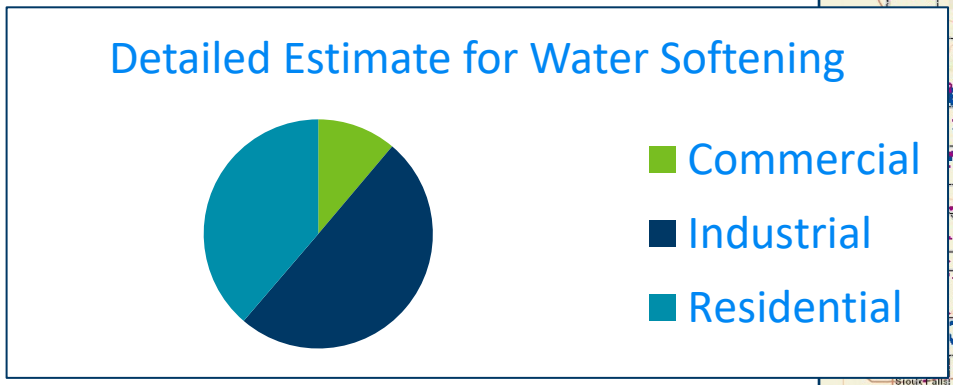
Resources

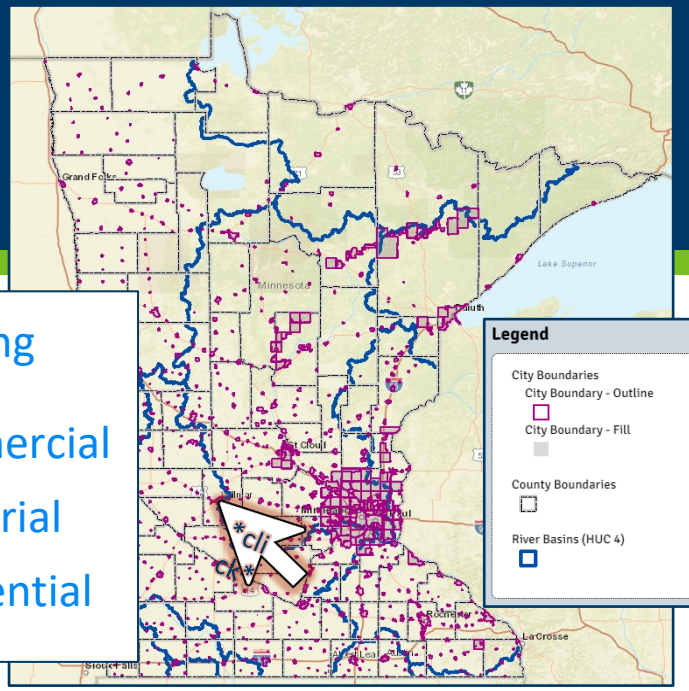
MINNESOTA POLLUTION CONTROL AGENCY

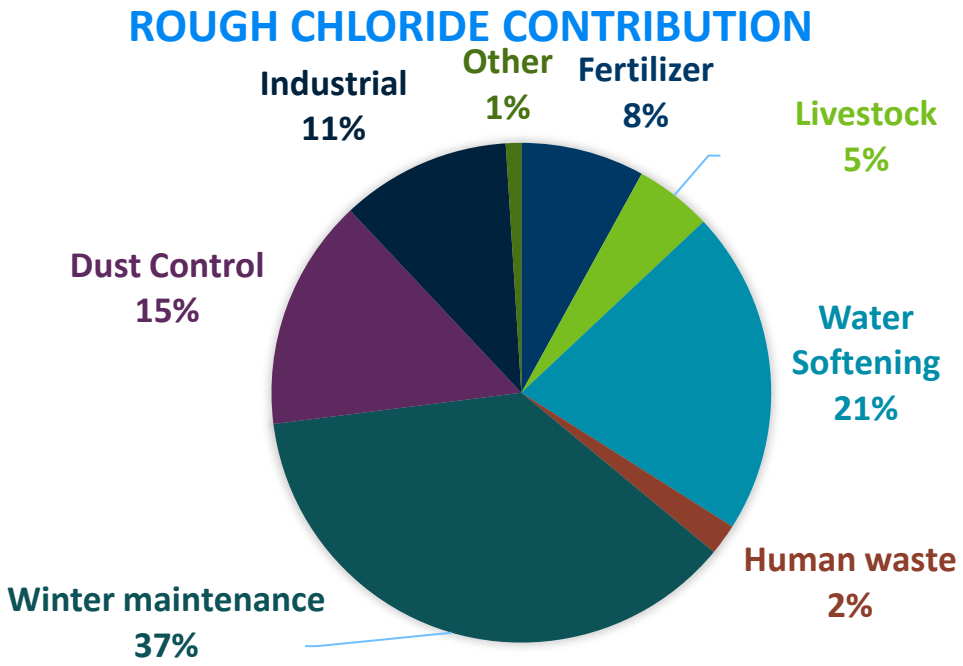
https://www.pca.state.mn.us/water/chloride-salts

