

SEPTEMBER 2022

YTD Report

Wisconsin Salt Wise



Reindl
Chloride = bad
Chloride most common ingredient in "salts"
330 mg/l or less per 5gal water is the standard
Calibrate salters (computer controlled salters)
MDSS
No rock salt below 15°F
Salt brine 238°F optimal
Better for environment
works faster, stays put
32 gal/ton or 160 gal/ton
200 gal per hopper 32 gal per hopper
15°F
50 lbs - 10,000 Gal water
WI SaltWise.com
Clear Roads.org

Presented to

Fund for Lake Michigan

Presented by

Allison Madison



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INTRODUCTION

Tomorrow I fly to Colorado for the American Public Works Association Western Snow and Ice Conference and National Snow Rodeo. (Yes, they spell rodeo with an "a." You have to appreciate a good pun!) While I'm there, I'll be giving two talks: "Salt Wise Cities" and "The Ecosystem Impacts of Road Salt." In October, I will co-host the Wisconsin DOT Winter Tech Talk and work with operators from across the state to identify and develop strategies to overcome barriers to change.

It's incredible to reflect on the growth of WI Salt Wise over the last two years. We have grown from a local partnership into a statewide coalition with a reach stretching out across the United States and beyond. We are receiving requests to speak at statewide and national conferences, we have built strong connections with lead researchers in the field, and earlier this month we gave our first international interview with a reporter from the New Scientist.

Next week we kick off our fall training season with a calibration day co-hosted with the City of Green Bay. While making calls to invite municipalities to the Green Bay event, staff from a city that sits directly on the Lake Michigan shoreline shared that they don't currently calibrate their salters. We're thrilled that they have since registered their staff for this event.

Thank you again for the opportunity to build networks and promote smart salting practices that reduce damage to infrastructure and vegetation, cut operating budgets, and protect the long-term health of Lake Michigan and all its tributaries.

Allison Madison



CLASS PARTICIPANTS

237 individuals from 63 organizations

Private: American Snow Professional, Avant Gardening & Landscaping, Green Deicer Company, Havenwoods Neighborhood Partnership, Henderson Products, Holy Wisdom Monastery, Madison Top Soil, Milwaukee Brewers, Reinders, S.C. Johnson, Soper Contractors, SSC, WS Development

Municipalities: Appleton, Cedarburg, Cudahy, Germantown, Glendale, Greendale, Hales Corners, Madison, Mequon, Nashotah, North Prairie, Oconomowoc, Oregon, Paddock Lake, Pewaukee, Port Washington, Richfield, River Hills, Rothschild, Shorewood, Tomahawk, Vernon, Wales, Watertown, Waukesha, Waupun, Wauwatosa, West Allis, West Milwaukee, Wisconsin Rapids

Other Public: Kenosha County, Milwaukee County (Fleet, Highway, Parks, Forestry), Waukesha County, Washington County, Madison Water Utility, Milwaukee Area Technical College, Milwaukee Riverkeeper, UW-Madison, Wausau School District

Upcoming Events



*Eight
classes*



*Four
open houses*



*Two
calibration demos*

INSTRUCTIONAL VIDEOS AND PSAs

Joint project with the City of Milwaukee



Environmental Impacts, our first video, is available for viewing on the WI Salt Wise YouTube channel as well as the City of Milwaukee DPW's About Snow and Ice Control Operations webpage. We will be rolling out the full video series to all City of Milwaukee staff during their in-house training in October.

The remaining videos and PSAs are currently in production:

Materials - filmed

Mechanical Removal - filmed

Pre-storm planning - scripted

PSA 1 - scripted

PSA 2 - in development

WEDNESDAY WEBINARS

February: Water Softener Brine Reclamation

USDA Forest Products Lab Staff

March: American Family Insurance Tracks Salt Savings

Wayne Rayfield, Facilities Land Management Admin.

May: Brine: Facts and Myths

Matt Wittum, Town of Linn Highway Superintendent

June: A Salt Brine Field Study

Andi Bill, UW Traffic Operations and Safety Lab

July: Where have all the Mayflies gone?

