

Policy Committee Meeting Agenda

Clean Water Council

May 29, 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

10:00 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.

10:15 Engagement Opportunities for Public Input Meeting June 15

The June 15 Council meeting will have a strong public input component. With the dissolution of the engagement sub team in favor of all Council members serving an engagement function, time in this meeting will be dedicated to discussing ways to support Council members reach out to and connect with their constituent groups.

10:45 Break

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

The chloride de-icers policy statement has been further revised since our last meeting. Primary changes are focused on prioritizing and grouping recommendations, increasing consistency with formatting of other policy statements, adding context for approaches to reducing chloride pollution, and clarifying some of the language. Please review and come prepared to discuss.

12:00 Adjourn

Policy Committee Meeting Summary
Clean Water Council (Council)
April 24, 2025, 9:30 a.m. to 12:00 p.m.

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

Members absent: Gail Cederberg and Chris Meyer (Vice Chair).

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

- Introductions
- Motion to approve the April 24th meeting agenda by John Barten, seconded by Kelly Gribauval-Hite. Motion carries unanimously.
- Motion to approve the March 27th meeting summary by John Barten, seconded by Kelly Gribauval-Hite. Motion carries unanimously.
- Chair update
 - [We Are Water](#) invitation at the Minnesota Humanities Center. We have talked about Tribal Government engagement. I would encourage Council members to consider attending.
 - Flag the groundwater interest in the central sands (Jessica Johnson from White Earth). We know it is important to them, and they put a lot of work into that area. It would be good to keep an eye on it.
 - Glenn Skuta, Minnesota Pollution Control Agency (MPCA): The Legislative-Citizen Commission on Minnesota Resources (LCCMR) project with White Earth Natural Resources, will have a project cleanup and next steps meeting on June 2, if people are interested.
- Staff update
 - Jen Kader plans to be at the [We Are Water](#) 10 year anniversary celebration and Bdote tour. Council members are encouraged to attend.
 - The Large Volume Water Use policy has been added to our webpage. The previous policy statements will be added, and hopefully it will be more user friendly. It will be more accessible in the future.
 - The questions and adjusted scores from the April programs reviewed have been sent to applicants and agency staff. Folks are appreciating the deeper dive into these programs. The staff have appreciated the specific questions Council members have for their programs. Priority level and funding direction can still be sent into Jen by May 5th. It will be shared at the Budget and Outcomes (BOC) meeting.
 - Jen presented at the Minnesota Association of Soil and Water Conservation Districts (MASWCD) area 4 which represents the 11-county metro area.
 - Last night Jen Kader attended the [We Are Water](#) opening celebration at Capitol Region Watershed District. It was a family-friendly space and was wonderful to attend. I encourage everyone to check it out.

No Public Comment Provided (*Webex 00:15:30*)

Chloride De-icers Policy Statement (*Webex 00:17:30*)

The chloride de-icers policy statement has been further revised since our last meeting.

Thank you to Jessica Wilson for inviting people to the last meeting to speak on this topic.

- Changes:
 - Place in categories to make it easier to isolate the action areas. The Chloride Reduction Program appears twice serving two purposes (Awareness and Behavior Change, as well as Incentives and Financial Sustainability). This categorization makes it easier to see where these items fell into place.
 - Added the Audience and Purpose section. Noted the costs.
 - Recommendations at the end had some format and grammatical changes. When some sentences were removed, there were issues. So, some wording was added back in from the previous, red-lined version.
 - Added a note about financial sustainability.

- Worked to identify who is responsible for the work, identifying responsible parties. Some areas need more conversations to reveal the work to be done. It can help spur other conversations.
- We are still deciding where items land (such as the licensing). It depends on who is asked. It can be rolled out in a more experimental way. It can be left more general as items are sorted out over time.
- This policy represents a strategic shift. It still includes municipal, operational efficiency, and public education, and items in the MS4 permit. This is helping address the issue. It is hoping to get to a greater approach to scale to the problem we are facing. It is sparking that bigger thinking.

Discussion/Comments/Questions:

- Bonnie Keeler: Are we using consistent formatting and subheadings for all policy statements? It seems like a good idea to adopt a standardized template. *Response:* Yes, we will make sure we have that setup.
- Jen Kader: Every time we talk about road salt, beet juice comes up as an option. Perhaps, it should be included as an option and include why it is not the ideal option. *A sentence can be added for it.*
- Jen Kader: Where the language talks about chloride being a permanent pollutant, perhaps “an ounce of prevention equals a pound of cure” should be added. *A sentence can be added for it.*
- Jen Kader: For the audience and purpose, Bonnie Keeler recommends it shortened to two paragraphs. One to describe audience and another to provide the context/gap/opportunity.
 - John Barten: Can we incorporate the language we used in the large volume water user statement, where the Council has a statutory role to foster coordination and cooperation? Include the rest of the text. It is a good statement to set the role of the Council up front for the audience and purpose. It is our statutory role. Then, follow the policy as intended for the legislature. *A note has been added for this area.*
- Jen Kader: For the recommendations section, Bonnie Keeler has a note on how these are good recommendations but it is unknown which are highest impact or highest priority, and there is value in it.
 - Bonne Keeler: I do not have an idea of what is the most important. I learned a lot reading this document. It is a long list. It does not signal a potential decision-maker, so then the quickest and cheapest option is frequently chosen if we don't tell them what is most important. It would be good to indicate it, to direct priority and attention to those actions.
 - Jessica Wilson: We have effort versus impact chart. Looking at easy versus hard and low-impact versus high-impact. Some of those easy, low-impact things (perhaps in the MS4 permit) are fine, but they are not going to move the needle with the issue. However, big impact, whether easy or hard, are the items we have tried to focus on in this policy statement (exception of properly storing salt - one of the easiest things to protect water). We have filtered out many items low impact and did not make it to this statement. I think some of the low impact items have already been edited out. However, a lot of items are big effort. I think every interested party needs to get serious about this problem. There is a perception of one thing to do to change things, but there needs to be lots of things. There must be many things working together, across interested parties. We have built this scaffolding to launch from. It think the most important thing is several things. They will be hard. We have been working on limited liability for ten years. I've heard folks say a salt fee would be unpopular and a long shot. Those two would be my two most important, if I had to vote. Those would be long shots. Also, the remediation idea is one of the most important things for us to work on. It is tricky to isolate a few items. I think they will all be impactful and will all take a lot of work and time. I think it is a great question.
 - Bonne Keeler: We have a great menu but have not taken the next step to say the criteria applied to this menu and based on the analysis to a more targeted approach. Policy makers have limited attention and capacity to handle a lot of complexity, so the more we provide our expertise to them, to say what may have the most impact. It adds more weight to the set of recommendations. Perhaps we are not there yet to know.
 - Jessica Wilson: It might be a first good draft to start these conversations. In the next few years, we can do that work. We can follow up and talk more about the direction of where to go. Let's churn out the statement, and the next step is the next iteration. We can have these conversations are messy, and we can move forward with refinement. Revise based on what we learn.

