Policy Committee Meeting Agenda
Clean Water Council
August 23, 2024
9:30 a.m. – 12:00 p.m.
WebEx Only

2024 *Policy Committee: John Barten, Rich Biske (Chair), Gail Cederberg, Kelly Gribauval-Hite, Peter Schwagerl, and Marcie Weinandt*

9:30 Regular Business
- Introductions
- Approve today's agenda
- Approve minutes of previous meeting(s)
- Chair update
- Staff update: Policy items from August 19th public input

9:45 Minnesota's Vanishing Natural Shorelines: A Loss that Contributes to Degraded Lake Quality
- Jeff Forrester, Minnesota Lakes & Rivers Advocates

10:30 BREAK

10:45 Principles for Sustainable Aviation Fuel & Implications for Water Quality
- Trevor Russell, Friends of the Mississippi River

11:30 Review of Latest Draft of Groundwater Protection Policy Statement

11:45 Public Comment

12:00 Adjourn

Next Meetings Options:
- Water storage pilot completion

Policy Committee Meeting Summary
Clean Water Council (Council)
July 26, 2024, 9:30 a.m. to 12:00 p.m.

Committee Members present: John Barten, Rich Biske (Chair), Gail Cederberg, Kelly Gribauval-Hite, and Marcie Weinandt.
Members absent: Peter Schwagerl
Others present: Paul Gardner (CWC), Brianna Frisch (MPCA), Randall Hukriede (MPCA), Rajinder Mann (MDA), Jim Stark (SWMP), Justin Hanson (BWSR), Jen Kader (Met Council), Frieda VanQualen (MDH), Jeff Berg (MDA), Tannie Eshenaur (MDH), Glenn Skuta (MPCA), Danielle Isaacson (MDA), Angelica Anderson (Nature Conservancy), Trevor Russell (Friends of the Mississippi River), Molly Janson (Red River Watershed Management Board), Sharon Doucette (BWSR), Brad Redlin (MDA), Jamie Beyer (Bois de Sioux Watershed District), Brad Jordahl Redlin (MDA), Judy Sventek (Met Council), John Jaschke (BWSR), Dusty Van Thuyne (BWSR), Annie Felix-Gerth (BWSR)

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
- Approval of the July 26th agenda, and June 28th meeting summary, motion by Marcie Weinandt, seconded by Kelly Gribauval-Hite. Motion carries.
- Chair update
  - The Subcommittee on Minnesota Water Policy will have a field tour on August 19-20 in central and northern Minnesota. The Council also has a meeting on Monday, August 19th.
  - A statement regarding sustainable aviation fuel was sent to Council members recently. This topic has come up in Minnesota in the last year and was also included in the Clean Transportation Standard work group. It is also related to federal policy. Additionally, a Climate Smart Food Systems grant will be something else to monitor in case Clean Water Funds (CWFs) can be leveraged.
- Staff update
  - Brad Gausman did a nice letter to the Star Tribune as a follow up to a soil health article.
  - The Ad Hoc outreach group will meet next week.
  - The Chair and Vice Chair received a spreadsheet from the Interagency Coordination Team (ICT), on their initial CWF proposals. There were some cuts. The BOC will review it, and then move it to the full Council. The recommendations are due by January 15, 2025. There will be November and February budget forecasts, so the Council may want to have some budget recommendations in response.

Overview and Comments on MPCA's Draft Feedlot Permit Revisions, Glenn Skuta (MPCA) *(Webex 00:14:00)*

- They have had three public meetings to go over the feedlot permit revisions, all with good turnout.
- Feedlot rules apply to all feedlots across Minnesota. The feedlot general permits impact about 1,000 facilities in the state. The National Pollutant Discharge Elimination System (NPDES) is a federal permit. The general permit for about 800 sites expires in January 31, 2026. There are also State Disposal System (SDS) a state permit, with about 250 sites to expire in May 31, 2025. They are also in a concurrent process to issue new general permits with the NPDES and SDS permit proposed to be nearly identical.
- The focus continues to be to reduce nitrates in our groundwater and surface waters.
- Looking at nitrate trends in surface and groundwater:
  - Surface water nitrate trends (2008 to 2020 flow corrected data) reveal increasing trends across the state, so progress needs to be made. There needs to be more trends of decreasing.
  - Groundwater nitrate trends (2013 and 2023), reveals about 6 percent of sites are trending up, 75 percent have no trend, and 19 percent are trending down. Therefore, it depends on what part of the state you are in for this item.
  - There are other contributors of nitrate to Minnesota waters not just feedlots.
- A vulnerable groundwater area is where nitrates can move easily through soil and into groundwater, contaminating drinking water sources. Karst bedrock, coarse textured soils, shallow bedrock, and areas

identified as Drinking Water Supply Management Areas (DWSMAs), are all considered vulnerable areas. The Minnesota Pollution Control Agency (MPCA) and Minnesota Department of Health (MDH) are focused in these areas. There is overlap between where the private well contamination is being found and the vulnerable areas of the state are located, and where permits are being applied.

- Where the manure application requirements are being proposed lines up directly with the Minnesota Department of Agriculture (MDA) fall restriction maps (with a small difference for the DWSMAs). They are available online as well for landowners to consult.
- The option for fall manure application is important. The MDA prohibits fall application of commercial fertilizer, whereas the current and proposed MPCA permit do allow for fall application (with limits).
- Nitrate (N) reduction practices include timing, cover crops (weather-dependent on effectiveness), and extended rotations. Cover crops are found to be very effective at reducing nitrate leaching.
- The current feedlot permit nitrogen best management practices (BMPs) apply to all manure applications and will remain with new permits. From June to September, the farmers are actively growing their crops and cover crops (apply manure to only one). Starting October 1 to 14, they can choose one of the following: Follow N BMPs for June to September, soil temperature below fifty degrees at the start of manure application, nitrogen stabilizing agent/product at the recommended rate, as well as split application of nitrogen.
- For vulnerable groundwater area manure applications, from June to September, they follow the current application of manure schedule. Then, they still choose only one of the N BMPs.
- Beginning in 2028, they will need to choose one of four N BMPs:
    - Application to an actively growing perennial that is reasonably expected to utilize the nitrogen;
    - Application is to an actively growing cover crop that will be allowed to continue growing until termination in the spring or via winter-kill;
    - A cover crop is planted/seeded as soon as possible, but no later than 14 days, following manure application and allowed to continue growing until termination in the spring or via winter-kill;
    - Crop rotation includes a perennial crop for at least two years during any five year period and the soil temperature is below fifty degrees at the start of manure application.
- Farmers need time to plan how best to make change to application practices. The industry also needs time to build up their capacity to support the changes (i.e., cover crop seed supply and equipment), so time is part of the plan.
- There is more prevention to limit manure contamination runoff, including incorporation of manure within a 100-year floodplain and visual inspection of land application fields for signs of discharge.
- For Manure Management Plans (MMPs) and manure transfers, MPCA would implement the existing state rules in a more comprehensive manner. The MMPs require them to identify protective measures to minimize risk of surface and ground water contamination. All manure application is required to follow the MMP. The goal is that all manure generated is land applied under the same requirements. Currently, the manure recipient complies with the state rule requirements and MMP, but no minimum protective measures are required in the MMP. We propose that the manure recipient complies with state rule requirements and permit requirements. For transfer record keeping changes, the proposed is to complete manure application records maintained by permittee, meaning to get the second half of the records or the compete account of land application for inspections and reporting. Currently, it is separated by who has the manure. They are also developing more functional software for MMPs by December 2024. We can aggregate it easier.
- The draft permit is on public notice: www.pca.state.mn.us/feedlots. The MPCA reads every comment they receive and considers them.

Questions:

- John Barten: There are 800 NPDES permits and 250 sites of SDS permits. Since the SDS permits have over 1,000 animal units, what distinguishes the two? *Answer from Randy Hukriede, MPCA:* It comes down to their choice. In about 2016 the Legislature made a change that said you can only have an NPDES permit if you have a discharge. Right now, all those sites that have NPDES permit could switch to an SDS permit. The reason they have stayed is there are some additional protections that are not in the SDS permit, but it is a matter of choice. They are basically the same.
- John Barten: Could you discuss the 1,000-animal unit number? *Answer:* That was a Legislative change. Most of the large CAFOs in the state are over 1,000 animal units (there are two small ones). I think that was part of

why they are set at that number. That was the previous level that everyone needed a permit prior. The rationale was that it was a large enough site that they needed an operating permit of some type. These facilities generate about a third of the manure in the state.