Bob Miltner, Ohio EPA; Kevin Goodwin, Michigan EGLE

August: Direct Liquid Application

Bill Kern, Jefferson County Highway Department

September: Brine Blends

Matt Wittum, Town of Linn Highway Superintendent

October: Salt Wise Stories – De Pere

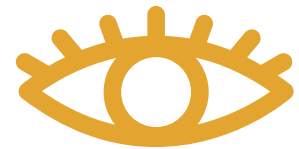
Tony Fietzer, City of De Pere

November: Salt Wise Stories – Eau Claire

Cory Tietz, City of Eau Claire

December: Legal and Policy Strategies for Chloride Management

Dave Strifling, Director of Marquette University's Water and Law Policy Initiative



**1003
views**

**WEDNESDAY
WEBINARS**

WHERE HAVE ALL THE MAYFLIES GONE?
WITH
BOB MILTNER & KEVIN GOODWIN
WEDNESDAY, JULY 6TH

LIVE | 12:00 PM CDT



WEDNESDAY WEBINARS
WITH OUR EXPERTS

**WEDNESDAY
WEBINARS**

DIRECT LIQUID APPLICATION
WITH
BILL KERN
WEDNESDAY, AUGUST 3

LIVE | 12:00 PM CDT

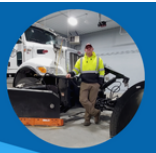


WEDNESDAY WEBINARS
WITH OUR EXPERTS

**WEDNESDAY
WEBINARS**

BRINE BLENDS
WITH
MATT WITTUM
WEDNESDAY, SEPTEMBER 7

LIVE | 12:00 PM CDT



WEDNESDAY WEBINARS
WITH OUR EXPERTS



MEDIA COVERAGE

| TITLE | MEDIA OUTLET | MONTH |
|--|------------------------|---------|
| Excess salt on roads, sidewalks showing up in our rivers, lakes | TMJ4 MKE | January |
| Newsmakers radio interview: Allison Madison, WI Salt Wise and Lewis Kuhlman, City of La Crosse | WPR | January |
| Wisconsin Salt Awareness Week reminds us: Salt is more dangerous than we realize | News18 Eau Claire | January |
| Chauncey's Great Outdoors radio interview: Shannon Haydin, WI DNR | ESPN 1000AM | January |
| Salt Pollution is on the Rise | TV6 Iron Mtn | January |
| DNR urges reduction in road salt | Watertown Times | January |
| WI DNR: Reduce Salt Use this Winter | Green Bay News Network | January |
| Wisconsin Salt Awareness Week | Isthmus | January |
| Root-Pike WIN celebrates Salt Awareness Week | The Journal Times | January |
| Wisconsin Salt Awareness Week goes virtual | Merrill Foto News | January |
| Wisconsin Salt Awareness Week: Recognizing the importance of salt usage | KBJR6 Superior/Duluth | January |

MEDIA COVERAGE

| TITLE | MEDIA OUTLET | MONTH |
|--|--|---------|
| Wisconsin Salt Awareness Week kicks off in La Crosse, around state | News 8000 La Crosse | January |
| Wisconsin Salt Awareness Week goes virtual | La Crosse Tribune | January |
| Waukesha County Executive Paul Farrow: Celebrates Wisconsin Salt Awareness Week with smart salting and free webinars | wispolitics.com | January |
| Wisconsin DNR: Learn how to reduce salt this winter | St. Croix 360 | January |
| Road Salt is imperiling US waterways. States might have a solution. | Grist | March |
| Salt in the Wound: How Brine could curb damage tied to road salting | The Country Today | May |
| Help monitor the salt in our waters | Water Action Volunteers newsletter | June |
| Smart Salt Storage: Saving Money & The Environment | Ninja Deicer mailing | August |



EVENT SNAPSHOTS

PHOTOS FROM 2022 OUTREACH EVENTS



Clockwise from
upper left: Brown
County Water
Summit, Snow and
Ice Management
Association
symposium tabling,
Snow Plow Roadeo,
Marquette
Waterfront Festival



