Policy Committee Meeting Agenda
Clean Water Council
March 27, 2026
9:30 a.m. – 12:00 p.m.
WebEx Only

Policy Committee: John Barten, Rich Biske (Chair), Gail Cederberg, Kelly Gribauval-Hite, Chris Meyer (Vice Chair), Peter Schwagerl, and Jessica Wilson

9:30 Regular Business

- Introductions
- Approve today's agenda and previous meeting minutes
- Chair update
- Staff update

9:45 Public Comment

Members of the public who would like to provide comment about something not on the agenda are welcome to do so at this time.

10:00 (DISCUSSION AND ACTION ITEM) Large-volume water users policy statement

At the last meeting, some final changes were made to the policy statement, focused mostly around organization and responsible parties. At this meeting, we will review the draft and prepare it for sending on to the full Council. Additionally, some time will be spent identifying next steps, as we are finishing this statement during a time in which it may be useful at the legislature.

10:45 Break

11:00 (DISCUSSION ITEM) Chloride de-icers policy statement

In December, this topic was introduced for additional work in January and February. A small work group from the Policy Committee along with staff from the Chloride Reduction Program at the MPCA worked together to produce a highly-revised policy statement from the one on file, acknowledging that some of the previous recommendations were complete and that new research, policies, practices, or examples are available now that were not when the previous version was written. Both the previous and current versions are in the meeting packet. Please review and come prepared to discuss.

12:00 Adjourn

Policy Committee Meeting Summary
Clean Water Council (Council)
February 27, 2026, 9:30 a.m. to 12:00 p.m.

Committee Members present: John Barten, Rich Biske (Chair), Gail Cederberg, Kelly Gribauval-Hite, Chris Meyer, and Peter Schwagerl.
Members absent: Jessica Wilson.

To watch the Webex video recording of this meeting, please go to https://www.pca.state.mn.us/clean-water-council/policy-ad-hoc-committee, or contact Brianna Frisch.

Regular Business
- Introduction
- Approve today's February 26th agenda and December 19th meeting summary, motion by John Barten, seconded by Kelly Gribauval-Hite. Motion carries unanimously.
- Chair update
  - There were a few Legislative bills were introduced this week related to large volume water use. One requires permit applications separate from municipal systems application. There was also a sustainable aviation fuel (SAF) topic, in consideration of EAWs for SAF projects. So, items watch.
- Staff update
  - Jen has been out most of the week, so behind on the Legislative bills happening this week. Follow up soon once caught up.
  - The Council's newsletter now has over 9,000 subscribers (open rate of about twenty percent). This helps us connect to people and send out updates.
  - A MinnPost reporter is looking to do an article on the impact of the Clean Water Funds (CWFs). We will pass along the article if it moves forward. Jen is working with the Minesota Pollution Control Agency (MPCA) Communications Team, working on the 20-year anniversary of the CWFs coming up soon.
  - The University of Minnesota Duluth reached out to set up a longitudinal study on knowledge, attitudes, and beliefs regarding water. They asked if the Council would be interested in partnering with it. Jen is following up if this is something the Council would work on. It seems like a great opportunity for synergy.

No Public Comment *(Webex 00:13:15)*

Committee Chair and Vice Chair *(Webex 00:13:30)*
Election of the Chair and Vice Chair of the Policy Committee.
- Chris Meyer nominates Rich Biske as Chair of the Policy Committee, seconded by Peter Schwagerl. No other nominations. Rich Biske remains the Chair of the Policy Committee.
- John Barten nominates Chris Meyer for Vice Chair of the Policy Committee, seconded by Kelly Gribauval-Hite. No other nominations. Chris Meyer will be Vice Chair of the Policy Committee.

Low Income Household Water Assistance Program (LIHWAP) *(Webex 00:21:30)*
Freshwater is building a coalition to support a state Low Income Household Water Assistance Program (LIHWAP). They provided an early draft of the proposed program and are interested in feedback from the Council. Initial support has been received from a couple of agencies as well as rural, urban, democratic and republican legislators, and are considering introducing a bill next year.
Questions/Comments:
- Rich Biske: It would be good for all of us to listen to what is applicable on the private well side of things.
- John Barten: How could the state set up a program like this for public water supply users, but cannot assist financially for something for private well users? Are there legal issues for this? I am confused.
  - *Response from Rick Biske:* I think the issue might be from Legacy Funds. I think it is the interpretation of constitutional funds versus public dollars in general.
  - *Response from John Barten:* I think you are correct. I forgot about that.

- Chris Meyer: I am familiar with LIHEAT funds, and to get the federal funds we need a state program. Up until now we haven't had the water language. If we do implement that language in our state, then would we be able to have access to the federal funds? We also want to have a state source to add to the federal funds. *Answer:* There is no more federal program, so no more federal program for it. It was a discreet two-year program, they spent all the funding, and we had hoped it would have gotten reauthorized. Other states have tried, but no other states have been able to reauthorize it. We are trying to resurrect the program, at the state level.
- Chris Meyer: You are not asking for CWFs, you are asking in the policy area. In Winona, if you cannot pay your water bill, you can make an appearance to the city council, and they sometimes give them relief (if they make their case). This would be broader, for municipalities that do not have that relief program. *Answer:* Yes. It is affordability protection piece.
- Tannie Eshenaur, Minnesota Department of Health (MDH): Regarding the buckets of funding, you are correct. The mitigation for nitrates in southeast Minnesota, when it was to come from CWFs, it was seen as not in alignment with the constitutional amendment. Although there was some discussion from the Council, when a well repair protects groundwater, it could fall within the province of the constitutional amendment. The MDH is supportive of this work. We have some concerns about increasing the connection fee. The other concern would be if the increase of the connection fee would be targeted towards the drinking water portion of the fund (and not the wastewater). Overall, working with this area, we have been in many conversations with utilities about how to handle this when people are unable to pay their bill. Utilities have been creative in some areas. Having safe water is foundational to people's health. It is a bigger challenge than we realize in Minnesota.
- Peter Schwagerl: I think this is in alignment with the CWFs. How much do the user fees generate? How much of a jump would it take? *Answer:* We can follow up. It might need to be multiple funding sources. We are looking to list different options of support.
- John Barten: Regarding fee increases, has the infrastructure caused the increase? In my city we have increased the population, and that caused the rates to go up, versus replacing aging infrastructure. *Answer*: I can guess, but each city is a little different. Often, new developments pay for the new infrastructure, but each city may be different. To be oversimply, it is likely aging infrastructure and compliance issues. The money needs to come from somewhere to do these projects.
- Kelly Gribauval-Hite: I am supportive of this. I am in a small rural community, and water costs have risen exponentially. Every time the water rates or fees increase, it is a huge frustration. People are on a shoestring budget. It may not seem like a lot, but small increases can be very impacting to families.
- Glenn Skuta, MPCA: Have you talked with anyone from the MPCA yet? *Answer:* We talked with Dana Vanderbosch and Tom.
- Rich Biske: What are the next steps? *Answer:* We will be talking with more people about it; help build a coalition around it. We will be looking for ideas for funding, which is the eternal trick. We need solutions that work for everybody. We want to have a draft ready for next year.