- Marcie Weinandt: My compliments to the staff! This is a huge effort and has taken time. Could you share more about how the public meetings went and how responded? *Answer:* People are concerned, but it was very respectful. They are trying to understand why this was being done. The larger farms were a little upset about the changes they need to make, but that smaller farms don't. People also shared concerns about their drinking water being impacted. The concern about the karst regions was brought up as well.
- Rich Biske: This seems dependent on cover crops and actively growing perennial systems. Do you think we will succeed? How does the MPCA interact with that side of it? *Answer:* That is why we are delaying until 2028, hoping that cover crops become more common. Adoption is growing, but we know folks will need more time for it to take hold. We will see what we hear in the public comments due September 3rd.
- Rich Biske: For manure runoff, with the rainfall, is that self-reporting? *Answer:* Yes. Inspectors would review.

Update on EPA Climate Smart Food Systems Grant to MPCA by Brad Jordahl Redlin, Minnesota Ag Water Quality Certification Program (MAWQCP), MDA *(Webex 01:01:30)*

- MDA will receive $20 million dollars for direct interaction with growers for emission reductions. We are targeting the greenhouse gases (i.e., nitrous oxide, carbon dioxide).
- We are looking at annual payments for the use of nitrification inhibitors at $10 per acre on three-year terms.
- Another component would support Central Lakes College (CLC) with the Forever Green Initiative work.
- A third component is for marginal land transition. This would be an opportunity for taking marginal land to perennial cover ($250 per acre for the land transition). We hope it provides economic benefits for them. We have folks in the field helping them every step of the way.
- These three buckets are about half of the $20 million awarded. There are also $250,000 towards continuous living cover market grants (to develop markets mainly for those Forever Green Initiative crops like Kernza, pennycress, camelina, etc.). The Soil Health equipment grants are also being supported with this grant. The demand for the program is off the charts, we can't even reach 20 percent of the demand. It is $1.75 million additional per year. It will help provide resilience in our agricultural system. We are excited and pleased the EPA was interested in our existing work.

Questions:

- Paul Gardner: Could the Council get a fact sheet on the agricultural related parts. *Answer:* Yes, of course.
- Paul Gardner: In both presentations today, the CWF made the extra investments possible. The CWFs are often the first on the table to leverage other dollars. *Response:* The CWFs have leveraged $18 million federal dollars through the RCPP program for our program already.

More Details on Possible Extension of CREP Agreement & Prevailing Wage Legislation, John Jaschke, Justin Hanson and Sharon Doucette, Board of Water and Soil Resources (BWSR) *(Webex 01:15:00)*

- The current CREP agreement was signed in January 2017. It includes a 54 county area and 706 easements on 37,700 acres. The agreement goes through September 30th, 2026. It involves federal partnership with the USDA on wetland restoration, implementing buffers around public waters and ditches, and wellhead protection. However, it is important to note that the land values have escalated a lot since 2017, so that has made it more challenging.
- An amendment is being proposed. They would be looking to increase the timeline from 2026 to 2039. Additionally, to increase the acreage cap from 60,000 to 75,000 acres. The practices are kept the same, but now to add in CP25, looking at declining habitat. The current one is limited to public water supplies, so this could expand it. We also would look to expand the geographical area from 54 counties to 66 counties.

Questions:

- Marcie Weinandt: This new version of CREP was started in 2017, was that when it was expanded from the Minnesota River floodplain area? *Answer:* That was the first CREP (CREP 1) and it was started in the late 1990s. It enrolled 100,000 acres in the Minnesota River Basin exclusively. This is actually CREP 3, because previous ones have expired. Therefore, this is the third one that has happened in Minnesota.
- Marcie Weinandt: This is built on long-term understandings of how the USDA and the state work together with those willing landowners. This was all before CWFs, the early CREP projects? *Answer*: Yes.

- Rich Biske: What more can be done on groundwater protection in southwest Minnesota counties, because CREP is a great example of how it is helping drinking water. Is it part of the state-federal agreement? Is there part of the new and expanded CREP that might reach the southwest? *Answer:* The CREP agreement has a CRP contract, which is a 15-year federal contract and followed by or combined with a RIM easement. We are looking at other ways to help in these areas, but not every landowner will be interested in turning land into permanent conservation easements. So, there may be smaller duration commitments that could be done. We are looking at different options in this area.

Review of Latest Draft of Groundwater Protection Policy Statement *(Webex 01:44:00)*

- The updates include an addition of text on model ordinances, which is in the existing drinking water policy statement, the disclosure of testing at the time of property transfer, clarification on local and state capacity. Today, it is to incorporate many of the things we are doing because of the EPA petition. We include a more comprehensive approach, including issues with feedlots. Open to feedback.

Questions/Comments:

- Tannie Eshenaur (MDH): You could include promoting protective actions in areas that drain to private wells.
- Tannie Eshenaur (MDH): At the MDH, we were looking for parallels between the Clean Water Act and designation of impaired waters. If there could be a parallel for groundwater where certain areas in groundwater aquifers would be designated as "impaired" as a way of tracking progress. The MDH can now declare special well and boreing construction areas, but something else would be very useful. The MPCA could have some kind of contamination plume awareness process, like others. These ideas are bouncing around.
- Rich Biske: Is that what has been used for PFAS? Has it been used recently? *Answer:* The only thing the MDH currently has is the special well and boring construction declaration. Before you can drill a well in that area, you must get permission from the MDH to drill. It is rare for that to occur.
- Rich Biske: What kind of ramifications would there be? Does that apply to residential or community wells? *Answer:* It applies to any well.

Public Comment *(Webex 01:59:00)*

- No public comments provided.

Adjournment *(Webex 02:04:18)*

Summary of Public Comment to Clean Water Council Proposals for the Clean Water Fund FY26-27

of 14 Aug 2024

Entity	Agency	Program Name	Comments	CWC Action 8/19?
Tom Lynch			Concerned about microplastics in water	
Friends of the Mississippi River		Chloride application liability protection for snow removal businesses with Smart Salting certification	Support	
Dakota County		Funding needed for water reuse, esp. capital improvement funds, statewide policy and guidelines, incentivizing better irrigation		
Conservation Minnesota		Lack of transparent tracking and communicating progress towards this goal with the broader public; it is unclear the influence the Interagency Coordination Team (ICT) may have over Clean Water Fund recommendations each biennium		
Nature Conservancy		General	Find more efficiencies to reduce duplication	
Minnesota River Watershed Drainage Collaborative		General comments on Nonpoint Priority Funding Plan	Minimize/eliminate hydrologic changes in MN River watershed; BMPs not keeping up with growth in TSS problem due to land use changes, more drainage, and more precipitation.	
Freshwater	BWSR	Accelerated Implementation	Support	
Friends of the Mississippi River	BWSR	Buffer Implementation	Oppose using all CWF; prefer $2M from General Fund Riparian Aid funding and fines from APO authority	
Minnesota Corn Growers Association	BWSR	Conservation Drainage and Management	Support	
Nature Conservancy	BWSR	Critical Shoreland Protection Easements	Support	
Scott County Water Management Organization (WMO)	BWSR	One Watershed One Plan Watershed Based Implementation Funding	Don't spend 1W1P funding in the metro; it is redundant and	

			wasteful; give it to Greater Minnesota	
Bassett Creek Watershed Management Commission	BWSR	Surface and Drinking Water Protection/Restoration Grants: (Projects and Practices)	Support	
Friends of the Mississippi River	BWSR	Targeted Wellhead/Drinking Water Source Protection	Support higher cost easements within high risk DWSMAs	
Anoka Conservation District	BWSR	Watershed Based Implementation Funding	Support and prioritize	
Bassett Creek Watershed Management Commission	BWSR	Watershed Based Implementation Funding	Support	
Bois de Sioux & Mustinka River Watershed Districts	BWSR	Watershed Based Implementation Funding	Support and prioritize	
Bois de Sioux Watershed District	BWSR	Watershed Based Implementation Funding	Make CWFs available for flood control since they impact water quality; drainage management can reduce TSS and P at lower cost than cover crops; evaluate grant portfolio by problem scale	
Chippewa River Watershed Association	BWSR	Watershed Based Implementation Funding	Support, fully fund, ensure long-term support	
Coon Creek Watershed District	BWSR	Watershed Based Implementation Funding	Support and fully fund	
James Raymond, farmer	BWSR	Watershed Based Implementation Funding	Support	
Lower St. Croix Watershed Partnership	BWSR	Watershed Based Implementation Funding	Support	
Middle-Snake-Tamarac Rivers Watershed District	BWSR	Watershed Based Implementation Funding	Support	
Mississippi River St. Cloud Watershed Partnership	BWSR	Watershed Based Implementation Funding	Support	
North Fork River Watershed Collaborative	BWSR	Watershed Based Implementation Funding	Support	
Roseau River Watershed District	BWSR	Watershed Based Implementation Funding	Support	