MPCA Smart Salting Tool

- A web-based tool for assessing and minimizing chloride use
- Helps organizations track progress over time and show results of their efforts
- Future of the tool: Water Softening, Fertilizer, and Industrial sections, GIS Interface







MINNESOTA POLLUTION CONTROL AGENCY

0% interest loan programs

Clean Water Partnership

www.pca.state.mn.us/water/cwp-loans

Small Business Assistance

www.pca.state.mn.us/smallbizloan

MPCA Chloride Reduction Grant program

https://www.pca.state.mn.us/water/chloride-reduction-grants

Closed. Grant applications were due May 7 (4 p.m.).

Chloride reduction grants

The MPCA sought grant proposals from eligible organizations to work within targeted communities that are experiencing elevated chloride levels in their surface waters or wastewater discharge to provide direct assistance for the upgrade and optimization of water softening systems that will result in a chloride reduction.

Closed: Application deadline was May 7, 2021 (4 p.m.)

- **Eligible applicants:** For-profit businesses with under 500 employees; local/regional governmental entity, educational institution, tribal government, or non-profit organization.
- **Grant amount:** $200,000 (the grant will be awarded to a single applicant). Applicant must provide 25% match as in-kind or cash match.

The request for proposals (RFP) has full details on who may apply, eligible project costs, and other information that will help applicants submit a proposal.

Sign up for Smart Salting updates

This newsletter addresses sources of chloride pollution in Minnesota, with the latest smart salting practices and resources — from winter maintenance to water softening.

Email:

jane.doe@example.com

Next

- MPCA has created the Chloride Reduction Grant program to assist communities in reducing chloride pollution at the source
- Grant program relies on receiving funding support every 2 years
- First two grants were focused on water softening
- Subscribe to the Smart Salting program newsletter for updates

MPCA Chloride Reduction Grant: Water Softening – 2021 Clean Water Funds

Focus is on non-home water softening

- Work with city leaders to find commercial operations to inspect
- Create information for cities to educate residents
- Provide individual assessments of how to lower salt in softening
- Provide price quotes from vendors
- Provide cost share funds
- Calculate potential chloride savings

Project Communities:

CITY OF MEDINA

AVON

City of Altura

Project Partners:

Minnesota Water Quality Association

Madison Metropolitan Sewerage District

UNIVERSITY OF MINNESOTA MnTAP MINNESOTA TECHNICAL ASSISTANCE PROGRAM

Awarded to: Fortin Consulting *now* Bolton & Menck

CLEAN WATER LAND & LEGACY AMENDMENT

MPCA Chloride Reduction Grant: Water Softening – 2021 Environment & Natural Resources Trust Fund

MARSHALL

CULTIVATING THE BEST IN US

Water Softener Rebate Program for Residents and Businesses

Why Participate?

