Clean Water Council Meeting Agenda

Monday, August 21, 2023

9:00 a.m. to 2 p.m.

IN PERSON with Webex Available (Hybrid Meeting)

9:00 Regular Clean Water Council Business

- **(INFORMATION ITEM)** Introductions
- **(ACTION ITEM)** Agenda - comments/additions and approve agenda
- **(ACTION ITEM)** Meeting Minutes - comments/additions and approve meeting minutes
- **(ACTION ITEM)** Updates to per diem policy
- **(INFORMATION ITEM**) Chair and Council Staff update
    - Policy & Budget and Outcomes Committee Updates
    - Staff update: Field tour

9:30 Strategic Planning

- Feedback on Second Draft of Groundwater Strategies

10:00 Strategic Planning: Setting Expectations for Surface Water Implementation Strategies

- Summary of Major Water Reports
    - Clean Water Fund Road Map (2014) (10 minutes) (Paul Gardner)
    - Nutrient Reduction Strategy (2020 progress report) (10 minutes) (Paul Gardner)
    - Q&A (10 minutes)

10:30 BREAK

10:45 Strategic Planning

- Clean Water Allocations by BWSR
    - BWSR Nonpoint Priority Funding Plan (NPFP) (10 minutes)
    - Funding Formula for Watershed Based Implementation Funding (WBIF) (10 minutes) (Justin Hanson)
    - Q&A (10 minutes)
- Allocation of Protection vs. Restoration Funding (10 minutes plus Q&A)
- Discussion of Nearly/Barely Impaired Waters List (10 minutes plus Q&A)
- Lightning Round of CWF Implementation Line Items (10 minutes)
- Discussion

12:00 LUNCH

12:30 Small Group Discussions

- What should our clean water expectations be by 2034?

1:45 Public Comments

2:00 Adjourn

Immediately after: Steering Committee

Clean Water Council
June 26, 2023, Meeting Summary

Members present: John Barten (Chair), Rich Biske (Vice Chair), Dick Brainerd, Gary Burdorf, Gail Cederberg, Tannie Eshenaur, Warren Formo, Brad Gausman, Kelly Gribauval-Hite, Justin Hanson, Holly Hatlewick, Rep. Josh Heintzeman, Peder Kjeseth, Annie Knight, Jason Moeckel, Rep. Kristi Pursell, Peter Schwagerl, Glenn Skuta, Dan Sparks, and Sen. Nathan Wesenberg.
Members absent: Steve Besser, Steve Christenson, Sen. Nicole Mitchell, Jeff Peterson, Victoria Reinhardt, and Marcie Weinandt.

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

Regular Clean Water Council Business

- Introductions
- Approval of the June 26th meeting agenda and April 17th meeting summary, motion by Dick Brainerd, and seconded by Peter Schwagerl. Motion carries.
- Chair and Council Staff update
  - Any questions on expense reimbursements or any updates to dietary restrictions can be directed to Brianna, our support staff on the Council.
  - Reminder to speak clearly to help capture the sound with the room's audio. Also, always assume the microphone is on.
  - All the meetings are public and follow open meeting laws.
  - If you would like to be called upon to speak, please turn your name cards up. For those members online, you can use the "raise hand" button.
  - The full Council's July meeting will be cancelled. September will be the Council's field tour.

Introductions of new members *(Webex 00:26:45):* Gail Cederberg, Brad Gausman, Holly Hatlewick, Annie Knight, Rep. Kristi Pursell, Dan Sparks, and Sen. Nathan Wesenberg.