Rum River Watershed Partnership	BWSR	Watershed Based Implementation Funding	Support and fully fund	
Sauk River Watershed Collaborative	BWSR	Watershed Based Implementation Funding	Support	
West Otter Tail SWCD	BWSR	Watershed Based Implementation Funding	Support	
	BWSR	Watershed Legacy Partners Grant Program	Support	
Friends of the Mississippi River	BWSR	Watershed Partners Legacy Grant Program	Support	
Nature Conservancy	BWSR	Watershed Partners Legacy Grant Program	Support significant increase and appreciate greater outreach esp. tribes	
Nature Conservancy	BWSR	Working Lands Floodplain Easements	Support	
Freshwater	DNR	Aquifer Monitoring for Water Supply Planning	Support	
Bois de Sioux Watershed District	DNR	Culvert Replacement	Recognize conflict between connectivity and flood control	
Nature Conservancy	DNR	Culvert Replacement	Support additional investment	
Nature Conservancy	DNR	Mussel Restoration	Support additional investment	
Bois de Sioux Watershed District	DNR MDA	Nonpoint Source Implementation Technical Assistance	Permit delays in Red River; encourage state agencies to standardize and streamline process	
Nature Conservancy	DNR	Non-point Source Implementation	Support additional investment	
Bois de Sioux Watershed District	DNR	Water Storage (could also include any water storage like wetland easements)	Red River not getting CWFs for this--going to less organized parts of MN; make it statewide	
City of Bayport	MC	Metropolitan Area Water Supply Sustainability Support Program	Support	
City of Chanhassen	MC	Metropolitan Area Water Supply Sustainability Support Program	Support	
City of Eden Prairie	MC	Metropolitan Area Water Supply Sustainability Support Program	Support	

City of Lake Elmo	MC	Metropolitan Area Water Supply Sustainability Support Program	Support	
City of Minnetonka	MC	Metropolitan Area Water Supply Sustainability Support Program	Support	
City of New Brighton	MC	Metropolitan Area Water Supply Sustainability Support Program	Support	
City of North St. Paul	MC	Metropolitan Area Water Supply Sustainability Support Program	Support	
City of Prior Lake	MC	Metropolitan Area Water Supply Sustainability Support Program	Support	
City of Robbinsdale	MC	Metropolitan Area Water Supply Sustainability Support Program	Support	
City of Shoreview	MC	Metropolitan Area Water Supply Sustainability Support Program	Support	
City of St. Louis Park	MC	Metropolitan Area Water Supply Sustainability Support Program	Support	
City of Woodbury	MC	Metropolitan Area Water Supply Sustainability Support Program	Support	
City of Bayport	MC	Water Demand Reduction Efficiency Grant Program	Support	
City of Chanhassen	MC	Water Demand Reduction Efficiency Grant Program	Support	
City of Eden Prairie	MC	Water Demand Reduction Efficiency Grant Program	Support	
City of Lake Elmo	MC	Water Demand Reduction Efficiency Grant Program	Support	
City of Minnetonka	MC	Water Demand Reduction Efficiency Grant Program	Support	
City of New Brighton	MC	Water Demand Reduction Efficiency Grant Program	Support	
City of North St. Paul	MC	Water Demand Reduction Efficiency Grant Program	Support	
City of Prior Lake	MC	Water Demand Reduction Efficiency Grant Program	Support	
City of Robbinsdale	MC	Water Demand Reduction Efficiency Grant Program	Support	
City of Shoreview	MC	Water Demand Reduction Efficiency Grant Program	Support	
City of St. Louis Park	MC	Water Demand Reduction Efficiency Grant Program	Support	
City of Woodbury	MC	Water Demand Reduction Efficiency Grant Program	Support	
Freshwater	MC	Water Demand Reduction Grant Program	Support	
First Farmers and Merchants Bank Cannon Falls	MDA	AgBMP Loan Program	Support; suggests re-allocating unspent funds from counties to areas	

			with higher need; big backlog	
AgCountry Bank	MDA	Agricultural Best Management Practices Loan Program	Support; waiting list	
Carver County	MDA	Agricultural Best Management Practices Loan Program	Support; waiting list	
Cook County	MDA	Agricultural Best Management Practices Loan Program	Support; waiting list	
Goodhue County	MDA	Agricultural Best Management Practices Loan Program	Support; waiting list	
John Rud	MDA	Agricultural Best Management Practices Loan Program	Support; waiting list	
Lyon County	MDA	Agricultural Best Management Practices Loan Program	Support; waiting list	
Minnesota Corn Growers Association	MDA	Agricultural Best Management Practices Loan Program	Support increase	
Mower County	MDA	Agricultural Best Management Practices Loan Program	Support; waiting list	
Oakwood Bank	MDA	Agricultural Best Management Practices Loan Program	Support; waiting list	
Rock County	MDA	Agricultural Best Management Practices Loan Program	Support; waiting list	
Freshwater	MDA	Conservation Equipment Assistance	Support	
Minnesota Corn Growers Association	MDA	Conservation Equipment Assistance	Support at $7M; support for ownership of equipment not rental and for custom work	
Minnesota Corn Growers Association	MDA	Expand MN Weather Station Network	Support	
Forever Green advocates	MDA	Forever Green Initiative	Support @$6M	
Freshwater	MDA	Forever Green Initiative	Support @$6M	
Friends of the Mississippi River	MDA	Forever Green Initiative	Support @ $10M; market opportunity for sustainable aviation fuel (SAF)	
Friends of the Mississippi River	MDA	Forever Green Initiative	Support @ $6M, support at $10M if possible	
Minnesota Corn Growers Association	MDA	Minnesota Agricultural Water Quality Certification Program	Support; use as conduit for more soil health BMPs	
Friends of the Mississippi River	MDA	MN Agricultural Water Quality Certification Program	Support policy change: 1) Certified farms inside DWSMA are not exempted from Level 3 & 4 GPR	

			mitigation requirements; 2) reduce certification period for farms inside DWSMAs with elevated nitrate levels from 10 years to 5 years	
Simple Harvest Farm Organics	MDA	MN Agricultural Water Quality Certification Program	Support investment in more monitoring for outcomes	
Minnesota Corn Growers Association	MDA	Nitrate in Groundwater	Support	
MN Center for Environmental Advocacy, MN Well Owners Assn; Winona County Coalition for Clean Water	MDA	Pesticide Testing in Private Wells	Support	
Minnesota Crop Production Retailers	MDA	Suggests new a targeted financial incentive program that would incentivize crop advisors to promote conservation instead of promoting more fertilizer	Thanks for supporting comprehensive SE MN response	
Minnesota Corn Growers Association	MDA	Technical Assistance	Support	
Nature Conservancy	MDA	Technical Assistance	Support	
Freshwater	MDH	Future of Drinking Water Initiative	Support	
Friends of the Mississippi River	MDH	Groundwater Restoration and Protection Strategies	Support @ $3.5M	
Pope County SWCD	MDH	Groundwater Restoration and Protection Strategies	Support	
Mille Lacs SWCD	MDH	Groundwater Restoration and Protection Strategies	Support	
MN Center for Environmental Advocacy, MN Well Owners Assn; Winona County Coalition for Clean Water	MDH	Groundwater Restoration and Protection Strategies	Support	
Bruce M. Olson	MDH	Private Well Initiative	Support SE MN work	
Freshwater	MDH	Private Well Initiative	Support	
Friends of the Mississippi River	MDH	Private Well Initiative	Support @ $6M	
Jeffrey Stoner, retired hydrologist	MDH	Private Well Initiative	Support	
MN Center for Environmental Advocacy, MN Well Owners	MDH	Private Well Initiative	Support; please report progress	