Worthington PUBLIC UTILITIES

Worthington Public Utilities Water Softener Rebate Program funded through a Minnesota Pollution Control Agency Grant

BACKGROUND:

The City of Worthington's Municipal Wastewater Treatment Facility (WWTF) is required by the Minnesota Pollution Control Agency (MPCA) to reduce the discharge of chlorides to Okabena Creek. A large portion of chloride discharge comes from water softener salt that is sent into the sanitary sewer collection system that flows to the WWTF and is discharged to Okabena Creek. Chlorides cannot be removed through conventional

ENVIRONMENT AND NATURAL RESOURCES TRUST FUND

MINNESOTA POLLUTION CONTROL AGENCY

BOLTON & MENK

Minnesota GreenCorps Program

- Minnesota GreenCorps is an environmentally focused AmeriCorps program coordinated by the MPCA.
- **Chloride reduction** components in the program
- Members serve approximately 40 hours a week for 11 months from September through August.
- Eligible organizations include public entities, school districts, not for profit institutions of higher education, and 501 (c)(3)
- Host site application typically opens in February each year

www.pca.state.mn/mngreencorps

City of Minneapolis: 2020-2022 GreenCorps Member project

"Was developed to increase understanding of the impacts of salt on the environment, limit over salting, and encourage residents and businesses to commit to practicing salt stewardship.

The mini course is self-guided and provides an overview of road salt and its impacts on water quality; it consists of reading a few lessons as well as watching online videos."

Minnesota GreenCorps

Minneapolis City of Lakes

MPCA Chloride Reduction Program

Agency Water programs

Training

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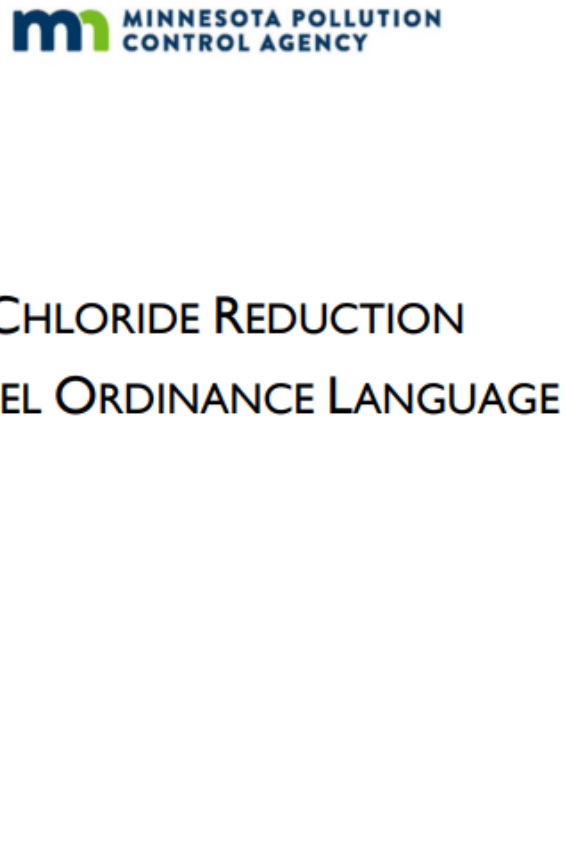
MINNESOTA POLLUTION CONTROL AGENCY

https://www.pca.state.mn.us/water/chloride-salts

Chloride Reduction Model Ordinances



Focuses on four areas:

1. Occupational Licensure for Winter Maintenance Professionals

2. Deicer Bulk Storage Facility Regulations

3. Land Disturbance Activities

4. Parking Lot, Sidewalk and Private Road Sweeping Requirements

MINNESOTA POLLUTION CONTROL AGENCY

GUIDE TO DEVELOPING A LOCAL WATER SOFTENER REBATE PROGRAM

September 19, 2019

3. Steps for Developing a Water Softener Rebate Program

A water softener rebate program should ideally be tailored to the specific goals and characteristics of a municipality. The following steps are general recommendations for consideration and are not intended to serve as a definitive how-to guide. Ultimately, each municipality or watershed should craft a process that aligns with the goals, vision, and approach best suited for that specific jurisdiction. The process, and the resulting program, should be flexible and allow for continuous improvement over time.