- Jen Kader: An easy addition would be to note that a multi-component approach has value. We could pack them in different categories. We could note some of the ideas are new and need more exploration. They may change as discussions evolve in the future.
- John Barten: We have a bigger impact by putting the licensure, fee, remediation investigation right upfront as the heart of the policy. If you have a list of 10-12 items, folks will only see the top few. The rest is forgotten. I would favor reordering them, so we have the top three items listed. I think having this many recommendations, and I agree with Jessica, that we need to do all of them. Perhaps we need the new items and the things we think will help the most.
- Jessica Wilson: The last time we talked, the salt fee was number one, and we said that is was going to scare people away after they read it. We can put it in any order we think. If everyone could chime in on the order, it would be good. I don't know what we could drop from the list. I see this as being helpful in the legislature, but also a document others could bring to local government. My preference would be to keep it all. This feels like a comprehensive list of items that can scale.
- Jen Kader: Next steps: reorder and prioritize.
- For establish a statewide community-based social marketing campaign, Bonnie Keeler is asking if we could list an organization that could help carry this forward.
 - John Barten: I think We Are Water could possibly include this as part of their program.
 - Jen Kader: The We Are Water folks are with the MPCA, would people want to identify them, or have it open for a different outside source?
 - Glenn Skuta, MPCA: I am not seeing the appropriateness of We Are Water, because of how that is structured. They are focused on the communities they are at, looking at the issues they are facing. It is not the way that program operates. It is place based versus doing things globally. It is possible for the MPCA to work in this area, communicating the issue. There are other local entities providing the message on social media. I do not have a group in mind for this. There may be a better way to have an overall coordinating effort.
 - Rich Biske: Perhaps there could there be multiple entities mentioned where MPCA is one.
 - Jessica Wilson: I think this could be an MPCA led initiative. I would like to see what is happening currently, what is happening on the local level, MS4 is required to do some chloride education and I think that is where the bulk of it is happening. The Minnesota Cities Stormwater Coalition (MCSC) letter has been doing the outreach and education for years, but people are still clueless. There needs to be the same message from the MPCA, and more of the message. List out what is being done, and talk to local government to see what they are doing, and what those communities need to get the information out. The MPCA could also lead more during the winter events – how to respond to the winter hazard. It would be good to see all the Minnesota state agencies saying the same things, to help in this area. *Response from Jen Kader:* From this conversation I have listed the MPCA, UMN, MCSC or LMC, and Minnesota watersheds. Jen will follow up if there are similar campaigns, coordinated efforts, to follow up on (i.e., Get the Lead Out, or other messages blasted on social media).
- Review of the recommendations of the municipal separate storm sewer system (MS4) and MCSC grid, and which items stand out:
 - Jessica Wilson: The graph helps prioritize where we should put our efforts. They are on a high or low effort, with a high or low impact. Items in red are included in the MS4 permit. The primary tactics for managing pollution are the MS4 items. The chloride provisions in the MS4 permit are good. They are good, but they are not going to change the trajectory of chloride pollution in Minnesota. The high impact with low effort item is to go to training. I speak on behalf of the cities I represent; the training is good. A high percentage of those are in the public sector, and their changes provide significant reductions. We need to get the private property folks in the room as well. Public education is also required by the MS4 permit, and we should continue to do that work, but it needs more support, resources, and more cohesive voice. It is to enhance and support what local government units are doing. Training and public education are two areas to expand. The MCSC letter includes tax, licensure, design standards, limited liability, which

are all things that will take state or legislative changes. The major projects will be a lot of work. There is also awareness and behavior change, along with the Minnesota Department of Transportation (MNDOT) downscaled 511 (checking if roads are clear in other cities). The quick wins with high impact (relatively less effort) would be the funding, training, and research. What do others think are priorities?

- Bonnie Keeler: How much do we know about costs for these items? It would be useful to know. *Response:* I don't have that. I think we know some items, such as infrastructure costs or limited liability. The data may be limited. I am not sure how to get to those estimates either.
- Bonnie Keeler: It would be nice to have retrospective analysis for these items, as well as to know if it has been done in other states or areas. So, we would know it is well studied and effective versus the no one has tried this yet. Minnesota would be a leader, thinking items would have a big impact, and be able to then move forward with them. I do not have answers for these questions, but I think we need a workshop or get the next steps of analysis to get more concrete answers that would help in the prioritization process.
- Rich Biske: I had wondered about the tax and licensure. It seems there is some resistance at the legislature. Perhaps there is a dual track, looking at the state legislature as well as the local counties too. Should we be more explicit in that regard? To assist the local policy and fees.
 - *John Barten:* Such as a model ordinance, that the MPCA could develop and encourage counties and cities to adopt? At the same time, we can pursue the statewide initiative. It makes sense to me.
 - *Rich Biske:* Yes, if the legislature is worried about the fees from the local counties and cities, if they can prove it is operational, it can make statewide change easier.
 - *Jessica Wilson:* There are conversations happening at the county and city levels on this item. I think it is already happening.
- Rich Biske: Does the League of Minnesota Cities (LMC) have a policy statement on this? *Jessica Wilson:* There was a thumbs up from the LMC cities rep for MCSC to issue that policy position on chloride. They are not pushing hard on a particular idea. Even watersheds and others, after ten years of working on it, are shifting their energy to other areas. It is not because they do not like the idea, but there is an argument about negligence and hung up. So, shifting to a different area.
- Rich Biske: In terms of the Council, I think the quick wins like funding and training are within our ability. From a priority standpoint, it is within our reach. There is value in speaking about the big wins, which would require others to take actions, but as a Council we can make progress on these other areas too.
- John Barten: Do smaller cities that do not have MS4, do they have similar requirements? *Answer from Glenn Skuta, MPCA:* If they are not a permitted entity, these requirements do not apply.

Policy Recommendations for Impact Versus Effort Grid Placement (Webex 01:40:00)

Looking at the impact versus effort grid, looking at the Council's policy recommendations, members identify which buckets they would fall into:

- Research and develop remediation pathway (restoration focus)
 - *Jessica Wilson:* We already have data (we can figure out how much chloride is coming into the wastewater treatment facilities), we know how expensive the costs are and that that alone becomes an incentive to decrease chloride into the water systems, but there are more questions before this is actionable.
 - *Jen Kader:* For placement I would suggest high effort, and with the uncertainty of the impact – not knowing what people may do, I would suggest medium impact.
- Sustain and enhance funding for Smart Salting MPCA program
 - *Jen Kader:* Given that it is already happening, lower effort to sustain and seeing the impact that it is having (with the need for the private sector), it would be about 21.7 in the quick wins.
- Standardized labeling requirements
 - *Rich Biske:* It seems high effort, and I am not sure about impact.