Assn; Winona County Coalition for Clean Water				
Minnesota Water Well Association	MDH	Private Well Initiative	Support	
Olmsted County	MDH	Private Well Initiative	Support	
City of Avon	MDH	Source Water Protection	Support	
City of Cold Spring	MDH	Source Water Protection	Support	
City of Darwin	MDH	Source Water Protection	Support	
City of Gibbon	MDH	Source Water Protection	Support	
City of Glenwood	MDH	Source Water Protection	Support	
City of Goodhue	MDH	Source Water Protection	Support	
City of Grey Eagle	MDH	Source Water Protection	Support	
City of Le Center	MDH	Source Water Protection	Support	
City of Little Falls	MDH	Source Water Protection	Support	
City of Luverne	MDH	Source Water Protection	Support	
City of Mankato	MDH	Source Water Protection	Support	
City of Milaca	MDH	Source Water Protection	Support	
City of Moorhead	MDH	Source Water Protection	Support	
City of Mora	MDH	Source Water Protection	Support	
City of Ogilvie	MDH	Source Water Protection	Support	
City of Onamia	MDH	Source Water Protection	Support	
City of Pipestone	MDH	Source Water Protection	Support	
City of Randall	MDH	Source Water Protection	Support	
City of St. Hilaire	MDH	Source Water Protection	Support	
City of Waconia	MDH	Source Water Protection	Support	
Dakota County	MDH	Source Water Protection	Support; PFAS a major issue in drinking water	
Friends of the Mississippi River	MDH	Source Water Protection	Support	
MN Center for Environmental Advocacy, MN Well Owners Assn; Winona County Coalition for Clean Water	MDH	Source Water Protection	Support	
Coalition of Greater MN Cities	MPCA	Chloride Reduction	Support	
Freshwater	MPCA	Chloride Reduction	Support	
Friends of the Mississippi River	MPCA	Chloride Reduction	Support	

Summary of Public Comment to Clean Water Council Proposals for the Clean Water Fund FY26-27

Nature Conservancy	MPCA	Chloride Reduction	Support	
Friends of the Mississippi River	MPCA	Clean Water Council	Support	
Nature Conservancy	MPCA	Clean Water Council	Support additional staffing	
Ash River Sewer District	MPCA	National Park Water Quality Protection Program	Support @ $4 million	
Crane Lake Water & Sanitary District	MPCA	National Park Water Quality Protection Program	Support @ $4 million	
Friends of the Mississippi River	MPCA	National Park Water Quality Protection Program	Oppose using CWF; avoid earmarks; oppose supporting more development	
Kabetogama Township	MPCA	National Park Water Quality Protection Program	Support @ $4 million	
Koochiching County	MPCA	National Park Water Quality Protection Program	Support @ $4 million	
Sen. Jen McEwen	MPCA	National Park Water Quality Protection Program	Support @ $4 million	
Senator Grant Hauschild	MPCA	National Park Water Quality Protection Program	Support @ $4 million	
David Craig	MPCA	River and Lake Monitoring and Assessment	Monitor all lakes and streams; fine polluters	
Coalition of Greater MN Cities	MPCA	Wastewater/Stormwater TMDL Implementation	Support	
Coalition of Greater MN Cities	PFA	Point Source Implementation Grants	Support	
Minnesota Department of Transportation, Erosion and Stormwater Management Unit	UMN	Stormwater Research and Technology Transfer Program	Support	
Mississippi WMO	UMN	Stormwater Research and Technology Transfer Program	Support	
South Washington Watershed District	UMN	Stormwater Research and Technology Transfer Program	Support current level or increase	
SRF Consulting Group	UMN	Stormwater Research and Technology Transfer Program	Support	

Minnesota's Vanishing Natural Shorelines: A Loss that Contributes to Degraded Lake Quality

The Natural Shoreline Partnership's Statement of Purpose

July 2023

Justin Meissen, Flickr

Minnesota's Vanishing Natural Shorelines: A Loss that Contributes to Degraded Lake Quality

July 25, 2023

This report was formulated out of discussions with non-profit organizational leaders and government (state and local) natural resource professionals concerned about the continuing loss of shoreline vegetation, which helps protect clean water, habitat, lakeshore character, and recreation.

Minnesota Natural Shoreline Partnership:

Anne Sawyer (UMN-Extension)*, Chris Pence (BWSR), Dan Petrik (DNR), Dan Shaw (BWSR), Greg Berg (Stearns County SWCD), Jeff Forester (Minnesota Lakes and Rivers Advocates), Jeff Hrubes (BWSR), Jennifer Shillcox (DNR), Joe Shneider (MN COLA), John Linc Stine (Freshwater Society)*, Kris Meyer (Freshwater Society), Kristin Carlson (DNR), Paul Radomski (DNR), Steve Kloiber (DNR), Tom Nelson (Itasca County SWCD), Wade Johnson (DNR), Jason Moeckel (DNR), Nick Neuman (Stearns County Environmental Services), Becky Rice (Blue Thumb), Beth Carreno (Comfort Lake-Forest Lake Watershed District), Annie Knight (NWLT), Elizabeth Mboutchom (NWLT), Nicole Ward (DNR).
* - past member

Executive Summary

Many of Minnesota's lakes are in trouble. About half of Minnesota's natural shorelines have already been lost, and natural shoreline continues to vanish at an alarming rate. We are degrading our lake water quality. Mowed shorelines allow 7 to 9 times more pollutants to enter the lake than a more naturally vegetated shoreline. These pollutants accumulate in lakes, often creating serious water quality problems while also promoting algal blooms and excessive aquatic vegetation. In addition, we are losing valuable habitat for fish – and loons, frogs, butterflies and more. We are losing the beauty of diverse shorelines and the unique character of Minnesota. It is critical that we act, and act now, to protect our vanishing healthy shoreline and recover what has been lost.


MPCA

We are aware that the status quo is not working. Despite fifty years of state shoreline vegetation standards and local government regulation, the system has failed to adequately protect our natural shorelines. Additional efforts such as education and enforcement have been only marginally successful.

For lake water quality, fish and wildlife communities, and to sustain the health of Minnesota lakes for our recreation and enjoyment, a reasonable natural shoreline protection and restoration goal would be that 75% of a shoreline be unmowed with natural vegetation, consisting of forbs, grasses, shrubs, and trees that is at least 25 feet in width landward from the lake. How can such a goal be achieved?

After listening to many people and organizations about protecting and restoring shorelines, several reoccurring themes emerged. First, local government staff, at the forefront of property owner interactions, need support and additional technical guidance to promote and facilitate shoreline restoration. Second, there is evidence that community leadership development, including civic engagement approaches[1], can effectively shift social norms towards protecting and restoring natural shorelines. However, it can take time for behavior shifts to successfully establish. Therefore, community leadership development requires continued support and focus to gain and sustain momentum. Third, effective partnerships from neighboring states may provide models to advance protection and restoration of natural shorelines.

Specific actions that could be taken include:

1. Strengthen the relationships between the many organizations with interest in protecting and restoring shoreline. These organizations include state government, local government, statewide non-profit organizations (like MLR, Freshwater Society, Metro Blooms, and MN COLA), and local organizations, such as lake associations.

    a. Work to understand the roles each organization plays in shoreline protection and seek to align these roles to enhance the strengths and capacity of each organization.
    b. Make a concerted effort to engage in dialogue with local organizations to better understand their needs and use this information to improve guidance, tools, and programs.
2. Improve public outreach with a sustained, consistent message from all partner organizations.
3. Provide more training and outreach opportunities for key audiences including lakeshore landowners, landscape contractors and consultants.
4. Increase one-on-one landowner contacts by supporting grassroots/local efforts and enhancing the capacity of these efforts. Examples of this include the Lake Steward, the Minnesota Water Steward, and the Lawns to Legumes programs.
5. Create incentives for shoreland protection and restoration.
6. Enhance funding to support for shoreland protection and restoration programs.

Minnesota Sustainable Aviation Fuels Guiding Principles

Fresh Energy, Friends of the Mississippi River, and The Nature Conservancy

July 2024

This document represents the perspectives of Fresh Energy, Friends of the Mississippi River, and The Nature Conservancy. As three of Minnesota's leading conservation and clean energy organizations, we are committed to advancing solutions that address climate change, improve water quality, and ensure healthy ecosystems throughout Minnesota. Sustainable Aviation Fuel (SAF) policies have enormous potential to drive positive environmental and social outcomes in Minnesota. To grow the market sustainably and achieve the best outcomes, we must engage in thoughtful debate guided by the best available science.