Legislative Summary *(WebEx 00:39:00)*
There has been a surplus in the general fund, so there is less of a pull by the Legislature to take funds out of the Clean Water Funds (CWFs) for other items not in the Council's recommendations. *See handout in meeting packet.*

- Legacy Finance Bill
  - The Legislature adopted the CWFs recommendations in full, with a few changes. There was an appropriation of $326,000 for the River Watch as part of the MPCA's monitoring program.
- Agriculture Finance
  - There was more funding for soil health and Forever Green Initiative (FGI).
- Environment and Natural Resources Finance
  - Per- and Polyfluorinated Substances (PFAS) and soil health received a lot of interest.
- Tax bill
  - The bill provided Soil and Water Conservation Districts (SWCDs) $30 million for FY24-25. In FY26-27 support drops to $24 million, or $12 million per year. The Legislature had appropriated $18 to $24 million to SWCDs from the CWFs for several past biennia. This new appropriation will avoid CWF cuts.
  - Additionally, the last remaining state match required to receive all available federal funds for the Conservation Reserve Enhancement Program (CREP) was appropriated.
  - Regarding Capital Investment (2023 Session Law, Chapters 71 and 72), there is an appropriation for $80 million for the Public Facilities Authority (PFA) for the Point Source Implementation Grant (PSIG) program.
  - There is a huge amount of funding for water treatment, which will help maximize federal funding as well.
- *Questions/Comments:*
  - Sen. Nathan Wesenberg: Funding to build a dam to stop the Carp moving would be priority. Additionally, talking about neonicotinoids is important work. There is some research on impacts to deer, as well as research for spraying it on seeds versus through pesticides on the landscapes. I would like to see bonding

money go to where it needs to be, and I am glad this funding is going towards water. In the future, hopefully we can spend on money on things that need to happen. If we are spending money, we should spend it in the best way that we can.

- Dick Brainerd: Now that there is a funding base for the SWCDs, could we hear comments on that item?
  - Holly Hatlewick, Renville SWCD: The support of the Council has helped us to this point. That capacity and stability was provided to retain staff, to train them, and then deliver all the programs. It is a game changer for us. Now we are a player at the table because before we always had "hoped" to have the funding, and now can say "yes" we have the funding. It is not exactly what we wanted, but helps a lot, and bring the SWCDs forward to have those conversations.
  - Justin Hanson: The uncertainty of the funding was not good for capacity. The assurance of consistent funding has created excitement. There is strategic thinking about the capacity now. However, the level does not meet all of the needs. There has been a lot of creativity with stretching funding.
  - Sheila Vanney, MASWCD: We did not get the funding amount we requested. We will attempt to increase the amount of SWCD aid in future tax bill appropriations.

Clean Water Legacy Partners (small grants) Update, by Shaina Keseley, Board of Water and Soil Resources (BWSR) *(Webex 01:30:00)*

- In 2021, the Minnesota Legislature appropriated $1 million from the CWFs for developing and implementing a water legacy grant program to expand partnerships for clean water. The purpose of the program is to provide new funding opportunities to expand partnerships to protect and restore Minnesota's water resources.
- For eligibility, they have two types: non-governments organizations (NGOs) and Tribal Governments. These are not traditionally the groups BWSR allocates CWFs to. The million was split 50/50 between the groups. They consulted extensively with both groups
- A minimum of $25,000 and a maximum of $250,000.
- There were 22 applications (19 NGO and 3 Tribal Government). There was a total request of $3,077,136 in funding. The NGOs requested $2,547,136 and the Tribal Governments had a request of $530,000.
  - A review team worked on it. Those awarded include:
    - NGOs: Clean River Partners, Upper Red Lake Area Association, Spark-Y: Youth Action Labs, and Briggs Lake Chain Association.
    - Tribal Governments: Red Lake Nation, Leech Lake Band of Ojibwe, and Upper Sioux Community.
  - Clean River Partners: activities will build a network of farmers in southeast Minnesota within six subwatersheds of the Cannon River by providing cover crop incentives, recruiting conventional farmers into the Minnesota Agricultural Water Quality Certification Program (MAWQCP), and educating new and small-scale farmers about the Agroforestry Poultry System.
  - Upper Red Lake Area Associations: The Upper Red Lake "Keep It Clean" partnership aims to reduce the amount of human waste pollution on Upper Red Lake by capturing over ten tons of human waste through a collaborative waste collection program and additional education and outreach.
  - Spark-Y: The Spark-Y Urban Water Protection Youth Empowerment and Engagement will implement Three River First projects that advance urban stormwater remediation goals while empowering youth, advancing workforce development, and drawing community attention through interactive art.
  - Briggs Lake Chain Association: The Briggs Lake Chain Association will conduct a diagnostic/feasibility study to quantify the magnitude of internal phosphorous release from the bottom sediments in the Upper Briggs Lake Chain. The resulting report would detail the approach necessary to mitigate internal sources of phosphorus and describe the water quality improvements in these lakes as well as downstream.
  - Red Lake Nation: The Red Lake DNR is creating a cattle access pilot initiative to improve water resources in the Blackduck and Cormorant subwatersheds, which have anthropogenic stressors, including pasturing cattle in riparian areas. These two subwatersheds are important for reintroduced sturgeon spawning, however the threat of sedimentation currently exists and impacts spawning potential. Red Lake DNR will work closely with the Beltrami SWCD to advance existing landscape conservation plans by partnering with federal, state, and local stakeholders.
  - Leech Lake Band of Ojibwe: This project will restore and protect riparian area on Stony Point in Cass Lake by revegetating a site that was cleared down to topsoil after removal of a structure. They will use a native seed mix and planting of native shrubs and plants to establish a healthy shoreline and riparian zone,