OUTREACH EVENTS

YTD AND UPCOMING EVENTS

| | |
|----------------------------|--|
| <i>Salt Awareness Week</i> | The Environmental Toll of Salt and Deciers We're Salting our Drinking Water Water Softener Salt goes Where? Let's Teach about Salt Salt Reduction Efforts across Wisconsin |
|----------------------------|--|

1796

Views

| | |
|--|---|
| <i>Industry Presentations (and tabling*)</i> | Reinder's Turf Conference Casper's Brine Summit SIMA Snow and Ice Symposium* APWA Snow and Ice Conference Annual Public Works Expo* Wisconsin DOT Winter Tech Talk Wisconsin Construction, Municipal and Landscape Expo |
|--|---|

500

In-person outreach touches

| | |
|----------------------|--|
| <i>Public Events</i> | Winter Fun and Outdoor Gear Demo Bark 'n Brew Clean Lakes Circus Teejop Community Resource Fair Lake Wingra Watershed Gathering Fool's Flotilla/Marquette Waterfront Fest |
|----------------------|--|

| | |
|-------------------------------|---|
| <i>Outreach Presentations</i> | City of Oshkosh Sustainability Adv. Board UW-La Crosse Sustainability Club Fox-Wolf Watershed Conference Mississippi River Symposium UW-Arboretum Winter Webinar Series Viterbo Water Conference WI Society of Science Teachers Conference UW-Madison Badger Volunteers Brown County Water Summit WI Master Naturalist Conference UWSP American Water Resources Association Western Great Lakes Bird and Bat Observ. |
|-------------------------------|---|

450

Presentation attendees

CITY OF MILWAUKEE

Project Summary

We've forged strong relationships with City of Milwaukee staff within the Department of Public Works, the Mayor's Office, and the Environmental Collaboration Office. Salt Wise practices are now promoted through the Mayor's webpage and the ECO Neighborhood toolkit.

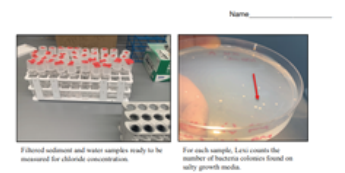
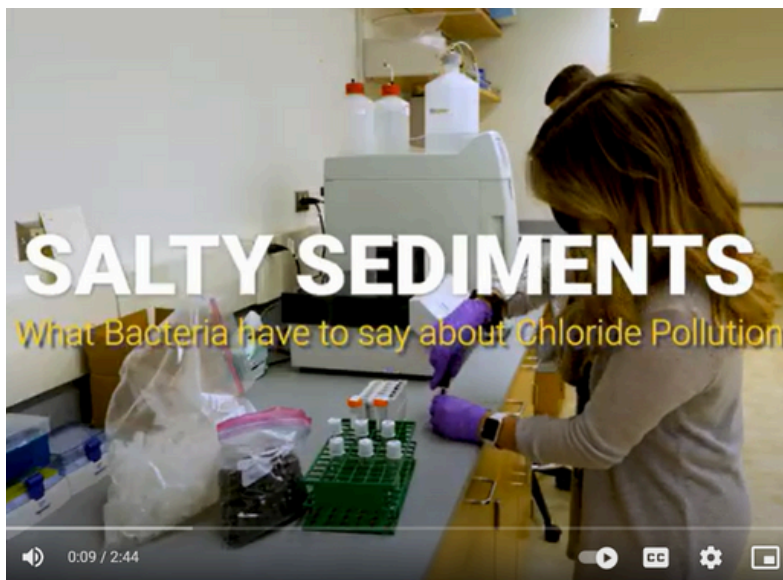
City of Milwaukee DPW staff have demonstrated a commitment to continuing education through participation at the APWA Winter Maintenance Supervisor's Training, the Snow Plow Rodeo, Brine Summit, etc.

An evaluation and revision of their snow and ice policy is currently underway. Elected officials will be briefed later this fall and asked to support the communication of expectations to constituents.



NEW RESOURCES

EXAMPLES OF MATERIALS DEVELOPED IN 2022



Scientific Question: Are halophiles useful as biological indicators of chloride pollution based on their quantity in urban and rural environments?