- John Barten: Just for the labeling, it is relatively cheap. The issue is that people may not read the label. I would think low effort and potentially low impact. I think it should be done, but I don't think the impact is going to be high. Education does not necessarily change behavior.
- Glenn Skuta, MPCA: I think about how the flushable wipes needed to be labeled non-flushable at the legislature. It was a huge level of effort that did not go anywhere. It should have been easy, but it was not.
- Jessica Wilson: That feels like a more straight forward case, so I think this would be trickier. It seems high level effort (state level or above), but relatively low impact.
- Jen Kader: So, it is a rethink box. It would require the public training first, as high effort and low impact.
- Expanding chloride monitoring:
 - Glenn Skuta, MPCA: The way it was written in the policy, it is measured. We do it in a way that makes sense because all monitoring is expensive. Having a better sense of what is going on with chloride through better monitoring, but it needs to be done in a thoughtful manner. The cost would need to be factored in, because they costs are a bit high and needs to be mindful. It is hard to keep monitoring costs under control. It would be a good idea, but comes at a cost.
 - Jessica Wilson: This is less additional monitoring, but my issue is more about it being missed in the reports. It is an accountability item. There is the perception that it is a metro area problem, which is not true. So, we need to know what to do with the data once we have it. Are we telling people about it? When we don't have a state agency talking about it as a problem, it makes some of the local public education hard to do, because it is different than what the state is saying. We should be sharing the information, in a way that supports the other initiatives, including how we are changing that behavior and extent of the issue.
 - Glenn Skuta, MPCA: It is not a part of the suite of parameters of what we are doing, not because it is a bad news story. We share bad news all the time. When it is not a part of the system, it is not a part of communication. As we talk about the coordinated communication campaign, we need to talk about what we know about the data we have and where we have it. We have metro data, but not as much statewide, so it is harder to talk about. If the monitoring was enhanced to include more statewide, there would be more to tell, and that communication would be a part of it. There is a connection as you are sharing.
 - Rich Biske: We see these shifts over time; there is a need to escalate chloride with the monitoring programs. We need to acknowledge the importance of it. It speaks to the Council, and it can carry that message forward.
- Jen Kader: How would folks like to try and evaluate between those two options for top priority items? Or, a mix of both?
 - Dana Vanderbosch, MPCA: I've been listening to the conversation. Glenn Skuta has represented the agencies' perspective on the different recommendations well. I would add that with the MS4 permit, we have people who want to add items to it, from different stakeholders. A year before the permit is set to expire, the team starts looking through those additions. I don't know when the reissuance of the next MS4 permit will be, I will follow up on it. Whatever suggestions the CWC wants to make, we can consider it. MS4 does not cover every local government unit in the state. That is a weakness. There are limits to what can be accomplished. We also do not have regulatory authority, and needs to be within scope, but we can consider those recommendations. For chloride monitoring, we did intensive monitoring for several years, and we didn't get as many hits in the water samples, so we moved back to a more strategic approach to chloride monitoring. We've modified the statewide monitoring networks accordingly. If people think we should do more, rather than adding it in to more monitoring networks, I think additional monitoring in strategic locations may be a better approach. If we do that for a few years, and ground-truth it, it could be a better approach. Another item, for a communication campaign, one model to consider was the MPCA's communications campaign around manure a few years ago. We wanted farmers to remember there is a proper time in the spring and late summer (avoid certain weather impacts) and we worked on a sweep of communication tools that could be used for different groups. It was a bit of effort, and perhaps this is something the Council could move forward with for a communications team. It was a

model, we can show Jen the tools. We also included items on our webpage, so people could grab pages as needed to place on their various forums. Those are a few examples.

- *Response from Jessica Wilson:* I think the monitoring notes make sense. I think the communication campaign notes make sense. I want to react to the MS4 permit. I do not want to suggest adding anything to the permit – it is a general permit. I want to be clear; I do not want to add anything to it. MCSC reached out to the permit writers, before public comment. They wanted to meet to talk about chloride, and they directed us to Brooke Asleson with MPCA. She was great. However, I think that was a big mistake, because they wanted to talk to the permit writers. To just sit down and talk about it. Local governments are doing a lot of cool stuff and there is a need for a broader coalition strategy. There needs to be a lot more done with the state. There is a lot of innovation happening at the local level. There should be other, broader, statewide leadership in this area. Local governments are motivated to do the work, don't put it in the permit as requirements, but learning about more support would be good and helpful in this area.
- *Rich Biske:* Perhaps, before expanding monitoring, there could be an expanded study? How do folks feel about that addendum added? Jen Kader: I saw a few nodding heads.
- *Rich Biske:* On the communication outreach, once there is an increased funding recommendation for the next biennium, we can have the bolstered communication team work on it.
- *Brian Timerson, MPCA:* Dana did a great job, I don't have more to add.
- Jen Kader: For next steps, let's expand the sub team to dig into this area more, to talk about possible items. Bring it back for the Policy Committees discussion. We can tackle the recommendations for the policy as well. *Rich Biske:* Yes, and work on the shared document.
- Jen Kader: For open meeting laws it is limited to three voting Council members (Jessica Wilson, Gail Cederberg (non-voting member), Kelly Gribuvaul-Hite, and Rich Biske), as well as great comments from Bonnie Keeler (non-voting member). Representation from state agencies with MPCA from Glenn Skuta. I will send a note to those three voting members and include those non-voting in the comments.

Motion to adjourn, by Kelly Gribauval-Hite, seconded by John Barten. Motion carries.

Adjournment (Webex 02:10:30)

PUBLIC PARTICIPATION PLAN

INTRODUCTION

The Clean Water Council is committed to seeking the input not just from interested parties but from the public at large. The ratification of the Clean Water, Land and Legacy Amendment in 2008 led to the creation of the Clean Water Fund. Because voters provided their direct financial support to clean water, the Council believes that the Clean Water Fund deserves special attention from the public.

This public participation plan is intended to guide the Clean Water Council in seeking input on its budget and policy recommendations and strategic plan. It is based on the International Association of Public Participation (IAP2) framework.

The purpose of this plan is to

- Apply a process to increase public participation, build trust and relationships, gather input and feedback, and promote transparency and accountability.
- Help the Council be intentional about why, how, when, and who it is engaging, including identifying the voices that may be missing.
- Be strategic in identifying the public participation efforts that are needed as well as capturing those already underway so that they can inform the Council's decisions. Public participation can be diffuse; and we know it's happening at multiple levels, to varying degrees, across many groups, in formal and informal ways. This plan can help to aggregate input and apply it at strategic points in time so that it can be used as a more formal element in the Council's decision-making process.
- Improve transparency and accessibility for the budget recommendation and policy recommendation process. Defining the Council's scope of work and role allows the Council to better sort and respond to the input received including informing people when their input is outside of the scope of the Clean Water Council.
- Continually review and adapt the approach to meet public participation goals and objectives. To that end, the Council intends to review the plan annually in January and adapt as needed.