Large-volume water users policy statement *(Webex 00:59:30)*
Following feedback from the Clean Water Council and suggested revisions that came in after the meeting, the policy statement has again been updated. Please review in advance as you are able.
Discussion:

- Rich Biske: There was not a lot of discussion at the January meeting, but Bonnie Keeler with the University of Minnesota (UMN) followed up with some suggestions for this policy statement. She has a knack for policy. Perhaps we can convince her to join the committee. A lot are strengthening the word of the policy statement. Some are on the structure of the policy statement, so we may need to make some decisions on them.
- Jen Kader: I did go through and adjust the policy statement, to fit the conversation of the committee so far. There are items to review to fit with previous versions of the policy statement, for consistency. Now is a good time to go through these changes and reconfirm the Council's policy statement set up as we move forward for future policy statements. She wanted to invite us to jump right into the policy statement. So, then there was a fair amount of redundant language, so two pages of text were taken out. We made sure we did not lose any meaning. She wanted to cut the introduction, and we can talk about if we want to drop that or not. It is a

high-level look at what the statement would be, and she suggested moving that out, based on her policy writing in the past. In the problem statement, the language from the intro was woven in. Other parts were cut into streamlines. The edits were consistent with the conversations we have been having. Another larger change was added in a subheading on audience and purpose. This helps provide the scope of the policy – looking at the "who" and the specific audience (Council, Legislators, state agencies, etc.). To have a way to address the challenge of large-scale water users. Something else was using letters instead of sub bullets, so we can be more specific.

- Does the committee want to keep or drop the introduction?
  - Gail Cederberg: I like the changes. This was a good way to get rid of redundancy, and I am happy with the work done on this document. It is more direct, so I like it.
  - John Barten: I like having the policy statement up front to be consistent with past policies. I would like to see that again. I would defer to her for her expertise. I like to have the first page – for those that only read the first page – can know what those are. I think we need to start with the summary of the recommendations. I like that organizational structure, but that is just my opinion.
  - Rich Biske: Perhaps we can have a third option, to have something in a short paragraph (like an abstract or opening statement) to bring it together.
  - Jen Kader: That was previously present. We can bring it back in.
  - Committee would like to see the policy statement above, with a line under, moving straight into the problem statement. They would like to keep the change of numbers instead of sub bullets.
- Is there a need to reference the expanded recommendation?
  - Rich Biske: I think they will get there, because the problem statement expands to the second page.
- Audience and purpose section change discussion:
  - John Barten: Instead of memo, we should call it a document.
  - Committee agrees to section changes made.
- Review of the recommendation's bullets: Does the Council want to specify who should be responsible for these pieces, or leave it more open ended for those to step forward? Note, the last two recommendation bullets have very few changes.
  - Rich Biske: Regarding number two, for the audience, do we need to be more specific on the state agencies included? Do we need to identify them? It could get long and exhaustive.
  - Jason Moeckel: Thank you for brining it up. That was a takeaway for me, as it was unclear on who needs to coordinate with whom. The state agencies, specific to data centers, have a group that works with coordinating for data centers, and they are out of DEED. So, it can be valuable to have the direction of the coordination.
  - Rich Biske: Should that one stop team be included? Or more value in listing out the applicants and local governments that should coordinate?
  - Jason Moeckel, Department of Natural Resources (DNR): The Minnesota Business First Stop, specific to data centers, is not encompassing of the large volume water centers. Your policy is not limited to data centers, so that is intentional.
  - Jen Kader: At one point we had that called out, and as the discussion continued, it was re-worded to be more encompassing.
  - Jason Moeckel, DNR: Perhaps, just include it as an example.
  - Rich Biske: Data center can be triggering, and we want to encompass the large water users.
  - For the second recommendation, the Committee agrees to shift "*Require proposes of a new large volume water user publicly disclose anticipated water use as a part of environmental review*" higher up (to 2.c). So, there is a tool to evaluate that information. Also, that the DNR will work with the MDH on chemistry and quality as part of the environmental review. For 2.f, adjusted to be *"Local permitting authorities should require proposers of a new large-volume water user to incorporate water efficiency mechanisms such as closed loop geothermal systems and water reuse*".

- For the first recommendation, the Committee agrees to changes, which include adding "…*to develop and enhance regional groundwater models in order to better understand current conditions across the state…*", identify the DNR and include them for 1.b., as well as identify the DNR to include them for 1.c.
- For the third recommendation, the Committee agrees to changes, which include adding local government units (LGUs) at the start of 3.a., adding in LGUs, MDH, DNR, and Metropolitan Council for 3.b., and wording of *"Coordinate with the MPCA, and Met Council Environmental Services when appropriate, on wastewater discharge"* added regarding reminder about wastewater discharge for 3.c. Additionally, for 3.g., wording to specify the training more was added in.
- Next steps are to address the overlap between 2.d., and 3.f., and making sure everything flows smoothly. Next meeting will be a final review. Additionally, next steps for the Committee to move forward for approval with the full Council and have it included in the Council's recommendations. Additional conversations about how to get all the policies out to the public more can occur in the future as well.

- March Policy Committee meeting will review the Large-Volume Water Users policy for a final look and start work on updating the chloride policy statement.