Scientific Data:

Use the data below to answer the scientific question:

| Sampling Site | Date | Sampled | Average chloride concentration (mg/L) | Number of bacteria colonies per gram of sediment | Average Number of bacteria colonies per gram of sediment |
|----------------|----------|-------------|---------------------------------------|--|--|
| Peromskima Bay | 5/1/2021 | Early May | 791.3 | 2210 | 1720 |
| Peromskima Bay | 5/26/21 | Late May | 911.3 | 1580 | 1120 |
| Peromskima Bay | 6/23/21 | Late June | 595.4 | 180 | 180 |
| Peromskima Bay | 7/28/21 | Late July | 452.2 | 280 | 475 |
| Peromskima Bay | 8/31/21 | Late August | 452.5 | 65 | 45 |
| Peromskima Bay | 9/14/21 | Early May | 100.8 | 0 | 0 |
| Peromskima Bay | 5/26/21 | Late May | 142.4 | 7 | 7 |
| Peromskima Bay | 6/23/21 | Late June | 147.4 | 73 | 167 |
| Peromskima Bay | 7/27/21 | Late July | 125.4 | 17 | 13 |
| Peromskima Bay | 8/31/21 | Late August | 125.0 | 87 | 73 |

Data generated by Michigan State University follows in the NSF BEACON and GR-13 program

Salt Wise MILWAUKEE

Snow and Ice Control

Paving the way as a Salt Wise urban center on a Great Lake

The overuse of salt costs taxpayers and jeopardizes the health of our freshwater resources. The foundation of our economy and our quality of life. Adoption of best management practices today protects against the need for expensive repairs and remediation tomorrow.

5 Salt Wise principles:

1. Maximize mechanical removal
2. Calibrate equipment
3. Incorporate brine
4. Train operators
5. Educate the public

Salt degrades freshwater resources

Salt pollutes freshwater lakes, streams, and drinking water. High salt levels harm plants and animals. Currently, over 100 miles of rivers in the Milwaukee River basin are impaired with high chloride levels. Lake Michigan's salinity has nearly doubled in the last 40 years.

Salt damages infrastructure resources

Salt weakens the concrete, brick, and stone that make up our homes, bridges, and roads. One ton of rock salt causes between \$800 and \$1,000 of damage to our built infrastructure. Nationwide we spend over \$5 billion annually to repair salt damage to roads and bridges and waste that seeping up in Milwaukee the damage to road salt is estimated at \$50 million annually.

University of Wisconsin-Green Bay

BACKGROUND

After taking the Salt Wise training in 2020, UW-Green Bay grounds administrators committed to improving practices on campus. From education and equipment upgrades to changing when and how they called, an overhaul of their winter maintenance program resulted in huge salt savings. An indirect benefit was a reduction in damage and clearing inside buildings.

OVERVIEW

Salt Savings:
Winter 2020-2021: 376 tons
Winter 2021-22: 163 tons
Winter 2022-23: 66 tons
Total Reduction: 80%

Budget Numbers:
\$50,000 in salt savings over two years
Labor needs and costs decreased

CHLORIDE REDUCTION STRATEGIES

New Methods:

- In-house training for all custodial staff and resident assistants on the environmental impacts of salt, salt use best practices, and the new policies.
- Emphasis on mechanical removal (only spot treating with salt during the storm).
- Frequent monitoring of pavement temperature to inform salt application rates.

New Equipment:

- 1-ton pickup outfitted with ground speed control, air and pavement temp. sensors
- New plows for front loaders enabled the more efficient movement of snow.
- A sectional plow blade that conformed to pavement crown or unevenness.
- Brooms for skid steers produced a better result in less time.

The Salt Wise class opened up a whole new world.
Brad Ogden, UWGB Facilities and Planning

Wisconsin Salt Wise

Clockwise from upper left: Video and page from the Data Nugget lesson plan, UWGB success story for the EPA webpage, Salt Wise Milwaukee one-pager for City elected officials.



THANKS FOR
YOUR
CONTINUED
SUPPORT!

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