provide habitat for wildlife and pollinators, prevent erosion and runoff into Cass Lake, and prevent invasive and nuisance plants from taking hold on the site.
    - Upper Sioux Community: This project is funding a portion of a larger US Army Corps of Engineers Section 203 Tribal Partnership Program to restore a streambank on the Minnesota River that falls in tribal land. Tribal lands adjacent to the Minnesota River in Yellow Medicine County have been lost over the last several decades due to erosion of the riverbank. Continued erosion threatens to cut off a portion of tribal land that is used for culturally significant events.
    - These final programs varied in what the activities were going to be. They were also different geographically. Both items they were hoping to have regarding this program. They are working to expand partnerships, but also grow existing partnerships.
    - They are working with all the awardees to set up the next steps in the process.

Questions:

- John Barten: How big of an area is the Stony Point? *Answer:* I'm not sure of the exact size, it would need to be confirmed. Its not a huge size, but significant and right on the lake.
- Sen. Nathan Wesenberg: Regarding the Upper Sioux Community erosion, do we know what is happening to cause the erosion, and is it natural? If it is a natural event, should we be using money to stop it occurring?
    - *Answer:* You could say it is natural, but it is a lot of the land use impacts that are throwing off the river downstream. It is a very big u-bend in the river, with a second u-bend following. It is cutting off the second u-bend, eroding the soil away from the land. They will try to do some hard armoring and some restoration. The Army Corps has a two-hundred-page diagnostics report on this site to make sure what they are working on, works with the river. It is significant enough to stop the erosion. There has been a lot of studying happening on this site. They have tried other things to help deal with erosion, and they have not worked yet. So, this is a next step.
    - *Comment from Glenn Skuta, MPCA:* The Army Corps document would be the item to review for that answer. In general, there is a lot of drainage happening upstream there increasing the volumes and strength of water flowing into the channel. That is a big driver. Increasing amounts of precipitation would be impacting as well. There are shifts happening around the state in this landscape, having these types of impacts.