The general steps presented in this section are as follows:

- Step 1. Identify Program Drivers
- Step 2. Gather Baseline Information on Water Softener Use
- Step 3. Identify Program Goals and Scope
- Step 4. Identify and Engage Potential Program Partners
- Step 5. Estimate and Obtain Funding
- Step 6. Determine Type of Rebate and Program Procedures
- Step 7. Conduct Outreach
- Step 8. Implement, Evaluate, and Adapt Program

Lake Geneva, WI: Water Softener Rebate Program

The Lake Geneva Utility Commission offers a $100.00 rebate check paid directly to residents for either upgrading current unit to an on demand system, or installing a new unit that is metered on demand. In addition to the rebate check, Culligan offers a $100.00 discount off their complete line of metered on demand water softeners to utility customers exclusively.

Program Contact: Josh Gajewski, Utility Director, (262) 248-2311 Xt. 6115 or jgajewski@lgutilities.org

Website: https://www.lgutilitycommission.com/wastewaterutility

Application Form: https://drive.google.com/file/d/0B-877Fe5oHxlX3dyZUtHS2FSY2c/view

Environmental Management

Chloride Reduction Model Ordinance Model ordinance language covering four regulatory areas, developed in 2019 by the MPCA and the Nine Mile Creek Watershed District, TetraTech, and several local cities and watershed organizations: (1) Occupational Licensure for Winter Maintenance Professionals; (2) Deicer Bulk Storage Facility Regulations; (3) Land Disturbance Activities; (4) Parking Lot, Sidewalk and Private Road Sweeping Requirements.

Best Practice Action 6

Back to best practice page

Reduce de-icing and dust suppressant salt use to prevent permanent surfacewater and groundwater pollution.

Implementation Tools | Star-level Examples

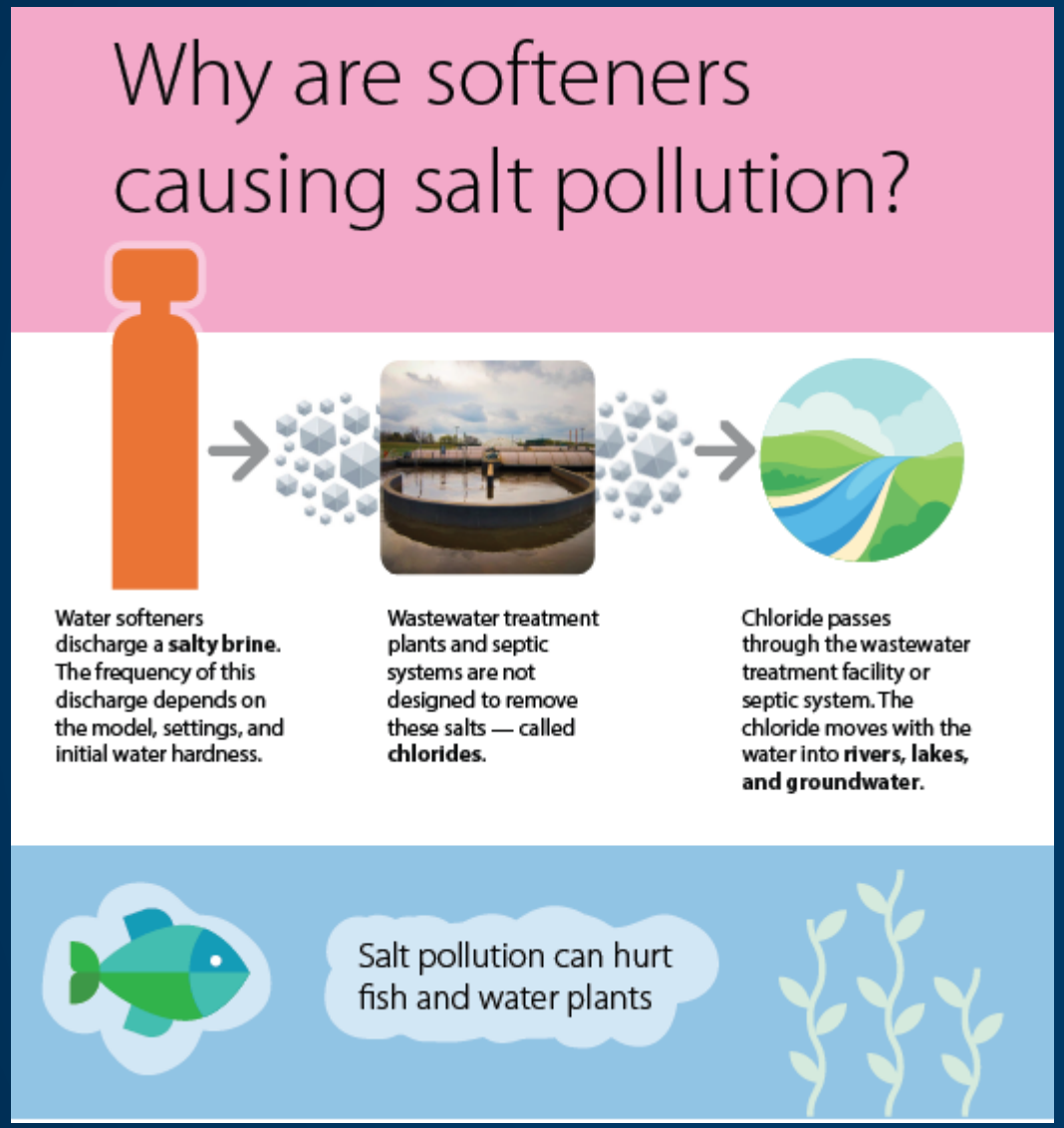
★ Certify primary winter maintenance staff through the MPCA's Smart Salting Level 1 training (for city snowplowing, and for parking lots, service roads & sidewalks); follow training recommendations; certify new staff and keep certifications current; actively promote a model contract that private snow/ice service contractors would sign with customers; report decreased use of CaCl dust suppressants and alternative dust measures. **Note** that this salt action was previously an erosion control action (replaced because erosion control is almost always required of cities).

