Protecting Fresh Water through Softening Efficiency
Madison Metropolitan Sewerage District, like most plants, is not designed to remove chloride.
220,000 lbs. of salt (130,000 lbs.) arrive at the plant each day
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Wisconsin Chloride Standard

- 395 mg/L on weekly average
- Wastewater plants required to work toward meeting this limit
Chloride levels at MMSD
Costs of removing chloride would raise sewer bills by 55 to 500%
Chloride source reduction

- Chloride pollution can be prevented
- Reducing chloride is much less expensive than removing it
Chloride sources to MMSD

- Water Supply: 57%
- Human contribution: 8%
- Road Deicing: 8%
- Industrial: 18%
- NSWTP chemicals, septage, hauled wastes: 7%
- Softening: 2%
Home water softener contribution

- MMSD study:
  - Single-family home softeners contribute ~48,000 lbs. Cl/day to the sewer
  - Each home: 0.6 lbs./day
  - Many softeners operate inefficiently
Potential for home salt reduction

According to MMSD home softener study, salt use can be reduced:

- 27% by optimization
- 47% by replacement
Questions for home softener salt reduction

• What defines a softener “improvement”?

• Who will carry out improvements?

• What will motivate homeowners to have their softeners evaluated, optimized and/or replaced?
Home optimization pilot project

• Summer 2016, Tenney-Lapham neighborhood
• Offered free optimizations up to $75
• Outreach to residents
  – Mailed flier to ~900 residences
  – Presentations to neighborhood association
  – Tabling, door-to-door
• 38 optimizations completed from June-Aug.
  – Avg. 35% reduction per household
• Potential barriers: lack of awareness, rental property, time, other?
Considerations for home softeners

• Information ≠ action

• Higher cost per pound of chloride reduced – what is an appropriate rebate amount?
  – Is cost even the barrier?

• No easy classification of efficient softeners
  – Harder for consumers to understand
  – Even new softeners can be configured to run less efficiently
Salt Savers pilot project

- Small, measurable area of sewer system
- Test app/process
- Give customers an “easy button”
- Involve municipalities
Pilot Program Components

Service provider training
- Free course for professionals who interact with softeners
- Standardizes process; creates even playing field for providers to opt in

Softener Service App
- Documentation tool to collect data about softeners
- Decision support for users
- Standardizes process for all providers

Municipal administration grant
- Grant to municipalities served by MMSD
- Funds pass-through incentives; staff time spent on program
Softener Training
Providers who have been trained can opt in to a trained provider pool.

Customers can call people on this list for a provider they know has been through an efficiency training.

28 trained providers; almost 100 went through training.
Salt Savers reporting app

- Standardized reporting and decision support tool
- Gives users recommendations for action to take to improve softener
Decision support in app

- Recommends actions to improve softener efficiency and reduce salt use
Manager dashboard

- Municipal staff reviewers get summary of each job to determine reimbursement
Incentives to customers

- $75 for an evaluation with or without optimization
- $200 off installation of new, efficient softener or other approved water treatment device that replaces an identified “clunker”

“Clunker” Criteria:
- Over 15 years old
- Regenerates based on days (time-clock)
- Of a brand/model identified as inefficient
Program promotion

- Initial information in Town newsletter
- Social media posts
- Mailer to all residents in Town of Dunn...right before shutdown
Looking ahead

- 27 jobs completed before comprehensive outreach & program pause due to pandemic
- Program restarted in June; encouraging remote evaluations
- Next training will be virtual (Aug. 12)
- Rolling out program in Village of McFarland next
Commercial salt reduction funding

- Have been offering grants for commercial salt reduction since 2016
- Programs continue; survey tools can be transferred to commercial projects
Once you put salt down, it doesn’t go away. It washes off surfaces and accumulates in local lakes, streams and drinking water. You can keep sidewalks and driveways safe this winter while protecting our waters by following these simple steps.

1. **Shovel**
   - Clear walkways and other areas before the snow turns to ice. The more snow you remove manually, the less salt you will have to use and the more effective it will be.

2. **Scatter**
   - If you apply salt to pavement, aim for a pattern like this, leaving space between salt grains. A coffee mug full of salt is enough for about 60-70 feet of sidewalk. A hand spreader can help create this pattern.

3. **Switch**
   - When the pavement temperature is below 15 degrees, salt won’t work. Switch to a different ice melter (like a blend) that works at a lower temperature, or use sand for traction.

Brought to you by the WI Salt Wise partnership:

Learn more at [www.wisaltwise.com](http://www.wisaltwise.com).
Thank you!