Strategic Planning *(Webex 02:08:00)*

- Feedback on New Draft on Groundwater Strategies Goal:
- Is the Council looking to combine or split drinking water integrated with surface and groundwater?
    - Tannie Eshenaur, Minnesota Department of Health (MDH): Two broad statements. Not all drinking water comes from groundwater. Not all groundwater is used for drinking water. It becomes a proximity issue. When there are limited resources, the MDH is very zealous to make sure that things classified as drinking water protection, create a direct benefit to drinking water. Ultimately all the groundwater could be used as drinking water, but we cannot protect it all, as much as we would like to do so. Therefore, things classified as drinking water protection need to be close to drinking water. Likewise, they are really invested in protecting the 24 water systems that use the Mississippi River, Minnesota River, Thief River, and so on (surface water). In some ways it can come down on how to describe the source.
    - Jason Moeckel, Minnesota Department of Natural Resources (DNR): From an ecological standpoint, keep in mind that what is surface water today may be groundwater tomorrow, and again surface water another day. Geology matters a lot in the state of Minnesota. Time is important for each case. If you are not in the karst part of the state, groundwater moves a lot slower than surface waters. In karst, it can be quick. Some surface water features are dependent for groundwater. It can be slow, but it adds stability to the flow. Others respond quickly and bounce up and down. The ecology across the state has impacts on those water pathways. It makes a difference in what they look for in groundwater. Where you are matters.
    - Glenn Skuta, MPCA: When we talk about everything related to surface water and groundwater, there is so much to deal with at one point. So, there is an effort to split it, to be able to manage it more. Some of the work reflect this: the MPCA's Watershed Restoration and Protection Strategies (WRAPS) and the MDH's Groundwater Restoration and Protection Strategies (GRAPS). This is a good thing. Yet, looking at some of the activities called for follow certain policies, such as lead pipes in drinking water, but this is not from where the water is coming from, but rather the drinking water systems to consumption. The watershed

work, not all of it is related to drinking water, but it often has connections. However, a lot of the work is surface water and groundwater. As to why they are separate, I am not sure, but I think we wanted to acknowledge and emphasize the importance of drinking water. It is one of the most important things about water. Drinking water supplies should be safe, they should get the help, and appropriations (12 percent of the CWFs). So, that may be why it is on its own. These items are connected to each other, so perhaps have subgoals that are held together tightly. Additional subgoals under the broader item.
    - Margaret Wagner, Minnesota Department of Agriculture (MDA): I was thinking similarly. There are multiple ways to do this. One other thought, to go through the exercise of going through the document and identifying where the overlaps are located. We can look to see how much overlap there is, and the potential to think about organizing it. It may help with decisions on including or taking parts out.
    - Tannie Eshenaur, MDH: At the start of the Clean Water Land and Legacy Act, clean drinking water ranked highest in importance, and time again comes up as a high priority. When thinking about the work being done by the Council, highlighting clean drinking water for when the time comes up again for Minnesotans to vote on continuing the CWFs, would be in our interest.
- Now that we have this draft, what is missing?
    - Dan Stoddard, MDA: We provided some detailed comments to Paul. There are many contaminants we are concerned with. There may need to be more details in the strategies.
    - John Barten: There is no call out to specifically address surface water supply. It is incorporated in the reduced risk drinking water sources. It might be better to include a little more. I think most Minnesotans don't think about, or recognize, this concern.
- This feedback is helpful. Paul will continue working on it.

Referral for NGO Letter on MN Agriculture Water Quality Program (MAWQCP) *(Webex 02:47:00)*
The Council received a letter concerning the MAWQCP. The MAWQCP is an MDA program but administered locally through SWCDs and other local government units (LGUs). They go through the whole farm, to make an assessment to determine the impact the land unit has on water. They are looking at land use, contributing surface factors, groundwater factors, it all goes through a number process. To become certified is a pretty big deal. It can be hard with conventional cropland. Once certified they are given ten years of regulatory certainty from the state. The letter makes recommendations on the MAWQCP, which will receive $7 million for FY24-25 from the CWFs. The letter was also addressed to the Commissioner of Agriculture, the Deputy Commission who sits on the Council, and the director of MAWQCP. The MAWQCP does have an advisory committee of its own. It has been proposed to have the Council's Budget and Outcomes Committee (BOC) address this letter.
Discussion:
- Dan Stoddard, MDA: I'm comfortable with this going to the BOC. This program has extensive measurements. There are many issues wrapped up in this. It is fine to talk about it, but perhaps the Council does not want to get into the details that are being talked about. Additionally, the MAWQCP committee is well represented.
- John Barten: What kind of costs used in the certification process would be good to know about ahead of time?
- Peter Schwagerl: We have talked extensively about this before. Many of these issues brought forward are better for the MAWQCP committee to talk about. I am not sure if it is appropriate for the Council to even weigh in on some of these items. However, accountability and measurable outcomes does pull our interest. I think we need to be careful in how we approach that question. As mentioned, monitoring can be incredibly expensive, and yet reliable data to filter out the noise on these big landscape issues is tough to do. If we have appropriations for monitoring work, we should be making sure we are doing that in an efficient way. I would like to hear more about the monitoring efforts that are out there, looking at the data we do have, and the information we have now from this program, to tease out the impacts to our water quality. Such as looking at a cluster of MAWQCP farms and the impact it has on water nearby. If there are noticeable or statistically significant changes in nearby water bodies. It would take some time to find out.
- John Barten: The BOC, after some discussion, can make some recommendation back to the Council. They can look at what type of measurements we would need, and where to go from there. Looking closer at the level of monitoring and measurement we would need to feel comfortable continuing the CWFs. There is always a desire for the Council to know about the bang for our buck. It is a complex, moving part.