Adjournment *(Webex 02:10:23)*

House File	Senate File	Chief Author	Short Description
HF3793	SF3852	Pursell, Johnson Stewart	Certain users of large amounts of groundwater requirement to apply for their own water-use permit instead of modifying an existing municipal permit
HF1066	SF1089	Reyer, Hauschild	Appropriation for soil and water conservation district aid increased.
HF3824	SF3610	Anderson, P.H., Dornik	Grant funding provided to support developing markets for oats, and money appropriated.
HF3896	SF3748	Falconer, Kunesh	Operation of watercraft in a manner that threatens uncultivated wild rice beds prohibited.
HF3897	SF3916	Falconer, Kunesh	Wild rice protected by requiring a wild rice risk justification before authorizing certain activities.
HF3898	SF3915	Falconer, Kunesh	Wild-rice water pesticide protection provisions modifications
HF309	SF875	Falconer, Cwodzinski	Boundary Water Canoe Area Wilderness mining restrictions modified.
HF2928	SF3968	Acomb, McEwen	Preapplication filings for large water appropriation projects required, permit application information for large water appropriation projects added, level of environmental review for data centers specified, data centers exempted from making financial contributions to an energy conservation and optimization plan, and other data center provisions modified.
HF3324	SF3519	Myers, Johnson Stewart	Rebate program to replace time-based ion exchange water softeners with demand-based ion exchange water softeners established, and money appropriated.
HF3466		Vang	Mandatory environmental assessment worksheet requirements for drainage projects established, and rulemaking required.
HF3619		Hansen	Environmental Quality Board required to order a generic environmental impact statement on sustainable aviation fuel, and temporary moratorium on sustainable aviation fuel tax credit and grants placed.
HF3394	SF3741	Quam, Nelson	Well testing provided to establish baseline groundwater quality before certain construction.
	SF3639	Green	Counties authorization to require watershed districts to use sources other than watershed district tax levy to complete projects
HF4015	SF3677	Green	Certain agricultural land exemption from certain wetland replacement plan requirements
HF3422		Hicks	Enhanced agency oversight of state grants required.
HF3748	SF4122	Jordan, McEwen	Lead service line replacement grants funding provided, and money appropriated.
HF3426	SF3857	Jordan, Hawj	Funding provided from environment and natural resources trust fund, and prior appropriations extended.
HF3879	SF4304	Vang, Hawj	Outdoor heritage fund; prior appropriations extended and modified, and money appropriated.
HF3883	SF4137	Freiberg, Johnson Stewart	Water supply planning and reporting requirements clarification
HF793	SF492	Putnam, Scott	Certified salt applicator program established, liability limited, and report required.
HF4019	SF4192	Schultz, Koran	Mt. Simon-Hinckley aquifer appropriation permits eligibility criteria expansion
HF3962	SF4207	Hawj	Identification and reporting on priority PFAS requirement
HF3940	SF4275	Pursell, Kunesh	Rulemaking to require environmental impact statement for large animal projects
	SF4215	Hawj	Various motorboat, fishing licenses, off-road vehicle, and water use provisions
HF4337	SF4229	Skraba, Hauschild	Commissioner of natural resources authority modification to provide training to individuals to inspect watercraft for aquatic macrophytes, aquatic invasive species, and water
HF1150	SF1117	Pursell, Maye Quade	Environmental impacts to Minnesota of artificial intelligence study requirement and appropriation
HF4301	SF4457	Gander, Johnson	Counties, municipalities, and townships for planning and assistance to support drinking water regionalization appropriation
HF4224	SF4525	Fischer, Kunesh	Notice requirements for water discharges modified.
HF4509	SF4704	Heintzman, Heintzman	Fees for some nonmotorized watercraft eliminated.
HF4153	SF4681	Mekeland, Mathews	A bill for an act relating to data centers; modifying the criteria for preapplication evaluations of water appropriations for certain data centers; exempting certain data centers' electricity sales in calculating a utility's solar energy standard; exempting certain data centers from paying a fee; exempting certain data centers from paying sales tax on electricity purchases; amending Minnesota Statutes 2025 Supplement, sections 103G.265, subdivision 5; 216B.02, subdivision 12; 216B.1623; 216B.1691, subdivision 2f; 216B.72; 297A.68, subdivision 42.
	SF4814	Housley	A bill for an act relating to natural resources; clarifying public waters and public drainage system laws; amending Minnesota Statutes 2024, sections 103E.701, subdivision 2; 103G.225; 103G.245, subdivision 2.

Clean Water Council

Revised draft for Policy Committee consideration 3/27/26

Large-volume water users

Summarized Policy Statement

In response to a recent increase in interest from prospective large-volume water users and demonstration of clear need for a coordinated response, the Clean Water Council recommends that the State of Minnesota implement the following actions to protect groundwater across jurisdictional boundaries and for future generations:

- Enhance regional groundwater models.
- Increase intention around siting and design of new facilities with respect to water supply.
- Incorporate large-volume water users as considerations in existing state, regional, and local water plans.

These actions are expanded upon under "Recommendations", beginning on page 3.

Problem Statement

Minnesota is a water rich state. However, water is not an unlimited resource. Large increases in water use can impact individuals, businesses, communities and ecosystems. Of particular concern are potential increases in the presence of large water volume users in Minnesota, or those using more than 100 million gallons of water per year or one million gallons per day. Much attention has been directed towards the siting of new hyperscale data centers that can withdraw up to 1-5 million gallons of water per day - the equivalent of a small city[1]. Quality can also be impacted, as pumping of large volumes of water can change groundwater chemistry through changing flow patterns and mobilizing contaminants such as arsenic, manganese, and others. Private well interference and quality changes can create hardship for users and financial risks for municipalities. Additionally, accessing and transporting large volumes of water to support new facilities and managing the subsequent wastewater streams can create challenges for local infrastructure capacity, leading to additional financial and planning implications for a community. The addition of multiple large-volume water users within a single community (or adjacent communities) can therefore create significant impacts on local and regional groundwater sustainability, local water quality, groundwater-dependent waters, ecosystems, and future availability of groundwater.

Water for domestic consumption is considered by the State of Minnesota as the highest priority use (Minn. Stat. §103G.261). The prioritization of uses is an important safeguard, ensuring that water is available for domestic consumption (public and private), especially in the event of an emergency. Water appropriation requests from proposers of new data centers have caused concern that this

[1] (Include reference to Freshwater data centers fact sheet, McKinsey & Company Report, and MCEA documents)

statute could be circumvented, that or water suppliers could feel pressure to continue to provide supply in the event of an emergency longer than they should.

Municipalities and communities also may not have access to sufficient information to comprehensively evaluate proposals. In order to understand potential risks, reviewers need to be able to be able to know how much water would be needed to supply the proposed large volume water user, what that volume of pumping would mean for local groundwater or surface water quantity and quality, how climate trends or changes could influence availability for all users, what the cumulative impact could be, and more. Unfortunately, this information is often not available or not available at the scale necessary, do not include planned-but-not-built developments, or are not made available in a way to support informed decision making and a prioritization of water in considering proposals. Higher resolution models and more accessible and appropriate risk-assessment tools are needed.