The guiding principles outlined in this document ensure that low-carbon fuel pathways reduce aviation industry emissions while advancing progress toward complementary environmental and social goals. Although the principles and perspectives here are focused on Minnesota, we recognize that sustainable aviation fuel markets are global, and therefore, commodity markets, community impacts, and environmental consequences cannot be limited to one geography.

Because we are committed to co-creating a Minnesota SAF market that works for all, we view this as a living document that will be responsive to future discovery, innovation, science, policy opportunities, and further collaboration with partners on this important work.

The Potential of SAF

Reduce emissions: The aviation industry cannot be wholly decarbonized through electrification and will require low- and zero-carbon fuels. Development of SAF fuel pathways that use regenerative cropping systems and carbon-free energy has the potential to significantly reduce emissions in both the transportation and agriculture sectors, helping to meet Minnesota's economy-wide carbon reduction goals.

Accelerate cropping innovation: Minnesota-developed winter annual oilseed (e.g. camelina and pennycress) and perennial oilseed (e.g. silflower) crops can produce innovative biofuels that are significantly lower-carbon than biofuels produced from dominant cropping systems, and enhance farm prosperity and ecosystem function.

Advance sustainable market growth: Minnesota can demonstrate a best-in-class approach to sustainable SAF market development by prioritizing the lowest carbon fuel pathways derived from Minnesota-grown regenerative cropping systems and Minnesota-generated carbon-free energy. Acknowledging the scaling potential of fuel pathways given the demands for carbon-free renewable electricity and green hydrogen economy-wide is also essential.

Demonstrate state leadership: Minnesota companies, producers, and innovations can lead the transformation to the market of the future, providing a national model that decarbonizes the aviation industry.

The Peril of SAF

Increase emissions: If there is increased corn and soybean feedstock production and indirect land use change in response to demand for SAF, agricultural emissions will rise. Likewise, if carbon-intensive energy sources are used for SAF feedstocks (e.g. blue hydrogen), the emissions reduction potential for the aviation industry will be eroded. Increases in emissions would undermine Minnesota's economy-wide reduction goals and the credibility of the Minnesota SAF market.

Increase land conversion: Increasing demand for dominant cropping systems and practices (e.g. corn, soybeans) will result in the conversion of more—and increasingly marginal—land to production. Increased cropland acreage will likely result in the loss of grassland, wetland, forest, conservation acres, and the biodiversity on those lands.

Reduce ecosystem function: Policies that further intensify dominant cropping systems and practices will dramatically exacerbate our water quality challenges and are incompatible with achieving our state's habitat and pollinator goals.

Unsustainable market growth: Developing fuel pathways now that are reliant on dominant cropping systems and/or carbon-intensive energy—instead of investing in regenerative cropping systems and fuels utilizing carbon-free energy—risks locking in carbon-intensive feedstocks. Developing the SAF market without a lens on state decarbonization goals and in a way that does not account for immense economy-wide demand for carbon-free energy (e.g. renewable electricity, green hydrogen) will also result in unsustainable market growth.

This document has been co-created by Fresh Energy, Friends of the Mississippi River, and The Nature Conservancy. This is a living document, which will be periodically updated to respond to future discovery, innovation, science, policy opportunities, and further collaboration with partners in this important work. 7.17.24

Guiding Principles

Include science-based greenhouse gas reduction goals: Minnesota updated the Next Generation Energy Act in 2023 to more closely align with climate science, setting a state goal of a 50% reduction in emissions (from a 2005 baseline) by 2030 and being net-zero by 2050. A SAF strategy should include specific greenhouse gas reduction timelines and milestones that align with the state's science-based goals.

Align SAF market development with Minnesota's economy-wide clean energy transition: All SAF fuel pathways will rely on clean energy, and the demand in other sectors of the economy for the same clean energy sources will be high given the state's decarbonization goals. The MN SAF market must be developed with a realistic lens on the availability of clean energy sources, like carbon-free renewable electricity and green hydrogen, to ensure reliable and sustainable growth.

Invest in environmental justice and equity: SAF represents a unique opportunity to advance feedstock supply chains that help address persistent environmental, economic, and racial injustice and inequity in our agriculture and energy systems. We must embed equity, inclusion, and environmental justice values and clear metrics for success in a Minnesota SAF strategy.

Rely on realistic cropland emissions assumptions: On-farm emissions from biofuel feedstock production must be accurately accounted for in the life-cycle assessment process, including realistic and verifiable on-farm emissions reductions and science-based carbon sequestration assumptions (e.g. no-till and cover-crop strategies do not reliably result in additional, permanent in-field carbon sequestration).

Prevent land conversion: A SAF strategy should not result in the conversion of marginal lands, conservation lands, grasslands, wetlands, or forests to biofuel production, or the reduction of food production. Bio-based SAF should be limited to feedstocks produced on croplands with a demonstrated cropping history starting from a defined baseline year.

Define "sustainable" to include air, water, biodiversity, and clean energy: A SAF strategy must consider impacts on clean water, healthy ecosystems, clean air, and the economy-wide transition to clean energy. A carbon intensity score is not sufficient to fully evaluate these impacts. A SAF strategy must include an approach to more holistically assess its environmental impacts (such as an environmental integrity score).

Maximize winter oilseeds as a preferred feedstock: Winter annual oilseeds (e.g. winter camelina and pennycress) produce very low-carbon aviation fuels while also providing significant benefits for water quality, wildlife, and pollinators. A SAF strategy should include benchmarks for utilizing winter annual oilseeds feedstocks over time.

Prioritize scaling the most sustainable fuel pathways: In order to avoid land conversion while scaling up SAF production, corn- and soybean-based SAF fuel pathways must be considered near-term bridge solutions to decarbonization as the Minnesota SAF market develops. A SAF strategy should include a commitment to invest in scaling fuel pathways that rely on regenerative cropping systems and carbon-free energy from day one.

Invest in carbon capture from sources beyond biofuel refineries: Carbon dioxide will be an important feedstock in power-to-liquid SAF fuel pathways. A SAF strategy should prioritize capturing carbon dioxide from hard-to-decarbonize end uses, like cement manufacturing, to increase the potential for economy-wide decarbonization. A SAF strategy should not default to capturing carbon dioxide from refineries that process dominant cropping systems, whose cultivation contributes to significant water and air pollution and biodiversity loss.

Promote permanent storage and/or utilization of carbon dioxide: Carbon dioxide will play a role as both a feedstock and byproduct of specific SAF fuel pathways. For SAF fuel pathways where carbon dioxide is produced as a byproduct (e.g. alcohol-to-jet), permanent storage and/or utilization of that carbon dioxide should be promoted. Further, carbon dioxide feedstock providers for SAF fuel pathways (e.g. power-to-liquid) that prioritize permanent storage and/or utilization should be engaged preferentially. Utilization must preclude enhanced oil recovery.

The Current State of Play

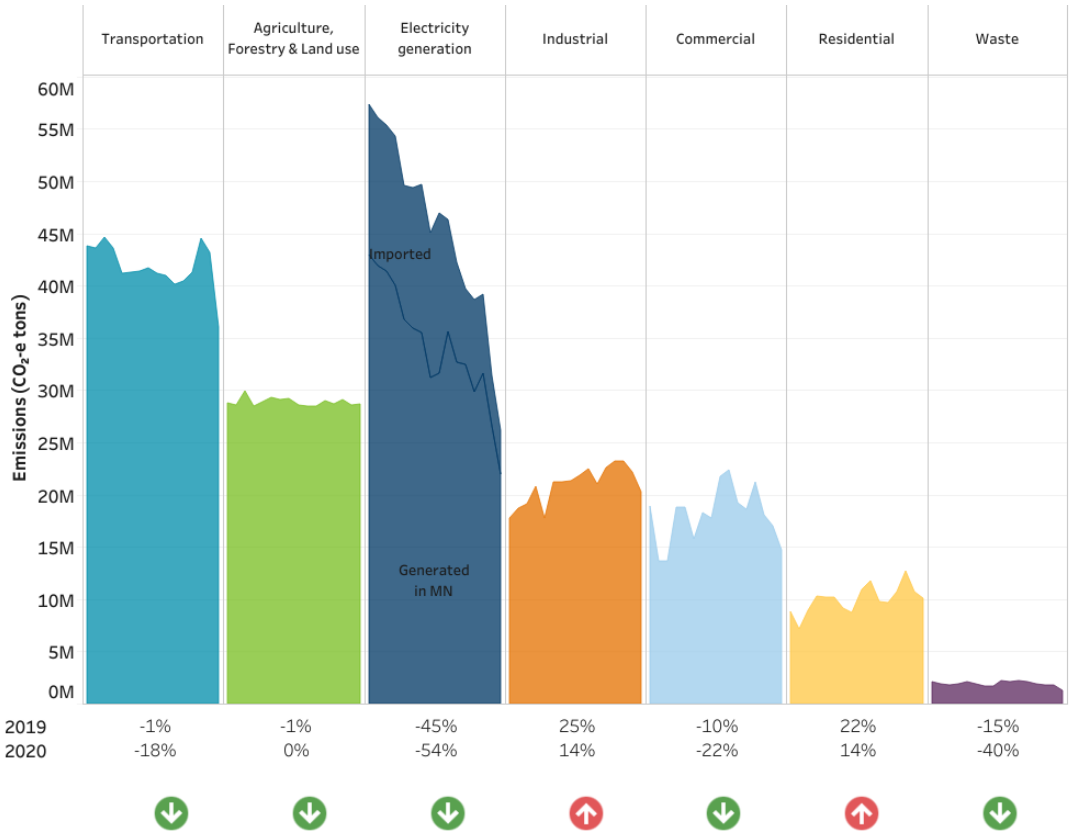
Greenhouse Gas Emissions[1]