New Fish Kill Minimization Campaign in Minnesota, by Glenn Skuta, MPCA *(Webex 02:58:30)*

- This is public outreach to address fish kills. Last July there was a major fish kill in Rush Creek in southeastern Minnesota. It raised a lot of concern. There have been significant fish kills every two years for the last eight years or so. It is a karst region, where it is more susceptible for this to happen.
- When a fish kill happens, the local authorities, MPCA, DNR, and MDA all try to figure out what happen. We hold people accountable if necessary. Some fish kills can be naturally occurring, but often they are not. Also, because they happen in remote areas, they are not discovered until days have gone by, which makes the investigative process harder. Sadly, sometimes they are unable to ascertain what caused the fish kill.
- In general, there are some antecedent conditions, such as a stretch of heat, lack of rainfall, and pesticide or manure applications. Warmer water holds less oxygen than colder waters. A big rain event can wash natural and unnatural things off the land and into nearby waters. It is complicated and difficult to determine.
- An education campaign can help get ahead of fish kills by raising awareness. This is to help people follow the best practices at times where conditions are right for potential fish kills. Sharing the risk conditions (antecedent conditions) that can stress fish, as well as some tool available (runoff risk tools, riskier time to apply manure information, etc.), and actions that can make response times faster when a fish kill happens. Fish kill legislation require agencies to work together to develop a response protocol, which helps maximize investigations. A protocol will go on public notice in the future. The bill also has new notification requirements. When a fish kill (more than 25 fish) occurs, it is publicized through the environmental Quality Board (EQB) monitor. There is also a requirement to notify well owners of a fish kill in their area. It targets the karst regions and includes some drinking water sampling.
- The state agencies are working on control and prevention ideas for the next session.
- Communication tactics used: postcards, digital ads, radio ads, posters, a toolkit, and sample stories.
- They will share this information in newsletters, followed by a survey, and expanding statewide.

Questions/Comments:

- Sen. Nathan Wesenberg: Where did the funding for this project come from? *Answer:* The funding for this came out of some appropriated WRAPS funding from the current biennium (Clean Water Fund). The funding appropriated can also be used for well testing, or other well testing that occurs.
- John Barten: What is the recovery time for fish kills?
  - *Answer from Jason Moeckel, DNR:* It is more about the ecosystem being impacted rather than the fish. Trout are migratory. The fish kill is a big deal, but it will not collapse the fish population.
- Annie Knight: How many years have you been tracking fish kills? Is there a trend? *Answer:* Only recently. There are hundreds of fish kills a year from natural winter impacts in shallow lakes. They are either frozen out, or the oxygen level drops, ice collapses on fish, they are natural fish kills. That is a different story than something discharged to the water. However, we do not feel like we have a comprehensive understanding, so we are looking more into this area, in the conditions, looking at bigger storm events, if these will be occurring more often. We know enough to say it is happening more frequently than we would like to see happen.