Proposals can also be too early in design to contain sufficient information about water need, and nondisclosure agreements can limit transparency. Even if higher resolution models and tools are available, lacking this information makes it hard for any evaluation to be relevant.

Communities and the State need data that are at a relevant scale, include planned developments, incorporate understanding of water quality conditions and impacts of changes in groundwater flow, considers an uncertain future, and more.

Given the resources listed above and more, we have information and tools available to enhance decision making. While we can build on top of that, much of the work can simply be leveraged. For instance, some groundwater models exist for the metro region and other parts of Minnesota at greater risk of over withdrawal. These models and other tools can inform safe water yield thresholds. However, as a state, we do not yet have a good way to understand the cumulative impact of large-volume water users everywhere or assurances that this information is consistently leveraged between plans and jurisdictions.

Audience and Purpose

The Clean Water Council has a statutory role to foster coordination and cooperation as part of the Clean Water Legacy Act. The Council is interested in protecting groundwater across jurisdictional boundaries and for future generations. The Council encourages improved data sharing, local government capacity building, and broader intergovernmental collaboration. The Clean Water Council is interested in understanding risks associated with overuse or contamination of water from large-volume water users, and in addressing the potential gaps in the statewide, regional and local decision-making processes.

The purpose of this document is to identify policy recommendations and investments that address potential environmental and social problems associated with large-volume water users in Minnesota, including those already permitted and operational. We acknowledge that large volume water users also raise concerns related to energy, air pollution, long-term economic development,

and other issues. However, the Council within its charge is interested predominantly in the implications specific to water.

Fortunately, work in recent years has better equipped Minnesota to respond to the influx of interest from large-volume water users. The following tools or resources have been developed as a result of Clean Water Fund investments, and can be leveraged and expanded upon to meet the challenge:

- Groundwater Restoration and Protection Strategies have built on statewide monitoring information to identify strategies to protect and restore groundwater quality and quantity
- One Watershed, One Plan has elevated groundwater as an issue on regional scales across the state, drawing attention to need for protection and restoration
- The DNR has engaged in aquifer monitoring for water supply planning across the state, with specific attention to areas of concern
- Modeling and planning for Little Rock Creek Area Water Use Conflict
- Planning and technical support for the three Groundwater Management Areas
- Staff in the Twin Cities metropolitan region have been researching and planning around water sustainability and have worked to cultivate intergovernmental relationships:
    - Metro Model 3 (Metro Model 4 in the works)
    - Multi-community Wellhead Protection Plan pilot
    - Subregional water planning collaboratives
    - Metropolitan Council commissioned research paper on large-volume water users, due in early 2026, that will have a checklist guide for cities to use

The Environmental Quality Board also developed a new Groundwater Report in 2025 that provides great detail and content.

The Council also recognizes the need for legislative and policy action to address the challenge of large-scale water users. As such, the memo includes recommendations for agencies, legislators, and other elected officials who oversee policies, procedures, permitting, and resource allocation as they relate to water resources and potential threats to water quality and quantity.

Water in aquifers, like water on the surface, does not adhere to jurisdictional boundaries. Decisions in one community impact the communities around it, and vice versa. As demonstrated above, large-volume water users impact both groundwater quantity and quality. Whether we look at individual proposals or cumulatively, we do not have the tools to fully understand regional impact. Regional planning support for cities and intergovernmental collaboration is needed to help manage for regional impact.

At the end of the 2025 legislative session, the State Legislature set new expectations for pre-application and early coordination with the Department of Natural Resources for any new data centers. This provides an opportunity to discuss the regulatory framework, but also do an assessment of possible locations under consideration and share resource concerns, trends, other wells, etc. While this can help to address some siting concerns and support private industry and communities in making early informed decisions regarding data centers, additional action with

regard to all large-volume water users is needed to safeguard water availability for today and the future.

Recommendations

In response to a recent increase in interest from prospective large-volume water users and demonstration of clear need for a coordinated response, the Clean Water Council recommends the following actions to protect groundwater across jurisdictional boundaries and for future generations:

1. **Enhance regional models.**
    a. The Department of Natural Resources and Metropolitan Council should continue to develop and enhance regional groundwater models in order to better understand current conditions across the state, the influence of new proposals, and cumulative impacts on water supply, aquifers, and groundwater dependent surface waters and ecosystems. Ensure these regional models factor in forecasted population growth and climate change.

    b. The Department of Natural Resources should modernize the Statewide Drought Plan to incorporate extreme weather threats and address triggers for groundwater conservation based on risks to groundwater supply.

    c. The Department of Natural Resources should collaborate with neighboring states, Tribal governments, and Canada to more fully reflect and manage water conditions where activities have the potential to impact water quantity and quality in Minnesota.

2. **Increase intention around siting and design of new facilities with regard to water supply.**

    a. Local utilities and municipalities should coordinate with the Minnesota Department of Employment and Economic Development and the Minnesota Department of Natural Resources (and the Met Council, where appropriate) on the siting of new facilities from a groundwater availability and water supply perspective. First Stop is a good example for data centers.
    b. The Department of Natural Resources should continue to coordinate with the Minnesota Department of Health from a chemistry and water quality perspective in reviewing permit applications.
    c. The Legislature should require proposers of a new large-volume water use to publicly disclose anticipated water use as a part of environmental review.
    d. The Metropolitan Council and Department of Natural Resources should develop a framework or tool to aid the public and private sector in better evaluating water risk and/or more strategically site or design large-volume water use industries.

e. Encourage co-location of large-volume water uses with wastewater treatment facilities or other beneficial industries, and consider opportunities for recharge of treated discharge.
f. Local permitting authorities should require proposers of a new large-volume water use to incorporate water efficiency mechanisms such as closed loop geothermal systems and water reuse.