DECISION TO BE MADE

- Clean Water Council budget and policy recommendation to the legislature.
- Clean Water Council will make a recommendation, Minnesota legislature will decide.

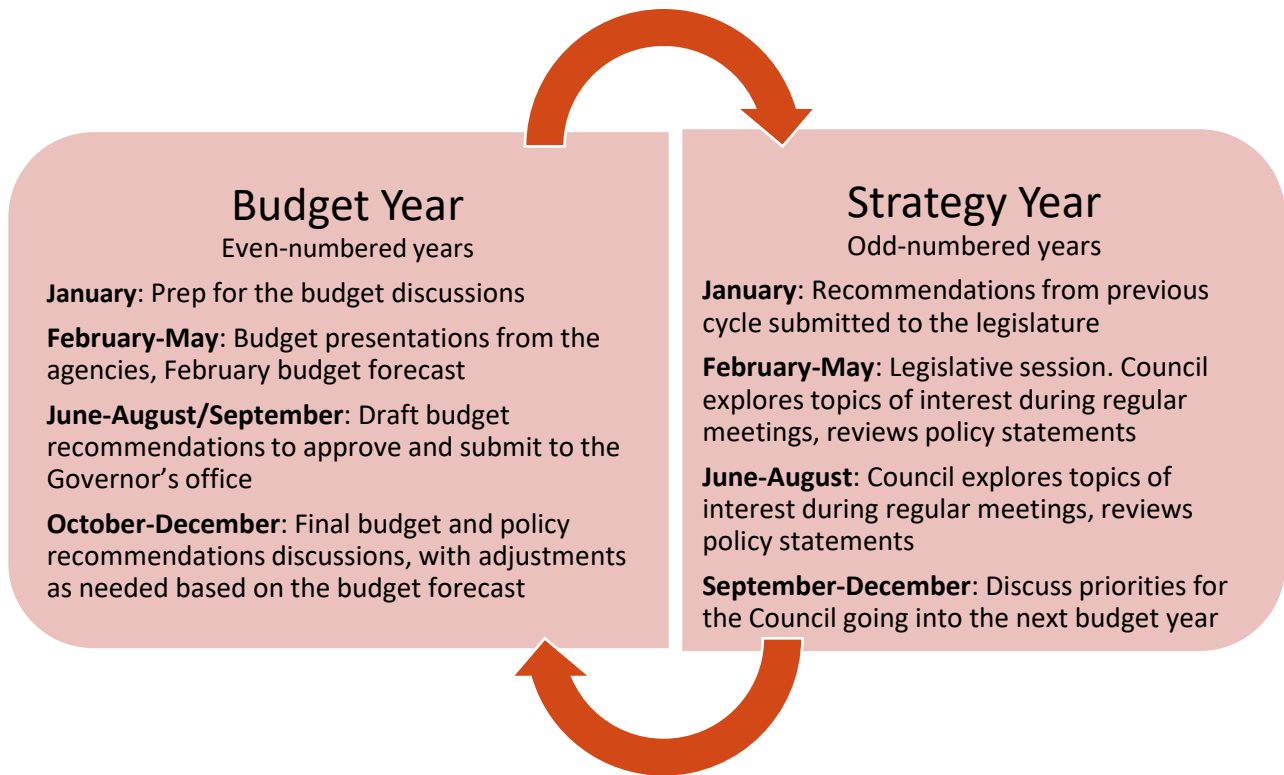


Figure 1. Clean Water Council workflow diagram.

DECISION CRITERIA

IN SCOPE

- Funding allocation for individual programs, projects, and initiatives
- Policy statements
- Clean Water Council Strategic Plan

OUT OF SCOPE

- Implementation of Clean Water Funded programs, projects, and initiatives
- Grant award processes and decisions

DECISIONS ALREADY MADE

- Budget deadlines
- Past budget recommendations
- Existing appropriations with and without tails
- Clean Water Council Bylaws and charter
- Clean Water Land and Legacy Amendment and statutory language, Statute 114D

OTHER CONSIDERATIONS

- Clean Water Council Strategic Plan
- Clean Water Fund Performance Report and Dashboard
- Clean Water Fund Communications Plan
- Clean Water Road Map

- Most recent Clean Water Fund budget and policy recommendations report
- Individual agency and Interagency Coordination Team (ICT) structure and budget process
- Research on values, attitudes, beliefs around water
- Outcomes of engagement initiatives such as the We Are Water program
- Budget and Outcomes Committee scoring rubric

INTERESTED PARTIES

- Tribal governments
- Minnesota Residents and Taxpayers
- Rights-holders
- Environmental organizations
- Nonprofit organizations
- Business organizations
- Statewide hunting organizations
- Statewide farm organizations
- Statewide fishing organizations
- County government (rural counties and seven-county metropolitan area)
- City governments
- Township officers
- Soil and Water Conservation Districts
- Watershed Districts
- Metropolitan Council
- University of Minnesota
- Board of Water and Soil Resources
- Minnesota Department of Agriculture
- Minnesota Pollution Control Agency
- Minnesota Department of Health
- Minnesota Public Facilities Authority
- Local public health officials
- Minnesota Department of Natural Resources
- Interagency Coordination Team
- Minnesota House of Representatives
- Minnesota Senate
- Governor's Office

ROLES

INTERESTED PARTIES, PRACTITIONERS, RIGHTS-HOLDERS, AND RESIDENTS

Expertise in sense of place, community interests and values, public attitudes, and desired amenities.

- Provides their expertise on values
- Communicates questions, concerns, and ideas
- Reviews and provides input on Council budget recommendations and policy statements

Individuals and groups may provide input directly to the Council or their representative on the Council. Insights may also come indirectly from local engagement initiatives (for example, the We Are Water program) or from research on local perspectives on water.

CLEAN WATER COUNCIL

The state varies widely in terms of demography, geography, industry, land use, and local capacity. Members of the Council represent the interests of various groups in strategic planning, setting priorities, providing feedback to agencies on programs, making funding recommendations, and forming policy statements.

- Provides information to and acts as the aggregator of public sentiment
- Coordinates budget and policy recommendations with the Interagency Coordination Team

INTERAGENCY COORDINATION TEAM (ICT)

The Clean Water Fund Interagency Coordination Team (ICT) was formed to coordinate the use of Clean Water Fund dollars for achieving the aims of Clean Water Land and Legacy Act. The ICT includes the seven state agencies involved in protecting water quality: Metropolitan Council, Minnesota Board of Water and Soil Resources, Minnesota Department of Agriculture, Minnesota Department of Health, Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, Minnesota Public Facilities Authority.