Introductory Presentation for New Members on the Clean Water Fund *(Webex 03:31:30)*

- By 2034 about $3 billion CWFs will be spent. These funds may be spent only to protect, enhance, and restore water quality in lakes, rivers, and streams, to protect groundwater from degradation, and to protect drinking water sources. At least five percent of the CWFs must be spent only to protect drinking water sources. As of today, the Legacy Amendment expires in 11 years, 4 days. The 2030 Legislative Election (people who decide 2032 ballot issues for FY25 budget) will be in 7 years, 4 months, and 9 days.
- The permitted purposes in statute (Minn. Stat. 114D.50):
  - Testing waters, identifying impaired waters, establishing total maximum daily loads (TMDLs), implementing restoration plans, and evaluation.
  - Prevent surface water from being impaired (the protection strategies).
  - Wastewater and stormwater grants and loans.
  - Prevent degradation of groundwater.
  - Support for agencies to do the above, including enhanced compliance and enforcement.
  - Clean Water Fund must supplement, not supplant existing funding.
- The state agencies involved include: BWSR, Metropolitan Council, MDA, MDH, DNR, MPCA, Minnesota Public Facilities Authority, and the University of Minnesota. There is also an Interagency Coordination Team (ICT) of the state agencies that meet regularly. The agencies send about two thirds of the CWFs outside state

government. More than fifty percent of the full-time employees are in Greater Minnesota providing direct assistance to communities and landowners.

- Regarding surface waters, the CWFs strategy is the watershed approach. They test for impairments, find the source of the problem (through monitoring, assessment, and characterization). A plan is made to protect or fix the water (watershed/WRAPS/GRAPS; One Watershed One Plan). Funding is used to fix (implementation: technical assistance, protection strategies, restoration projects, and others). There is a lot of prioritizations that happen. Finally, they measure to see if the fix worked. This takes time, a decade or more on a watershed scale. It is referred to as the Water Management Framework.
- Minnesota has four times the impairments at Wisconsin, but each state varies in water quality standards and the monitoring methodology. Minnesota monitoring more places for more contaminants, often with more protective standards than other states. So, more impairments do not mean a state is worse off.
- Looking at examples of mercury/aquatic consumption, Minnesota assesses three times more streams than Wisconsin. The water quality standards are more protective. All Iowa lakes have mercury but are not listed as impaired in their state. Wisconsin waters are only called impaired if the mercury level is above general consumption advice.
- Looking at examples of bacteria/aquatic recreation, Minnesota assesses two to fifteen more stream miles than nearby states. Minnesota has more good quality streams among assessed streams. Iowa's assessed streams are about fifty percent more likely to be impaired than Minnesota. Wisconsin assesses very few streams for bacteria.
- There are also waters identified as nearly or barely impaired, just under or over the threshold for being impaired. There is a priority to place funding on those areas.
- Regarding CWFs and equity, there are examples of that work too. There are protection activities that keep water service affordable (MDH). There is planning support for under-sewered communities (Public Facilities Authority). The Water Legacy Partner Grants is open to tribal governments and NGOs (BWSR). There is a leak detection and toilet fixture replacement in designated areas of concentrated poverty (ACP) in St. Paul (Met Council). There is an assistance to low-income households to replace septic systems (MPCA). There are free private well tests for five contaminants over ten-years for low-income mitigation (MDH).
- The value of the CWFs:
    - Helps fulfill federal requirements (TMDLs).
    - Accurate data supports more precise permitting requirements.
    - More expertise
    - Enhance compliance.
    - Protect waters that are of high quality before there is a problem.
    - More projects become "shovel-ready" more quickly and get more state and federal funds than other states. Examples include Great Lakes Restoration Initiative, Tech assistance to farmers, permanent conservation easements (CREP), and Voyageurs National Park.
    - Every dollar of CWFs leverages more than a dollar.
    - There are $318 million in recommendations for FY24-25.
        - Expand what works for bigger impact: There are more "shovel ready" projects (BWSR); a 50 percent increase in perennials (MDA), more chloride reduction grants (MPCA), more low-income grants to replace septic systems (MPCA), increase water storage (DNR, BWSR), and more farm acreage with soil health (MDA, BWSR).
        - Increase capacity to assess threats to groundwater, drinking water, and aquatic life: Free well testing for five contaminants for ten percent of Minnesota annually for ten years, additional PFAS monitoring/assessment, culvert cost-share, mussel restoration, and statewide beach health portal.
- The big strategic questions for the CWF:
    - What's the best use of the next available dollar?
    - Should funding be spread evenly across the state or spent on high statewide priorities?
    - Should we pivot to new and emerging issues, or "stick to the plan", or try to do both?
    - Should we move some spending out of the CWFs before expiration of the Legacy Amendment?
    - Is the CWF too reliable and does it keep us from doing the harder thing (policy, general fun, etc.).