Transportation: The largest source of emissions in the state, accounting for approximately a quarter of the state's total emissions. Emissions are generated by on-road vehicles, airplanes and other aviation equipment, trains, vehicle air conditioning units, and natural gas transmission pipelines. Emissions have decreased 18% since 2005, but that trend is primarily an artifact of a reduction in aviation and vehicle usage during the pandemic. Decarbonized solutions will include electrification and low- and zero-carbon fuels.

Agriculture: The second largest source of emissions in the state. Emissions are underpinned by fertilizer use, livestock, and land management practices, with emissions from fertilizer and manure increasing since 2005. Decarbonization solutions will include electrification, low- and zero-carbon fuels, adoption of regenerative agriculture practices, and a transition away from dominant cropping systems and practices (e.g. corn, soybeans) and towards regenerative cropping systems (e.g. continuous living cover, winter oilseeds).

Power: The third largest source of emissions in the state. Emissions are underpinned by natural gas and coal but have dropped 54% since 2005. Decarbonization will require

1. Minnesota Pollution Control Agency. 2023. Greenhouse gas emissions in Minnesota 2005-2020. https://www.pca.state.mn.us/sites/default/files/lraq-2sy23.pdf



completing the transition away from natural gas and coal to carbon-free renewables like solar and wind for electricity generation.

Industry: The fourth largest source of emissions in the state, and growing, with emissions rising 14% since 2005. Emissions are underpinned by fossil fuel combustion (natural gas, coal, oil), taconite processing, and petroleum refining. Decarbonized solutions will include electrification and low- and zero-carbon fuels.

Buildings: Commercial and residential buildings are the fifth and sixth largest source of emissions in the state, respectively. Emissions are primarily underpinned in both sectors by oil and natural gas use. While commercial emissions have decreased 22% since 2005, residential emissions have risen 14%. Electrification and energy efficiency measures are the primary decarbonization solutions for buildings.

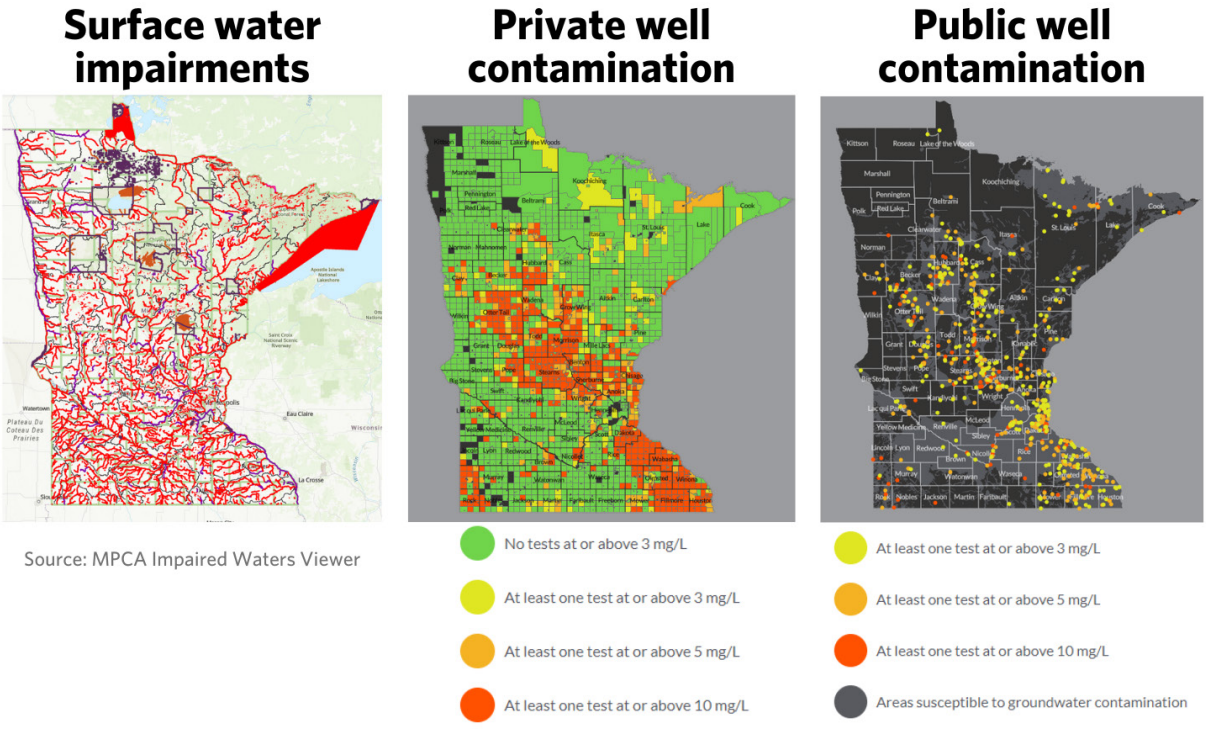
Ecosystem Function

Water quality: Minnesota faces pervasive challenges to achieving our surface water and groundwater goals. Our water quality challenges, including the public health crisis of elevated nitrates in drinking water in many Minnesota communities, are primarily

associated with dominant cropping systems and practices, the primary sources of pollution to our surface waters and groundwater.[2,3]

Land use change: Conversion of grasslands, wetlands, and forests to dominant cropping systems and practices has been driven by biofuel production.[4] Land use change that results in the loss of grassland, wetland, or forested habitat is inextricably linked to loss of ecosystem functions such as water quality, biodiversity, and soil health. For example, 74% of grassland bird species show population declines,[5] with loss of habitat cited as a leading contributor to the decline, and both commercial and wild bee populations have shown declines in recent years.[6]

Soil health and resilience: Dominant cropping systems and practices reduce the capacity of soils to provide critical services, including ongoing agricultural production, air and water purification, and habitat for soil organisms. When this happens, it can lead to reliance on increasing chemical inputs and tillage, which exacerbates environmental concerns



2. Minnesota Pollution Control Agency. 2013 Nitrogen in Minnesota Surface Waters. https://www.pca.state.mn.us/sites/default/files/wq-s6-26a.pdf
3. Minnesota Department of Agriculture. 2024. Nitrogen Fertilizer Management Plan. https://www.mda.state.mn.us/pesticide-fertilizer/minnesota-nitrogen-fertilizer-management-plan
4. Wright et al. 2017. Recent grassland losses are concentrated around U.S. ethanol refineries. Environmental Research Letters 12:044001.
5. Rosenberg et al. 2019. Decline of the North American avifauna. Science 366:120-124.
6. Durant et al. 2019. Feeling the sting? Addressing land-use changes can mitigate bee declines. Land Use Policy 87:104005.

and diminishes farmers' bottom line.[7] While there is substantial interest in employing practices like cover crops to sequester carbon, there is no scientific consensus around the permanence of in-field soil carbon sequestration.[8]

Policy Landscape

Modeling technology: The GREET (Greenhouse gasses, Regulated Emissions, and Energy use in Technologies) model, created and maintained by Argonne National Laboratory, is the leading method for assessing carbon intensity of fuel pathways. While regularly updated using peer-reviewed science and public comment, the accuracy of GREET is highly dependent on the quality of the assumptions and inputs it uses. The Renewable Fuel Standard (RFS; federal), Low Carbon Fuel Standard (LCFS; California, Oregon, Washington), and SAF production tax credit (federal) all utilize GREET.