- Represents the agencies that implement various programs funded by the Clean Water Fund
- Informs the Council of agency programs and their associated budgets, needs, and outcomes
- Considers feedback from the Council in their budget proposal to the Governor's office

CLEAN WATER COUNCIL ADMINISTRATOR

This position exists to perform high-level strategic planning, outreach, and coordination for the Clean Water Council. They guide the process for developing policy recommendations and biennial budget recommendations, provide communication and engagement support, coordinate with the legislature and state agencies, and ensure that all Members are equipped with what they need to participate fully and effectively.

GOVERNOR'S OFFICE

- Receives Clean Water Fund budget recommendation from the Clean Water Council
- Receives Clean Water Fund budget recommendation from the ICT (with input from the Clean Water Council)
- Submits its budget proposal to the Legislature

LEGISLATURE

- Receives Clean Water Fund budget recommendation from the Clean Water Council
- Receives Clean Water Fund budget recommendation from the Governor's Office (which is informed by the ICT and Clean Water Council)
- Finalizes and approves the Clean Water Fund budget and makes appropriations to agencies

The Clean Water Council makes Clean Water Fund spending recommendations to the Governor and Legislature

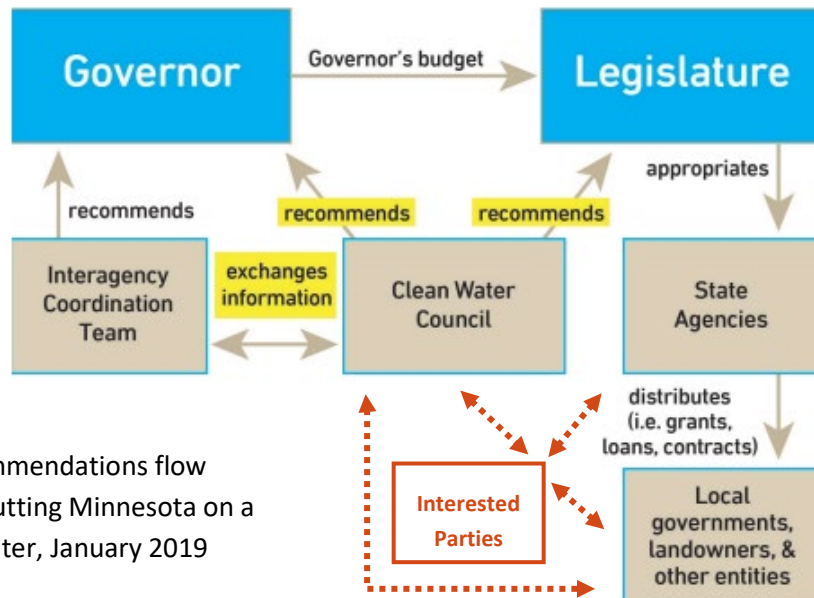


Figure 2. Clean Water Fund recommendations flow chart. Original graphic source: "Putting Minnesota on a Clean Water Trajectory", Freshwater, January 2019


*Note, orange dashed lines and text box added.

PUBLIC PARTICIPATON LEVEL

IAP2 Spectrum of Public Participation



IAP2's Spectrum of Public Participation was designed to assist with the selection of the level of participation that defines the public's role in any public participation process. The Spectrum is used internationally, and it is found in public participation plans around the world.

INCREASING IMPACT ON THE DECISION 					
	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

© IAP2 International Federation 2018. All rights reserved. 20181112_v1

Figure 3. IAP2 spectrum of public participation. *Orange box outline emphasis added.

- **During the strategy year, the Council operates predominantly at the Involve level as members meet with interested parties they represent and seek broad input.** Techniques could include: Members meeting with individuals and groups they represent, with information and ideas flowing in both directions; attending industry and interested party conferences, meetings, field days, and other opportunities seeking to understand concerns and aspirations.
- **As budget recommendations and policy statements form up or are open for discussion, the Council may Consult people on the Council's priorities or drafts.** Techniques could include: Community comment at Council meetings, written comments, We Are Water program summaries, research that captures local perspectives on water, agency presentations, workshops/presentations from the Council at industry and interested party conferences and meetings.
- **As decisions are made, the Council communicates with interested parties at the Inform level.** Techniques could include: Website, social media, newsletters, interactive storymap, performance reports.

DECISION PROCESS

In designing the process for soliciting input, members of the Council should consider what they want to know, when, and how they will get that information. The Council ought to consider all input equally at all phases of engagement and in whatever form individuals and groups choose to provide it.

The Council ought to program its engagement actions to sync with when the information would be most impactful to the process. Figure 4 shows the budget year coordination with ICT flowchart including outcomes and key dates.

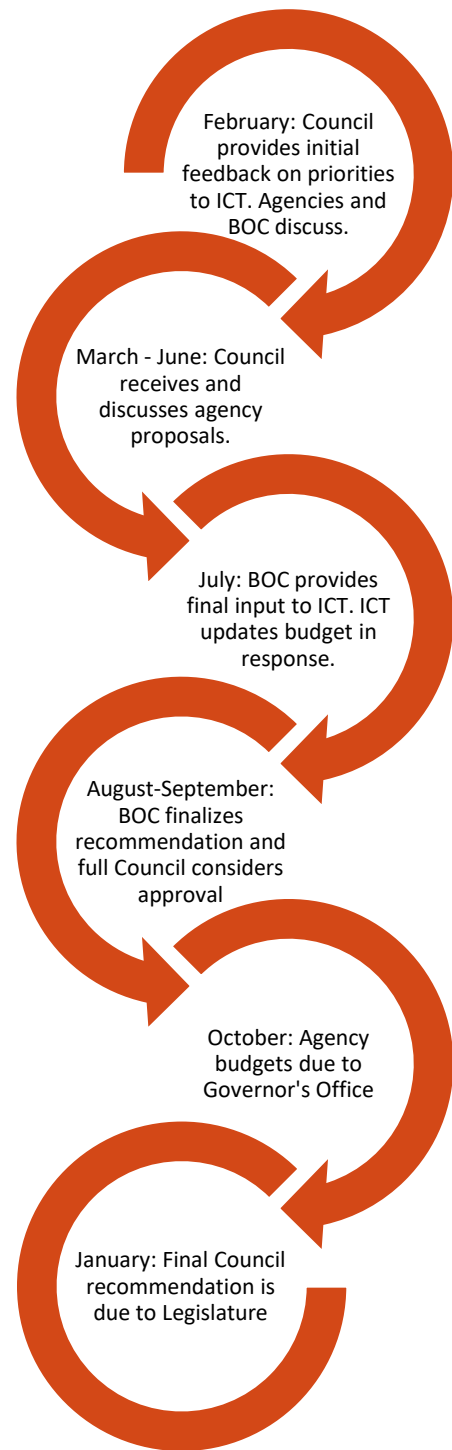










Figure 4. Budget year (even-year) coordination flowchart with ICT.

Table 1. Process outline.