3. **Incorporate large-volume water users as considerations in existing state, regional, and local plans.**
    a. The Minnesota Department of Health and local government units should include large-volume water users as considerations in Groundwater Restoration and Protection Strategies (GRAPS) and the development or amendment of comprehensive watershed management plans (One Watershed One Plan or other approved plans). Groundwater use and discharges to surface waters from data centers should be of particular interest. Encourage amendments for comprehensive watershed management plans in areas which have recently seen an increased interest from developers.
    b. State, regional, and local governments as well as water suppliers should include large-volume water users as considerations for municipal planning efforts, more closely aligning land use decisions with water supply and protection plans, including local and regional Wellhead Protection Plans, Water Supply Plans (including emergency preparedness plans), Local Water Plans, and Local Comprehensive Plans in the metro area.
    c. Local planners should coordinate with the Minnesota Pollution Control Agency, and Met Council Environmental Services when appropriate, on wastewater discharge.
    d. Water suppliers and the Department of Natural Resources should integrate groundwater risk assessment models into coordinated emergency response plans to address the concern of over-allocation of water to particular uses.
    e. When new land use decisions allowing for large-volume water users are proposed, the Department of Natural Resources should review impacts on high-priority current and future water use; Minnesota Department of Health should be engaged for review of Drinking Water Supply Management Areas, water chemistry and private well considerations; and, in the metro area, the Metropolitan Council should review whether impacts to water availability will require a change to population forecasts or service availability. These local planning resources should be informed by statewide risk management plans including the Statewide Drought Plan.
    f. Develop a framework or tool that local communities could use to ensure they have full access to needed information to evaluate proposals and understand risks to water availability and infrastructure capacity. The resources ought to include models and examples for hosting community conversations around this topic to give Minnesota residents a seat at the table in planning in advance of and in response to a proposal and ideas for tying land use decisions to water supply and resource protection goals more directly.
    g. The Metropolitan Council, Department of Natural Resources, and Department of Health should work with the League of Minnesota Cities, and the Coalition of

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Greater Minnesota Cities, Minnesota Association of Townships, and other interested entities for proactive outreach and training opportunities regarding planning for and responding to interest from new large-volume water users, as described in other bullet points in this document.

Chloride Reduction: De-Icer [Approved Policy Committee 26 June 2020]

Revised Policy Statement

The Clean Water Council recommends that the State of Minnesota implement the following actions to reduce chloride in Minnesota surface and groundwater:

- Fund the **Smart Salting applicator training and certification** program, and the MPCA's **chloride reduction budget** to support the development and maintenance of tools, resources, policies, trainings and assistance programs to reduce chloride pollution.
- Request that the Legislature give the MPCA the **authority to charge a fee** for chloride training.
- Provide **liability protection** for the Smart Salting program certified private winter de-icing applicators for reduced salt applications.
- Provide **research funds to develop new technology and alternatives** to chloride-containing de-icing chemicals, and best management practices.
- Encourage and support the **adoption of the MPCA's Chloride Reduction Model Ordinance Language** by local governmental entities.
- Have the MPCA convene and lead a stakeholder process to develop recommendations for **new labelling requirements** on bags of de-icing chemicals sold in Minnesota.

Problem

Chloride is a naturally occurring ion found in low levels in Minnesota surface and groundwater. Salt used for winter de-icing and water softening contain chloride. Chloride is not toxic in small concentrations. However, above 230 mg per liter (about one teaspoon in 5 gallons of water), chloride becomes toxic to freshwater fish and other aquatic life under long-term exposure. Once chloride enters our surface water (lakes, streams, and wetlands) and groundwater, it is not feasible and extremely expensive to remove it.

Winter de-icing salts are among the primary sources of chloride in Minnesota waters.

In the Twin Cities Metro Area (TCMA) winter maintenance activities use approximately 365,000 tons of chloride de-icer per year. The de-icing salts eventually wash into nearby lakes, streams and wetlands. Recent monitoring shows increasing chloride concentrations in surface water and shallow groundwater. Since it is very difficult and expensive to remove chloride from our surface and groundwater once it gets into water, reducing chloride at the source is necessary.

- **Inconsistent labeling** for de-icers creates confusion for consumers. De-icers can be labeled as "eco-friendly" or as an alternative to salt, but they may pose other problems for water quality. Currently there is not a standard for labeling de-icers for their potential threats to water quality.

Links to Clean Water Council Strategic Plan

Goal 3: Surface waters are swimmable and fishable throughout the state

- Prevent and reduce impairments in surface waters
- Maintain and improve the health of aquatic ecosystems
- Invest in activities and research that can accelerate improvement in water quality through new approaches (e.g., perennial crops and other "landscape drivers", chloride management or alternatives, etc.).

Solution

1. **Training and Certification**. Continue the Smart Salting applicator training and certification program: The MPCA has a training program for private and public salt applicators, such as snow removal contractors and snowplow drivers. This has been a very successful program and has assisted winter maintenance programs in reducing salt application rates by 30% to 70%, without compromising public safety. The TCMA Chloride Management Plan and Statewide Chloride Management Plan include the Smart Salting training program as the top implementation strategy to reduce salt use in the winter. In the past, MPCA conducted this training with federal funds, but those funds are temporary. The estimated operating cost for the training program in FY22 is $350,000/year. To qualify for the liability protection to private salt applicators, the applicator must complete Smart Salting training program to be certified. The State should continue to provide adequate funding to the MPCA's **Chloride Reduction Program** budget to support the development and maintenance of tools, resources, policies, trainings and assistance programs like MnTAP to assist communities in their effort to reduce chloride pollution.
2. **Allow the MPCA to Charge a Fee**. Currently the MPCA does not have the authority to charge a fee for the training that would defray some of the cost. Legislative authority will be required. There is more demand for these chloride reduction training than the MPCA can meet. By charging a fee to willing customers, the agency can meet the demand.
3. **Liability Protection**. Provide liability protection to certified private salt applicators against slip and fall lawsuits: The notion here is that private applicators certified through the Smart Salting program would be able to apply for liability protection. The private applicator industry and local stakeholders strongly support this proposal. Various groups introduced bills to this effect in the last three legislative sessions and it has passed several committees and one house; however, none was enacted into law.
4. **Research Funding for Alternatives**. Make research funds available to develop new technology and alternatives to chloride-containing de-icing chemicals. Research on new technologies and alternative de-icing solutions may allow for a shift in snow and ice management that protect water resources while maintaining public safety. A full list of needed research areas can be found in Section 5 of the TCMA Chloride Management Plan.
5. **Adopt Local Chloride Reduction Ordinances**. Encourage and support the adoption of the MPCA's Chloride Reduction Model Ordinance Language by local governmental entities. The model ordinances provide guidance for creating and implementing ordinances that will assist with reducing chloride pollution. The proposed new municipal stormwater general permit for the State (also known as the MS4 general permit) would require adoption of several of these ideas. The four focus areas in the guidance include:
    a. Occupational Licensure for Winter Maintenance Professionals
    b. Deicer Bulk Storage Facility Regulations
    c. Land Disturbance Activities
    d. Parking Lot, Sidewalk and Private Road Sweeping Requirements
6. **De-icing product labeling requirements**. The MPCA should convene and lead a stakeholder process to develop recommendations for new labeling requirements on bags of de-icing chemicals sold in Minnesota. The goal of this effort will be to convene a knowledgeable group of stakeholders from a variety of sectors to create language that will ensure that consumers are provided accurate and necessary information about the de-icing products they are purchasing

and applying to Minnesota's environment. Some key areas that should be evaluated include, but would not be limited to:

- Require complete ingredients list with percentages provided
- Third party certification requirements for any statements about the products' environmental, pet and human safety
- Provide "practical' temperature ranges (not temperature ranges that can only be achieved in a lab setting or over a time period of weeks for melting to occur)
- Report possible negative impacts of the product on surfaces, vegetation, water quality, and other
- Safety protocols for handling the products
- Guidance for proper application that includes:
    - Snow and Ice removal prior to application
    - Application rates that are based on research
    - Suggested equipment for proper application and proper spread patterns
    - Conditions in which product will not be effective or may create unsafe surfaces

Reducing Chloride Pollution from Winter De-icing Chemicals

Policy Statement

The Clean Water Council recommends that the State of Minnesota implement the following actions to reduce chloride pollution from winter de-icing chemicals (salts) in Minnesota surface and groundwater:

1. Implement a granular salt fee.
2. Incorporate low salt design standards into building and site development.
3. Establish an occupational licensure program for winter maintenance professionals.
4. Research and develop a remediation pathway.
5. Establish a statewide community-based social marketing campaign.
6. Require Smart Salting for state contracts and facilities.
7. Expand and strengthen chloride monitoring statewide.
8. Sustain and enhance funding for the MPCA's Chloride Reduction Program including the **Smart Salting training and certification** program.
9. Provide **liability protection** for certified applicators using best practices.
10. Provide **research funds to develop new technology, best management practices, and alternatives** to chloride-containing de-icing chemicals.
11. Expand requirements for proper storage of de-icing chemicals.
12. Develop standardized **labeling requirements** for de-icing chemicals sold in Minnesota.

Problem

Chloride pollution from the application of de-icing salt for winter maintenance of roads, parking lots, and sidewalks disrupts aquatic ecosystems, alters food webs, damages soil, damages infrastructure (estimated at $1,700 to $17,000 per ton of salt applied in 2023 dollars, MPCA Smart Salting for Roads Manual), and contaminates groundwater and drinking water. Many waterbodies in the state have elevated levels of chloride pollution with a trend that is increasing.

Winter de-icing salts are among the primary sources of chloride pollution in Minnesota waters.

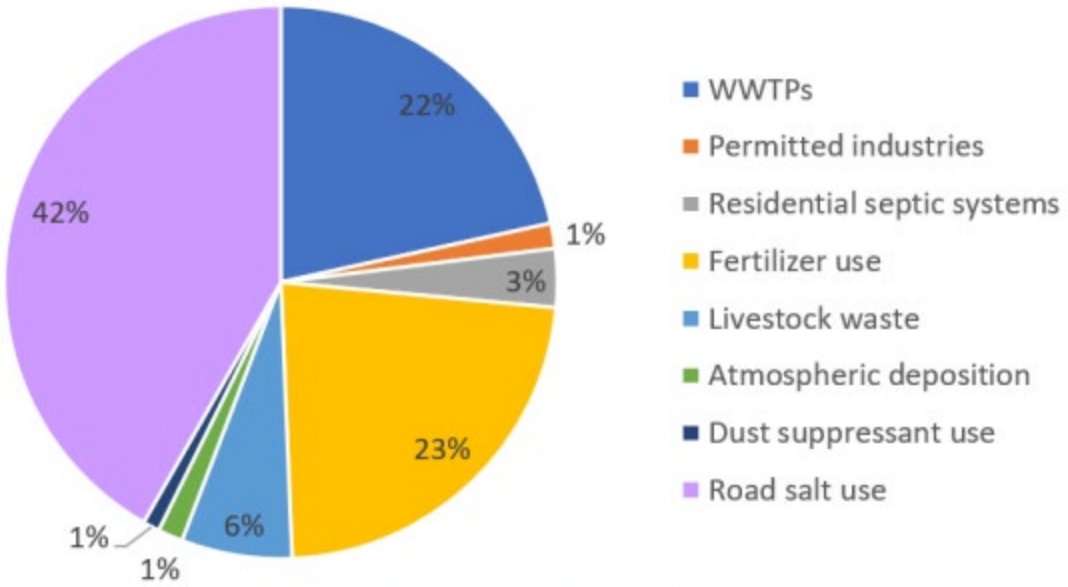
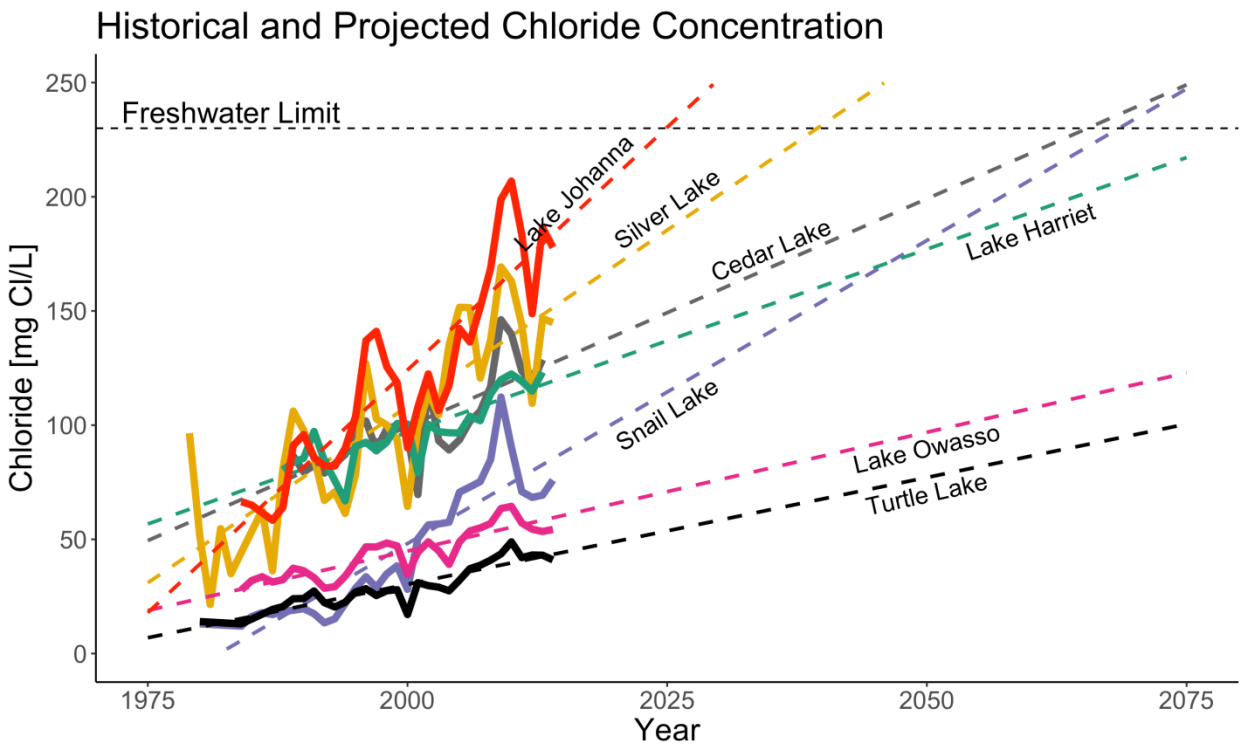