Market-based fuel policies: The RFS and state-based LCFS policies are the primary market-based fuel policies today. The reliance of the RFS on corn ethanol has led to impaired ecosystem function, and there is intense debate in the scientific community over whether the RFS has actually reduced emissions.[9,10] California, Oregon, and Washington have adopted LCFS policies, and Minnesota has explored, but not passed, its version (the Clean Transportation Standard Act) during the 2023 and 2024 legislative sessions.

Minnesota SAF fuel credit: The Minnesota Legislature passed $11.6M in funding for a state-based SAF Fuel Credit in 2023,[11] signaling strong interest in developing a Minnesota SAF market. Both producers and blenders are eligible. The credit is available for SAF sold after June 30, 2024, and before July 1, 2030, for tax years beginning after December 31, 2023.

Minnesota SAF Hub: Minnesota is home to the recently launched Minnesota SAF Hub, led by GREATER MSP, Bank of America, Delta Air Lines, Ecolab, Xcel Energy, and numerous industry, state agency and nonprofit partners. The Hub's multi-year strategy is focused on aggressively decarbonizing the airline industry through affordable, abundant, and environmentally sustainable aviation fuels.

100% Carbon-free: The Minnesota Legislature passed a 100% clean electricity law in 2023, committing all utilities to provide their customers with 100% carbon-free electricity by 2040.

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7. Baer, S. G., and H. E. Birge. 2018. Soil ecosystem services: an overview. Pages 17-38 in D. Reicosky, editor. Managing soil health for sustainable agriculture. Burleigh Dodds Science Publishing Limited, Cambridge, UK.
8. Derrie et al. 2023. Current controversies on mechanisms controlling soil carbon storage: implications for interactions with practitioners and policy-makers. A review. Agronomy for Sustainable Development 43:21. https://link.springer.com/article/10.1007/s13593-023-00876-x
9. Wright et al. 2017. Recent grassland losses are concentrated around U.S. ethanol refineries. Environmental Research Letters 12:044001.
10. U.S. EPA. Biofuels and the Environment: Third Triennial Report to Congress (External Review Draft). EPA/600/R-22/273, 2022.
11. MN Department of Revenue. 2023. Sustainable Aviation Fuel Credit website. https://www.revenue.state.mn.us/sustainable-aviation-fuel-credit

Inflation Reduction Act: Several federal production tax credits will significantly impact fuel production pathways in Minnesota, and come with sustainability concerns.

- 40B incentivizes the sale or use of SAF, but there are concerns that GREET model assumptions around indirect land use change (iLUC) and soil carbon storage make SAF look less carbon-intensive than it is.[14]
- 45Z incentivizes the production of zero- or low-emissions transportation fuels, including SAF. The tax credit is technology neutral as long as emissions targets are met.
- 45Q incentivizes investment in carbon dioxide infrastructure for both permanent storage and enhanced oil recovery, when permanent storage is clearly the best option in terms of reducing emissions.
- 45V will likely incentivize multiple hydrogen production pathways, from carbon-free renewables ("green" hydrogen) to natural gas ("blue" hydrogen), when green hydrogen is clearly the best option in terms of reducing emissions. Final guidance on how these tax credits will be administered from the U.S. Treasury has not yet been released.

Farm bill: The upcoming Farm Bill has the potential to accelerate the development and adoption of viable alternative feedstocks, including winter annual oilseeds, by amending crop insurance, funding research, and leveraging cost-share opportunities.

Clean Water Council

DRAFT FY24-25 Policy Statements as of ~~18~~ 23 August~~November 2022~~2024

Advanced Drinking Water Protection [NEW DRAFT]

The State of Minnesota should ensure that private well users have safe, sufficient, and equitable access to drinking water. Priority contaminants are nitrate, bacteria, arsenic, manganese, lead, and pesticides. The Clean Water Fund combined with other funding sources (including fees), and appropriate policy should be used to support the following:

- completion of a private well inventory, starting in southeastern Minnesota, as well as timely updates to the Minnesota well index
- information to well users to reduce their risk, including well testing
- local and state capacity to manage testing, mapping, and education
- development of cost-effective strategies for private well users to mitigate wells that do not meet Minnesota health-based guidance for five contaminants, with a particular focus on low-income households
- publication of aggregate and anonymized well data
- land use compatible with private well protection (e.g., forage, continuous living cover, working lands easements, etc.), including the prioritization of areas draining to vulnerable private wells
- adequate technical and financial assistance for fertilizer and pesticide management, irrigation education, and manure storage and use
- development and adoption of county ordinances that require well testing and a disclosure of the testing at the time a property is transferred
- financial support for regulation of feedlots and the land application of manure
- evaluation of current programs for efficacy in meeting drinking water source protection goals
- consider designating acreage that drains to the most vulnerable private wells for protective practices similar to Drinking Water Supply Management Areas (DWSMAs)

~~The State of Minnesota should take additional action to protect drinking water sources.~~

1. ~~Direct the Minnesota Department of Health to promote adoption of county ordinances that require well testing and a disclosure of the testing at the time a property is transferred, and develop model ordinances. Ordinances should reflect the contaminants of particular interest to the geology of a given county.~~
2. ~~Use the Clean Water Fund to provide opportunities for all Minnesota private well owners to test their water for five major contaminants (nitrates, lead, arsenic, manganese, and bacteria).~~
3. ~~Develop cost-effective strategies for private well owners to help mitigate wells that do not meet Minnesota health-based guidance for those five contaminants, with a particular focus on low-income households.~~

This policy statement supersedes the following policy statements included in previous biennial Council recommendations:

- Advanced Drinking Water Protection [FY24-25]
- Disclosure of Well Water Quality at Time of Sale [FY22-23]
- Advanced Drinking Water Protection [FY16-17]

Problem

Currently, about 1.2 million Minnesotans get their drinking water from groundwater through a private well. While the State plays a role in protecting drinking water sources, testing and mitigating well water is generally treated as the responsibility of the property owner. ~~, and t~~The Minnesota Department of Health (MDH) recommends that it be done regularly (annually for **bacteria**; bi-annually for **nitrate**; at least once for **arsenic** and **lead**; and before a baby drinks the water for **manganese**). In limited cases, such as the Township Testing program of the Minnesota Department of Agriculture and a new initiative in southeastern Minnesota, the State provides the funding. However, many private well owners do not test their water. A 2016 Minnesota Department of Health (MDH) survey of private well owners found less than 20% of respondents had tested their well water at the frequency MDH recommends.

Once a well owner tests their water and gets the results, they are better able to know what steps they may need to take to ensure safe drinking water. However, currently owners are under no obligation to inform buyers of their property of any high contaminant levels in private drinking water supply system. Education is useful, but some mandates are necessary to increase testing, reporting, and protect the health of private well users. Minnesota Statutes 103I.235 requires sellers of real property to disclosure the existence of a well but not water quality results.

Among the most widespread human-caused contaminants in water supply wells is nitrate. Its major source is commercial fertilizer followed by manure spread on farm fields as fertilizer. The state currently uses the Groundwater Protection Rule to protect drinking water supplies in dozens of communities that have high nitrate levels in public water supply wells. In addition, MDH has delineated areas around more than 920 public water supplies that use groundwater. These Drinking Water Supply Management Areas (DWSMAs) are the basis for Drinking Water Protection Plans that help those communities identify and avoid threats to drinking water, often with Clean Water Fund support. The Council's strategic plan requests that approximately 400,000 acres in vulnerable DWSMAs be protected by 2034. There is no equivalent regulation or designation for private wells.

The state also regulates feedlots and the use of their manure to reduce the risk of nitrate entering groundwater, but the time between feedlot inspections is long.

In addition, the University of Minnesota establishes optimal rates for fertilizer and manure application for different geographies, crops, and soil types, with some support from the Clean Water Fund. The Minnesota Agricultural Water Quality Certification Program (MAWQCP)—fully funded by the Clean Water Fund—also has strong requirements for nitrogen application that exceed the University's guidelines on more than 1 million acres. These voluntary efforts are yielding results, but they are not as widespread as the Council would like.