Strategy Year (odd-numbered years)	
Description	Engagement level (primary)
<p>Quarter 1</p> <ul style="list-style-type: none"> • The Administrator submits the policy and budget recommendations to the Governor and Legislature in January. • Clean Water Council reviews the Public Participation Plan. • Clean Water Council closes the loop with interested parties that provided input in the budget recommendation process, shares the report with interested parties, and notifies them of next opportunities for input. The Administrator prepares communication for distribution. Members forward the content to their constituencies. • Clean Water Council testifies at committee meetings. • Clean Water Council adjusts recommendations as needed based on final budget forecast. 	<p>Inform</p> 
<p>Quarter 2</p> <ul style="list-style-type: none"> • Clean Water Council members kick-off engagement with the interested parties they represent broadly, informing them of process, how to participate, and asking for input. All Minnesotans are invited to provide input at this early stage and respond to questions such as: <ul style="list-style-type: none"> ○ What is your vision for 10 years from now? ○ What is your hope for water resources in Minnesota? ○ What do we need more of? ○ What do we need less of? ○ What are your concerns related to water resources in Minnesota? ○ What do you want the Clean Water Council to know? • The Administrator develops tools to facilitate communication and engagement, including newsletters, press releases, social media, surveys, etc. • The Clean Water Council identifies conferences and meetings where it can provide updates, solicit input, share the public participation plan and (later in the year) preview its priorities going into the next budget year. • As is needed, the Administrator works with interested Members to submit conference abstracts. 	<p>Involve</p> 
<p>Quarters 3 and 4</p> <ul style="list-style-type: none"> • Members bring input from individuals and groups they represent to the regular Council meetings. • The Administrator facilitates discussion helps to outline Council priorities based on what each member brings as well as what is heard from interested parties. Themes from this exercise are referenced in subsequent meetings as the next budget and policy recommendations are developed. • The Clean Water Council also seeks input from We Are Water program coordinators and researchers and other indirect sources to seek to better understand local perspectives. The Council continues to invite people to react to prompts and encourage people to provide verbal or written testimony. 	<p>Involve</p> 

<ul style="list-style-type: none"> The Council presents its public participation plan and a preview of its priorities at industry and interested party conferences and meetings where it seems input. Presenters share an after-action review with the Council. 	
<p>Late Quarter 4</p> <ul style="list-style-type: none"> The Council crystallizes themes and priorities in preparation for the budget year. These themes are shared with interested parties for them to react. 	<p style="text-align: center;">Consult</p> 
Budget Year (even-numbered years)	
<p>Description</p>	<p>Engagement level</p>
<p>Quarter 1</p> <ul style="list-style-type: none"> Clean Water Council shares priorities with the ICT, kickstarting the proposal process. The Administrator develops communication materials to close the loop with interested parties, sharing the priorities, an overview of the budget-setting process, and opportunities to engage next. Clean Water Council annually reviews the Public Participation Plan. 	<p style="text-align: center;">Inform</p> 
<p>Quarter 2</p> <ul style="list-style-type: none"> Clean Water Council receives proposal presentations from agencies. The Council and ICT consider input as they form up their proposals. Clean Water Council members consult with individuals and groups they represent. The Council considers all feedback and synthesizing work from the past year, taking care to weigh all input equally regardless of when or how it was received. 	<p style="text-align: center;">Consult</p> 
<p>Quarter 3</p> <ul style="list-style-type: none"> The BOC and ICT exchange budget proposals. The committee and Council describe how input received to-date was used or not used. The Council consults interested parties on the budget and policy recommendations, then makes a decision. The Administrator prepares communications to share with interested parties after the initial draft recommendations are developed, detailing outcomes, how it may adjust based on budget forecasts, and opportunities to be engaged in the coming months. 	<p style="text-align: center;">Consult</p> 
<p>Quarter 4</p> <ul style="list-style-type: none"> Clean Water Council makes adjustments to its recommendations based on updated budget forecast information, makes a decision, and shares the final version with interested parties. When the final budget decision is made, it's accompanied by a report that evaluates the engagement process and closes the loop with interested parties. The report describes the fate of input received and how it influenced the decision as well as where input landed – it could be acknowledged, answered, or referred to agencies/policy committee/BOC, as appropriate. The report describes how input was used or not used. 	<p style="text-align: center;">Inform</p> 

*Cycle repeats with strategy year. All input and wisdom are carried forward into subsequent cycles.

Reducing Chloride Pollution from Winter De-icing Chemicals

Summarized 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's surface water and groundwater.

Highest Priority Recommendations

While all recommendations are important and interconnected, the Clean Water Council identifies the following as especially critical near-term actions for the legislature to consider:

(1) Implement a granular salt fee

A granular salt fee would create a direct market incentive to reduce unnecessary salt use, encourage innovation and efficiency, and generate sustainable funding for chloride reduction efforts, research, training, and remediation.

(3) Investigate feasible approaches for restoration and remediation.

Minnesota currently lacks a practical strategy for addressing the growing inventory of waters impaired by chloride pollution. Research is needed to identify feasible remediation technologies and long-term management approaches.

(5) Incorporate low salt design standards into building and site development.

Many sites are unintentionally designed in ways that require excessive salt use. Updating development standards can reduce long-term winter maintenance needs while improving safety and reducing costs.

(6) Require Smart Salting for state contracts and facilities.

The State of Minnesota should lead by example by requiring best practices and certified applicators for publicly funded winter maintenance activities.

Full List of Recommendations

Incentives & Financial Sustainability

(1) Implement a granular salt fee.

(2) Sustain and enhance funding for the MPCA's Chloride Reduction Program including the Smart Salting training and certification program. *Included here for the grant and technical assistance elements of the program.*

Research & Remediation

(3) Investigate feasible approaches for restoration and remediation.

(4) Provide research funds to develop new technology, best management practices, and alternatives to chloride-containing de-icing chemicals.

Standards & Requirements

- (5) Incorporate low salt design standards into building and site development.
- (6) Require Smart Salting for state contracts and facilities.
- (7) Establish an occupational licensure program for winter maintenance professionals.
- (8) Develop standardized labeling requirements for de-icing chemicals sold in Minnesota.
- (9) Expand requirements for proper storage of de-icing chemicals.

Data & Accountability

- (10) Expand and strengthen chloride monitoring statewide

Risk & Liability

- (11) Provide liability protection for certified applicators using best practices.

Awareness & Behavior Change

- (12) Establish a statewide community-based social marketing campaign.
- (2) Sustain and enhance funding for the MPCA's Chloride Reduction Program including the Smart Salting training and certification program. *Included again here for the training program contribution to behavior change.*

These actions are further expanded under the "Recommendations" section.

Additional Considerations

Recommendations 7 (occupational licensure) and 11 (liability protection) are especially important because they address major barriers to behavior change in the winter maintenance industry. Many applicators continue to overapply salt due to liability concerns, inconsistent training standards, and lack of professionalization within the industry. Creating clear standards and protections can support safer and more sustainable practices statewide.