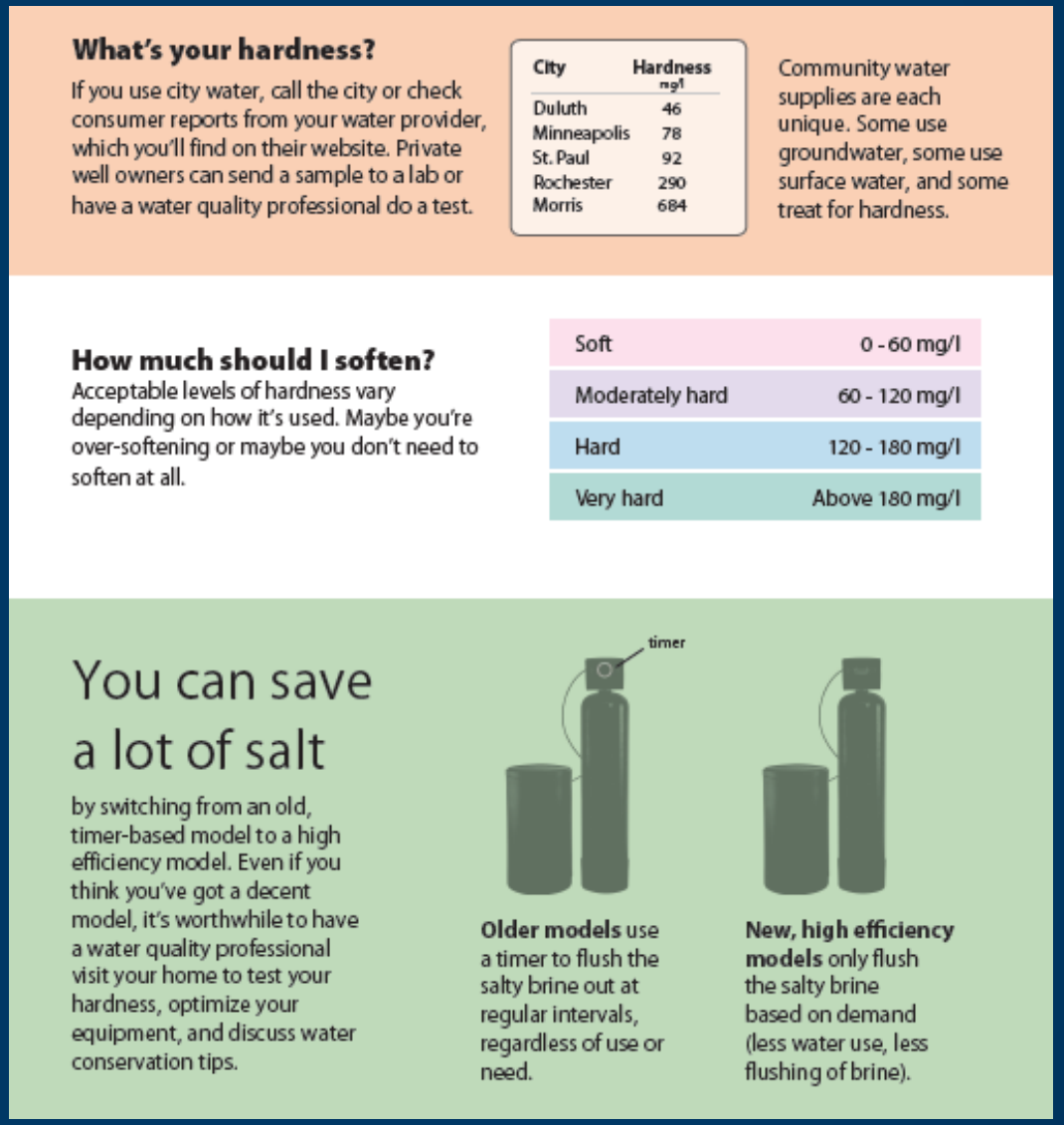
★★ Use efficient plows with brine tanks; certify the city at Smart Salting Level 2 by using the MPCA's winter maintenance tool to complete a best management practices assessment; redo assessment at least every 3 years; develop or adopt an existing chloride/salt management plan; modify and adopt a model contract for city-hired snow and ice management services that mandates best practices to minimize environmental impacts from sand, chlorides and other chemicals.