Figure 4: Fraction of annual chloride contributions from major point and nonpoint sources for State of Minnesota (Overbo et al. 2019)

**Please note that Road salt use is actually all de-icing salt applied to roads, parking lots, sidewalks, and trails.*

Statewide, approximately 404,000 tons of de-icer is used annually. It takes just one teaspoon in 5 gallons of water to exceed the water quality standard and become toxic for freshwater fish and other aquatic life under long-term exposure. The de-icing salts applied to hard surfaces eventually wash off and/or infiltrate, contaminating nearby lakes, streams, wetlands, and groundwater.

The Metropolitan Council published a report (Regional Assessment of Chloride in Select Twin Cities Metro Streams (1999 – 2019) which revealed rising chloride levels in nearly all streams. While the metro has been most heavily studied, chloride pollution is not a metro-only problem. The Minnesota Pollution Control Agency published its Milestones report (Water Quality Trends for Minnesota Rivers and Streams at Milestone Sites) in 2014 which identified significant, largely statewide increases in chloride concentrations. Chloride from de-icing salts has been attributed in part to the impaired waters designations for chloride impaired waters in St Louis, Rice, Jackson, Meeker, Le Sueur, Douglas, Lyon, and Kittson counties. A study of chloride impacts to groundwater predicts groundwater in multiple Twin Cities aquifers is likely to reach chronic chloride exposure thresholds by mid-century due to de-icing salt (McDaris, John R et al. “Documentation and Prediction of Increasing Groundwater Chloride in the Twin Cities, Minnesota.” Ground water vol. 60,6 (2022): 837-850. doi:10.1111/gwat.13227) . As of 2026, there are 68 impairments statewide for chloride, and 14 were added in just the last two years.



Graph credit: Freshwater Society

Excess chloride contributes to a phenomenon often refered to as freshwater salinization syndrome, mobilizing heavy metals and creating a chemical cocktail (Kaushal et al., 2022). It leads to direct toxicity and biodiversity loss, macroinvertebrate sensitivity and reduced reproductive success, amphibian mortality, reduced zooplankton populations shifting phytoplankton communities from green algae toward cyanobacteria, density stratification and anoxic conditions which can trigger phosphorus release from sediments.

There is currently no alternative to de-icing salt that doesn't have other tradeoffs in effectiveness, cost, or other environmental harm. Chloride is considered a "permanent" pollutant because it does not degrade over time by typical environmental processes. Additionally, there is no practical way to remove chloride once it enters a waterbody so it accumulates. Therefore, it's prudent to control the pollutant at the source. This will require a broad range of knowledge building, behavior change, implementation activities, and policy. Additionally, a remediation pathway must be researched and established to address the existing and growing inventory of waters impaired by excess chloride.

The Environmental Quality Board (EQB) identified chloride pollution as an emerging issue in the 2015 Water Policy Report. In September 2025, the EQB published the Groundwater Policy Report and in the chloride section noted gaps and opportunities, specifically, "Implementation of policies that support chloride reduction are needed to move beyond voluntary chloride reduction actions". The Upper Mississippi River Basin Association issued a resolution in 2022 calling for collaboration and progress on chloride pollution. Minnesota Watersheds adopted a resolution in 2024 calling for a regulatory approach

to addressing chloride pollution. The Minnesota Cities Stormwater Coalition issued a position statement in 2025 expressing urgency and offering ideas for a comprehensive approach to meet the challenge.

Recommendations

1. **Implement a Granular Salt Fee.** To curb overuse, the costs of infrastructure and environmental damage should be partially shifted to those who overapply salt. A granular salt fee, modeled after the agricultural fertilizer fee, would incentivice more judicious use while generating revenue for chloride reduction efforts. Funds could be reinvested in training and certification programs, research and innovation, implementation of best practices, and equipment and facilities upgrades. A fee structure would also enable improved tracking of salt use statewide, supporting benchmarking and accountability.
2. **Incorporate Low Salt Design Standards.** Infrastructure should be designed with winter maintenance in mind. Poor designs with inadequate snow storage, inefficient drainage, and snow removal obstacles drive salt overuse. Design improvements can reduce long term maintenance costs, improve safety, and minimize environmental impacts. The state should incorporate established low salt design principles into building and site development standards, state-funded project requirements, and sustainability frameworks such as the Minnesota B3 (Buildings, Benchmarks, and Beyond) Guidelines.
3. **Establish an Occupational Licensure Program.** Establish a statewide occupational licensure program for winter maintenance professionals, or authorize counties to do so, to ensure consistent training and accountability. Licensure should include completion of an approved training program (such as the MPCA's Smart Salting certification program) and periodic continuing education. This approach would professionalize the industry, reduce overuse, and provide assurance to property owners and the public that winter maintenance services are being delivered safely and responsibly.
4. **Research and Develop a Remediation Pathway.** While source control is and should remain a top priority, it is prudent to advance a solution to remediate surface water that is or is imminently impaired by chloride. The State should lead a feasibility effort to evaluate remediation options and assess engineering feasibility, cost and scalability, waste management challenges and opportunities, risks, tradeoffs, energy demand, ecosystem impacts, and policy barriers. The goal is to determine if, where, and how chloride remediation can be implemented effectively.
    a. Case Study: Leveraging Watershed Based Implementation Funding, the Bassett Creek Watershed Management Commission and City of Plymouth studied options for delisting Parker's Lake. The study analyzed two primary alternatives to reduce chloride in Parkers Lake: 1) pumping lake bottom water directly to the sanitary sewer, and 2) pumping lake bottom water, treating it, and returning treated water to the lake. Two different treatment systems were evaluated for this alternative – a small-scale reverse osmosis system (RO) and an ion exchange system (IX). Ultimately, the decentralized treatment systems were cost prohibitive. More information on the study is available at Parkers_Lake_Chloride_Dilution_Extraction_Tech_Memo_final.pdf
5. **Establish a Statewide Community-Based Social Marketing Campaign.** A coordinated, statewide community-based social marketing campaign is needed to increase awareness and drive behavior change. State leadership can amplify and align existing local efforts, similar to the successful We Are Water program.
6. **Require Smart Salting for State Contracts and Facilities.** Require Smart Salting certification, use of best practices, and proper storage of de-icing chemicals for all winter maintenance conducted