In response to high nitrate levels in southeastern Minnesota, numerous environmental and community advocates petitioned the U.S. Environmental Protection Agency for stronger action. The EPA instructed MDH, the Minnesota Pollution Control Agency, and the Minnesota Department of Agriculture to take action in eight counties to address the situation. Several steps in that response are included below among other proposed solutions from the Council.

Solutions

- Private well inventory and Minnesota Well Index

In eight counties of southeast Minnesota, MDH has begun inventorying private wells constructed before the 1974 Minnesota Well Code. MDH estimates these wells comprise 40 percent or 12,000 private wells. By incorporating this information into the Minnesota Well Index, MDH will be able to provide information to residents who likely have a poorly constructed well that is more vulnerable to contamination, especially for nitrate. The Council requests that this approach be expanded to the rest of the state by a date certain. In addition, the Council asks that MDH update its software for the Minnesota Well Index to ensure timely updates.

- Information to well users including well testing

MDH is also educating private well users in the southeast with information about the well inventory, how to get private well water tested for free, and how to get mitigation assistance.

The Council's strategic plan requests that the state provide free well testing over ten years starting in FY24-25 for all private well users. MDH is on track to meet this goal and is focusing on the southeast first. When sending water analysis results, laboratories also include information about how the household can access mitigation if necessary.

- Local capacity

Two MDH pilot programs supported by the CWF built partnerships with local public health agencies in recent years. These partnerships administered grants to provide well testing in Stevens, Grant, and Traverse Counties (Horizon Public Health) and in Olmsted, Fillmore, Winona, Wabasha, and Goodhue Counties (Olmsted Soil and Water Conservation District). Having this local capacity for testing and education is critical for success and should be expanded statewide.

- Strategies for mitigation

Nonpartisan legislative staff have asserted that using the Clean Water Fund for private well mitigation is not consistent with the Legacy Amendment of the State Constitution. However, state general funds have been made available in FY25 to support private well mitigation such as reverse osmosis systems and the drilling of new wells for low-income households. The Clean Water Fund can be used to educate residents on their options, however, once well testing results are available. The Minnesota House passed legislation (which did not make it through conference committee) to increase the fee on fertilizer to support private well mitigation. The Council believes this is one option for long-term funding.

- Publication of data

The Council believes that public aggregate data on well testing results will assist in drinking water source protection efforts. An example has been the Township Testing program at the Minnesota Department of Agriculture that has identified townships most vulnerable to nitrate and pesticide contamination. Continued testing will indicate whether prevention efforts are succeeding. Publication of township level data for other contaminants (arsenic, manganese) would also be useful.

- Land use

Landowners have options available to convert land use away from nitrogen-intensive crops in Drinking Water Supply Management Areas (DWSMAs) or acreage that drains to vulnerable private wells. The Clean Water Fund and other sources can support working lands easements, wellhead protection easements, continuous living cover, and forage such as hay. The Council suggests that the Board of Water and Soil Resources consider paying up to fair market value for wellhead protection easements since commitments for this program are low.

- Technical and financial assistance

The Department of Agriculture and the Board of Water and Soil Resources provide many opportunities to farmers to reduce runoff or infiltration of nitrates. They include an irrigation extension staffer, field days, nitrogen application education, conservation equipment assistance, low-interest equipment loans, soil health grants and education, manure storage grants, administration of the Groundwater Protection Rule, and updated crediting ratios for manure application. This work would not be possible without the Clean Water Fund and should continue.

- Development and adoption of county ordinances

The Council has advocated for the requirement that private wells should be tested and the results disclosed at the time a property is transferred. This proposal has not been successful at the Legislature. In the meantime, the Council would like MDH to continue its work to encourage counties to develop model ordinances.

- Financial support of regulation of feedlots and the land application of manure

The MPCA issues State Disposal System (SDS) and National Pollution Discharge Elimination System (NPDES) permits for feedlots with more than 1,000 animal units. Requirements include seasonal restrictions of manure on row crops and for cover crops for manure application (among others). The Council has asked the MPCA for information on how often these feedlots are inspected, either by counties with delegated authority to enforce permits with county feedlot officers or the state in other counties. The average inspection interval appears to be about ten years, but the MPCA inspects more frequently for feedlots in areas with higher risk to vulnerable groundwater. The Council supports additional general funds or fee revenue to increase inspection frequency.

- Evaluation

The Council seeks data from agencies on the efficacy on all the programs listed above. As the Legacy Amendment expiration date of June 2034 looms, the Council would like to focus investments where they will provide the most rapid progress. Program dashboards would be the most useful in the next biennial Clean Water Fund biennial report.

- Designation of private well areas

The Council suggests a dialogue with state agencies on the idea of creating a DWSMA-like tool for townships with high nitrate levels. The purpose would be to explore a regulatory approach similar to the Groundwater Protection Rule but for private wells.

Solutions

1. The State should promote county ordinances to require well testing at time of transfer rather than using state statute. Not all five major contaminants are present in all geologies of the state (manganese, arsenic), so counties should have the flexibility to require testing for only those contaminants likely to be found in the county.

Example: Some lenders and loan programs already require testing
In a 2019 MDH survey of 243 real estate professionals, 46% of respondents said that the mortgage companies they work with always or usually require well water testing. Respondents explained that the following loan programs require well testing, but the testing parameters varies on what is tested: Veterans Affairs Home Loan, Federal Housing Administration[1], and USDA Home Loans.

Example: Dakota County has required well testing at property transfer since 1998
Dakota County Ordinance number 114 requires testing a private well for bacteria, nitrate, arsenic, and manganese (added in 2019) within in 12 months prior to a real estate transfer. The ordinance updates in 2019 also require that water quality issues are addressed through treatment or well replacement prior to sale.

2. Provide opportunity with CWF for every private well owner to test for five major contaminants and provide follow-up information on mitigation
3. Consider what funding could be applied to mitigation for qualifying income households using the SSTS low-income grant program model

Testing Example: MDH Pilot Program in 2021
On average, it costs about $150 to test for all five recommended contaminants. This makes testing prohibitive or at least unappealing to many well owners.

MDH is carrying out a pilot program with local partners in west central and southeast Minnesota to offer free testing as well as financial assistance for mitigation for eligible households. Household eligibility is determined by water quality results and socioeconomic factors the local partners defined. This approach also exists in the Minnesota Pollution Control Agency's low-income grant program for subsurface sewage treatment systems (SSTS) and could serve as a model.

In Stevens, Grant, and Traverse Counties, Horizon Public Health received a grant for the program. Horizon distributed 114 test kits. Fifty-seven tests (or 50 percent) exceeded 10 micrograms per liter for arsenic. As of August 2022, 18 applicants have had reverse osmosis treatment installed as part of this program. Ten units were 100 percent covered by the grant, and eight were 75 percent covered. Twelve more households are interested in the 75% cost-share and are waiting on a quote from the vendor.

In Olmsted, Fillmore, Winona, Wabasha, and Goodhue Counties, Olmsted Soil and Water Conservation District took the lead. In this region, 50 percent of contacted households had never tested their water, are unsure when it was last tested, or haven't had it tested for at least 10 years. Fifty-five percent of

[1] The FHA requirements can be found at 24 CFR 200.926d.

those households had a well that was drilled before the well construction code came into being or did not know the age of the well. As of August 2022, 164 wells have been tested for nitrate, arsenic, and manganese. Twenty percent of the samples have been above 10 ppm for nitrate.

The grant has helped cover the cost to install 3 reverse osmosis systems, construct 5 new wells, and conduct repairs on another well to address nitrate.

The Council proposes that in FY24-25, the Clean Water Fund be used to support free testing for 10% of Minnesota private well users each year, and that the program should continue for ten years.

There are home water treatment and other mitigation options (such as well repair and construction) to address water quality issues. The price for treatment varies based on the type of treatment and who installs it. Point-of-use reverse osmosis is an effective way to treat for all five contaminants and costs about $300 if you install it yourself or $1500 to have a water treatment professional install it. Annual maintenance is about $100. There are additional treatment options that range in price and application.[2]

The Council proposes that the State develop a cost-effective model that could assist well owners facing economic hardship so that they can access home water treatment. This approach could be supported by future Clean Water Fund recommendations or other State funding sources.

[2] Minnesota Department of Health, https://www.health.state.mn.us/communities/environment/water/wells/waterquality/index.html.