From 2016-2025 a limited liability bill was introduced at the Minnesota Legislature, modeled after a limited liability bill that passed in New Hampshire. Despite many attempts, common ground for the liability language has not been found over the ten year life of the bill. In light of this, local governments have begun to explore the feasibility of local licensing requirements.

Recommendations 2 (MPCA Chloride Reduction Program funding) and 4 (research funding) also represent areas where the Clean Water Council can have particularly strong influence in the near term through funding recommendations and program support. Expanding research, technical assistance, and Smart Salting training capacity can deliver immediate and measurable reductions in chloride use while supporting broader long-term implementation of the Council's recommendations.

Problem Statement

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 trends continuing upward.

Chloride is considered a “permanent” pollutant because it does not degrade over time through typical environmental processes. Additionally, there is no practical way to remove chloride once it enters a waterbody, so it accumulates over time. As the adage goes, “an ounce of prevention is worth a pound of cure,” making source control the most practical and cost-effective strategy. Addressing chloride pollution will require a broad range of knowledge building, behavior change, implementation activities, and policy measures. At the same time, a remediation pathway must be researched and established to address the existing and growing inventory of waters impaired by excess chloride.

Winter de-icing salts are among the primary sources of chloride pollution in Minnesota waters. The Minnesota Statewide Chloride Management Plan addresses pollution caused by de-icing chemicals, fertilizers, and water softeners. The Clean Water Council has an independent policy statement related to reducing chloride pollution from water softening to address the Wastewater Treatment Plan (WWTP) pollutant stream.

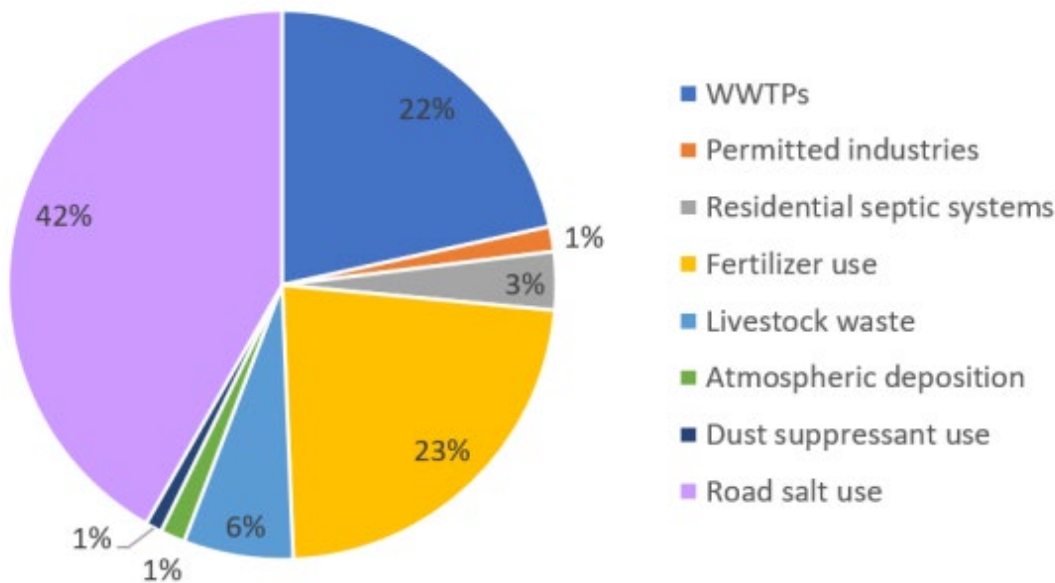
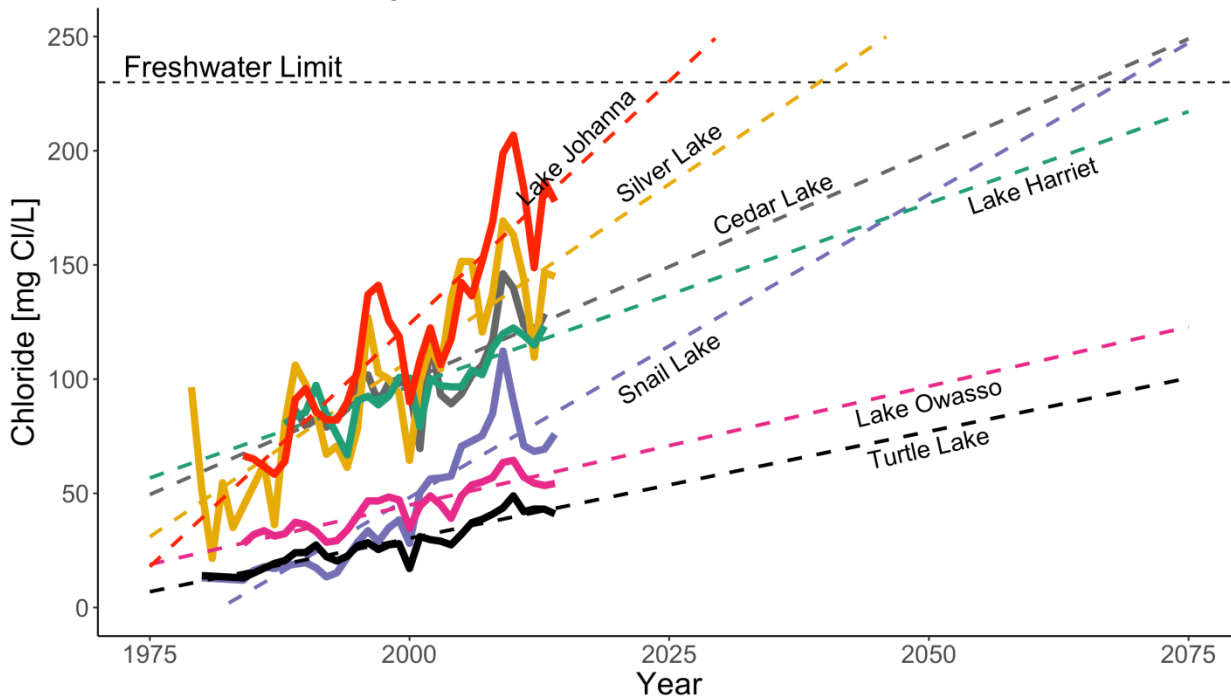


Figure 4: Fraction of annual chloride contributions from major point and nonpoint sources for State of Minnesota (Overbo et al. 2019)
**Please note that Road salt use is actually all de-icing salt applied to roads, parking lots, sidewalks, and trails.*

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.