under state contracts and at state-owned or state-managed facilities. Contract specifications should clearly define performance expectations, documentation requirements, and compliance measures, including calibration of equipment, application rate tracking, and recordkeeping. State agencies should incorporate accountability mechanisms such as incentives, audits, or penalties. By leading through its own operations and procurement standards, the State can set a strong example and accelerate adoption across the private sector.

   a. A model contract for responsible snow and ice management that embraces best practices to minimize environmental impacts from de-icing chemicals while also maintaining safety and addressing liability risk allocation is available on the MPCA's Chloride Resources website.

7. **Expand Strategic Chloride Monitoring.** Incorporate strategic chloride monitoring into the Minnesota Pollution Control Agency's surface water and groundwater monitoring programs to better track statewide conditions and identify trends. This should include strategic enhancements to the MPCA's ambient groundwater monitoring network and the Watershed Pollutant Load Monitoring Network to sufficiently capture patterns in high-risk areas and across the state. Enhanced strategic monitoring and reporting of conditions and trends will support early detection of problems in vulnerable waterbodies, evaluate the effectiveness of chloride reduction strategies, and provide the data needed to guide policy, prioritize investments, and engage with interested parties on addressing chloride pollution.
8. **Sustain and Enhance the MPCA Chloride Reduction Program including the Smart Salting Training, Certification program**. The MPCA Smart Salting training and certification program supportsa range of audiences involved in de-icing decisions and operations, from private and public winter maintenance professionals who maintain roads, rural roads, parking lots, and sidewalks, to MnDOT, property managers, and community leaders. The Statewide Chloride Management Plan identifies the Smart Salting training program as the top implementation strategy to reduce salt overuse in the winter. Case studies have shown that participating organizations have been able toreduce salt use by 30% to 70%, without compromising safety. Further, the program provides low-interest loans and grants for equipment and retrofit projects. The program has been exclusively funded by Clean Water Funds since January 2021. The State should sustain and enhance the MPCA's **Chloride Reduction Program** to support the development and maintenance of tools, resources, policies, trainings and assistance programs to assist communities, private sector applicators, and property managers in their effort to reduce chloride pollution and at least half of the chloride reduction budget should be dedicated to adoption of best practices to reduce chloride from de-icing chemicals.

Lastly, growing the chloride reduction program in Minnesota is critical as adoption of best practices and other policies in this document could accelerate progress and would put more demand on the training and cost share programs.

9. **Liability Protection**. Provide liability protection to certified private salt applicators against slip and fall lawsuits who follow established best practices and document their work.. The primary goal is to reduce overapplication driven by fear of litigation, encourage adoption of Smart Salting practices, and maintain safety while improving envrionmental outcomes.
10. **Fund Research and Innovation**. Referring to the Forever Green Initiative as a model, establish a research program to develop improved winter maintenance practices and alternatives to chloride-based de-icing chemicals. Chloride based deicers, acetate based deicers, and carbohydrate products have their tradeoffs (cost, safety, effectiveness). Innovation in this sector

is essential to develop a cost-effective alternative that can perform and is less harmful to the environment. A list of needed research areas can be found in Section 5 of the TCMA Chloride Management Plan. Additionally, a partnership with the new Cold Climate Stormwater Center of Excellence (CCSCoE), co-led by the University of Minnesota (UMN) and University of New Hampshire, could be leveraged to do this work with their focus on developing, testing, and implementing stormwater solutions specifically for cold, snowy environments.

11. **Expand Proper Storage Requirements**. Proper storage of de-icing chemicals is a cost-effective and common-sense measure to reduce pollution.
    a. Proper storage is required in communities regulated under the MPCA's Municipal Separate Storm Sewer System (MS4) program; the permit requires local controls for proper bulk storage of de-icing chemicals at commercial, institutional, and non-NPDES permitted industrial facilities. The MPCA's Chloride Reduction Model Ordinance Language document provides guidance for creating and implementing an ordinance.
    b. The MPCA should review waste management programs and pollution discharge elimination programs to see where proper storage of de-icing chemicals could be further incorporated..

12. **Develop Standardized Labeling Requirements**. Develop standardized labeling requirements for de-icing chemicals sold in Minnesota to address misleading or incomplete information. De-icers can be labeled as "eco-friendly" or as an alternative to salt, but they may pose other problems for water quality. The MPCA should convene interested parties from a variety of sectors and lead a process to develop recommendations for new labeling requirements on packages of de-icing chemicals sold in Minnesota. . Some key areas to establish requirements for include, but would not be limited to:
    - Ingredient disclosure
    - Verified environmental and safety claims
    - Realistic performance information
    - Clear application guidance

Improved labeling would support informed decision-making and reduce unintended environmental harm.

Conclusion

Chloride pollution from de-icing chemicals is a growing threat to Minnesota's water resources. Because chloride accumulates and cannot be feasibly removed, proactive and coordination action is essential. This policy framework outlines a comprehensive approach that combines incentives, standards, knowledge building, monitoring, research, and accountability. Together, these actions can significantly reduce chloride pollution while maintaining public safety, protecting infrastructure, and preserving Minnesota's freshwater resources for future generations.