★★★ Report use of pervious concrete/paving and resulting salt-use reduction; complete two of: track salt usage; report salt reduction progress in the 30% to 70% range (over one year for 30%; over more years for 70%); track implementation of best management practices using the winter maintenance tool; educate residents about the environmental impacts of salt and provide information on how to reduce their personal salt use.

Salt Dilemma Display

Water Softener Educational Banners





Kids Chloride Science Kit & Lesson Plan

Minnesota's Salty Water Problem

Overview
Salt concentrations are increasing in lakes, streams and groundwater. Measure salt concentrations using a conductivity meter, graph your results, and discuss the impacts of salt on Minnesota's water resources and its plants and animals.

Objectives
1. Understand the impacts of chloride pollution
2. Know where salt pollution comes from
3. Share one idea for preventing salt pollution

Audience
4-8 grade students

Time
30-60 minutes, depending on which activities are selected

MPCA Smart Salting Program Newsletter

MINNESOTA POLLUTION CONTROL AGENCY

MPCA Smart Salting News - Spring 2022

Minnesota Pollution Control Agency sent this bulletin at 05/31/2022 10:58 AM CDT

Minnesota Smart Salting Update

CERTIFIED SMART SALTER

MnTAP Industrial Chloride Project

The MPCA partnered with the University of Minnesota's Technical Assistance Program (MnTAP) to to develop Best Management Practices (BMPs) to reduce chloride discharge in industrial wastewater effluent from water softeners. This work compiled a list of BMPs and created a flowchart for operations that should be considered during a water softener audit. These BMPs and audit strategies were tested during site visits at five facilities with a goal of making recommendations to companies to implement the BMPs.

To learn more about this project and read the full report visit the MnTAP – Chloride Reduction (umn.edu) website.

MnTAP

Loans for Small Businesses to upgrade equipment for chloride reduction

Stay informed on smart salting

Sign up now for email updates.

Email:

jane.doe@example.com

Next

https://www.pca.state.mn.us/water/smart-salting-update

MINNESOTA POLLUTION CONTROL AGENCY

Thank you!

BROOKE ASLESON

CHLORIDE PROGRAM ADMINSTRATOR

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