Historical and Projected Chloride Concentration



Graph credit: Freshwater Society

Excess chloride contributes to a phenomenon often referred 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, scalability, or other environmental harm. While a variety of products are marketed as safer or more sustainable alternatives, most still contain chloride compounds, perform inconsistently in extreme winter conditions, or introduce their own environmental concerns. Organic additives such as beet juice are commonly blended with salt brine to improve performance at lower temperature and help reduce bounce and scatter, which can lower overall salt use. However, beet juice mixtures can increase biological oxygen demand in nearby waters, contribute nutrients and organic matter to aquatic systems, create odors, and add cost and storage complexity for winter maintenance operators. Other alternatives, such as calcium magnesium acetate or potassium acetate, may reduce chloride impacts but are often significantly more expensive and impractical for widespread use on roads, parking lots, and sidewalks. As a result, the most effective current strategy is not complete replacement of salt, but reducing unnecessary application through smarter winter maintenance practices and targeted use.

In recent years, calls for more enhanced and comprehensive approaches to reducing chloride pollution have gained momentum. 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.

Audience and Purpose

The Clean Water Council has a statutory role to foster coordination and cooperation as part of the Clean Water Legacy Act. These recommendations are intended to inform legislative and regulatory decision-making, guide state and local program development, and support the adoption of best practices across public and private sectors.

This policy statement is intended for the Minnesota Legislature, the Minnesota Pollution Control Agency, other state agencies, and local governments responsible for water quality protection, transportation systems, and land use regulation. It is also directed toward private sector parties, including winter maintenance professionals, commercial applicators, property managers, developers, and de-icing product manufacturers whose decisions influence use across Minnesota. It applies statewide, with particular relevance to developed areas where impervious surfaces and winter maintenance activities are concentrated. While awareness has been increasing, continued progress depends on deepening that awareness across all groups (general public, decision-makers, practitioners, and industry leaders). At the same time, awareness alone is not sufficient to drive the scale of change needed. Progress will require translating awareness into more comprehensive and coordinated action.

The purpose of this document is to recommend a suite of actions to reduce chloride pollution from de-icing chemicals while maintaining public safety and effective winter maintenance. Further, this updated policy statement reflects an inflection point in chloride pollution management in Minnesota. Early efforts have focused on improving operational efficiency and advancing voluntary best practices, yielding measurable reductions in de-icing chemical use, particularly among public road authorities. However, chloride concentrations continue to rise in many waterbodies, indicating that additional progress will require a strategic shift beyond operational efficiency improvements in the public sector alone. A more comprehensive approach that integrates standards, incentives, research, accountability, and behavior change is necessary to make meaningful progress in source control and restoration of impaired waters.

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 incentivize more judicious use while generating revenue for and supporting financial sustainability of 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. Sustain and Enhance the MPCA Chloride Reduction Program including the Smart Salting Training Certification program.** The MPCA Smart Salting training and certification program supports a 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 to reduce 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.

- 3. Investigate Feasible Approaches for Restoration and Remediation.** 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.

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](#)

- 4. Fund Research and Innovation.** The 2016 Twin Cities Metro Area (TCMA) Chloride Management Plan identified a broad range of research needs focused on reducing chloride pollution while maintaining public safety. Key research priorities including improving winter maintenance practices including in technology and equipment; evaluating alternative de-icing materials and additives; understanding and tracking chloride fate and transport; evaluating site design and infrastructure approaches; and understanding behavioral, institutional, and policy drivers that influence de-icer application decisions. Lastly, the plan recognizes a need to explore long-term management and potential mitigation strategies for chloride-impacted waters, given that chloride does not break down and accumulates in the environment.

The University of Minnesota's Stormwater Research Program provides an existing framework and strong institutional partner for advancing applied winter maintenance research to support the development and evaluation of new technologies, decision-support tools, and other best management practices that reduce chloride use while maintaining public safety. Expanded research capacity would also help test emerging de-icing products and operational approaches, accelerating the adoption of practical and scalable solutions.

The Forever Green Initiative could serve as a model framework for developing alternatives to chloride-based de-icing chemicals. Innovation in this sector is essential to develop a cost-effective alternative that can perform and is less harmful to the environment.

- 5. 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.
- 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 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. **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.
8. **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.

9. **Expand Proper Storage Requirements.** Proper storage of de-icing chemicals is a cost-effective and common-sense measure to reduce pollution.

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.
10. **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.
11. **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 environmental outcomes.
12. **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. The MPCA should lead a process to establish a baseline of the public's current knowledge and attitudes, identify gaps, opportunities and roles among interested parties (MPCA's Chloride Reduction Program, Tribal governments, cities, counties, academic institutions, watersheds, non-profits, other state agencies, etc.), support crafting and distributing coordinated messages, and evaluate progress. State leadership can amplify and align existing local efforts. Additionally, the MPCA should further support enhancing chloride pollution awareness into existing

programs such as the successful We Are Water program, Eco Experience at the Minnesota State Fair, and supporting the regional Winter Salt Week campaign.

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 coordinated 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.

Category	Item	Impact (relative)	Effort (relative)	Impact v Effort	CWC Influence	Cost (relative)	Notes	Interested Parties	Examples
Data & Accountability	Expand and strengthen chloride monitoring statewide Provide research funds to develop new technology, best management practices, and alternatives to chloride containing de-icing chemicals.	Low	Low	Fill-ins	High	Low	Expand existing network in strategic places or do one-time study.		
Research & Remediation		High	Low	Quick wins	High	Low			
Research & Remediation	Establish a remediation roadmap	High	High	Major projects	Medium (directed by Legisla	High (implementation)	Many interested parties.		
Standards & Requirements	Incorporate low salt design standards into building and site development	High	High	Major projects	Low	Low	High Effort depending on scale. Sustainable Buildings policies work, but are small percentage of projects. Local site development standards? Potential to reduce demand. Would still need trained operators/managers. Would require city to incorporate site standards and building code to incorporate building standards and state to incorporate road design standards. Ordinance updates & Comp plan timing. B3, LEED.		
Standards & Requirements	Establish an occupational licensure program for winter maintenance professionals.	High	High	Major projects	Medium (directed by Legisla	Medium			
Standards & Requirements	Require Smart Salting for state contracts and facilities.	High	Low	Quick wins	Medium (directed by Legisla	Low			
Standards & Requirements	Expand requirements for proper storage of de-icing chemicals.	High	Low	Quick wins	Low	Low			
Standards & Requirements	Develop standardized labeling requirements for de-icing chemicals sold in Minnesota.	Low	High	Rethink	Low	Low			
Awareness & Behavior Change	Establish a statewide community-based social marketing campaign.	High	High	Major projects	Medium (directed by Legisla	Medium			
Awareness & Behavior Change									
Incentives & Financial Sustainability	Sustain and enhance funding for the MPCA's Chloride Reduction Program including Smart Salting training and certification program.	High	Low	Quick wins	High	Medium			
Risk & Liability	Provide liability protection for certified applicators using best practices	High	High	Major projects	Medium (recommendation	Low			
Incentives & Financial Sustainability	Implement a granular salt fee	High	High	Major projects	Medium (recommendation	Medium	Revenue source		