Questions:

- Annie Knight: Do you know the percentage of the fund that goes to protection versus remediation? *Answer:* There is data that can show the ratio between protection and restoration. Rich Biske can follow up with what they have found (with support from MPCA and BWSR).
- Gail Cederberg: Regarding supplant and supplement, when do things become so much of a program that they are moved back into an agency? It is important to tackle some of these issues sooner than later. Just by talking more about these issues, and these definitions, will help them rise to the top more. This is good to get the agencies all talking. Perhaps, these programs get more established, they become standard programs and not supplement. *Answer:* There are some programs that existed before the CWFs or have been funded by other sources. But the output is new, which would be supplemental. It is "additionality."
- Jen Kader: For the new members, looking at the strategic discussions, in the meeting minutes from previous meetings would be good to read as well.

Adjournment *(Webex 04:18:14)*

~~CWC Approved on~~Amending Version Approved on November 19, 2018

STATE OF MINNESOTA CLEAN WATER COUNCIL (CWC)

COUNCIL MEMBER PER DIEM AND EXPENSES POLICY *(effective date: ~~January 01, 2019~~August 21, 2023)*

A. PER DIEM ($55/day): Per diem is authorized for Council members for the following:

1. One per diem for regular monthly Council meetings, meetings of committees to which members are assigned, and special meetings, tours, or training called by the Council Chair or the Council. This does not apply to meetings of organizations, groups and local governments that are the primary responsibility of CWC staff.

2. One per diem for four or more hours spent in preparation time for each Council meeting, each committee meeting or each special meeting of the Council. Preparation time in excess of four hours for a meeting cannot be banked.

3. One per diem is authorized for the day prior *and* the day after for travel by Council members for a regular meeting, special meeting of the Council or committee meeting where Council members travel more than 200 miles each way using vehicular transportation.

4. One per diem is authorized for the day prior *or* the day after for travel by a Council member for a regular meeting, special meeting of the Council, or committee meeting where Council members travel more than 100 miles each way using vehicular transportation.

5. Per diem incurred at other functions such as those sponsored or coordinated by the stakeholder groups related to the Council such as the Farmers Union, Association of Minnesota Counties (AMC), the Minnesota Association of Soil and Water Conservation Districts (MASWCD), and the Minnesota Association of Watershed Districts (MAWD), etc. under the conditions defined in items 1 through 4 if authorized by the Council, the Chair of the Council, or the Council staff.

6. Full-time employees of the State or one of its political subdivisions are not eligible to receive a per diem payment per Minn. Stat. § 15.0575, subd. 3.

7. In *no* instances will more than one CWC per diem payment per day be permitted under this policy.

8. Participation in regular monthly Council meetings, meetings of committees to which members are assigned, and special meetings called by the Council Chair or the Council staff via conference call, videoconference, internet technology or other similar means is considered the same as participation in-person for per diem or expense purposes.

B. EXPENSES: Expenses are authorized for Council members according to the following criteria:

1. Expenses incurred by Council members for attendance at meetings and events as described in items A1 -A5 will be reimbursed consistent with those authorized under the commissioner's plan adopted under Minn. Stat. § 43A.18, Subd. 2.

   Reimbursable expenses may include, but are not limited to, the following: Commercial transportation (air, taxi, rental car, etc.); Meals including tax and a reasonable gratuity; Hotel and motel accommodations; Parking fees and toll charges; conference registration fees.

   Council members who use their personal office equipment, supplies and services in part to receive and generate telephone, fax, e-mail or other electronic messages related to Council activities, are eligible for a reimbursement for such equipment, supplies and services up to an amount not to exceed $50 per month.

2. Child care expenses incurred because of monthly Council meetings, special or committee meetings of the Council shall be compensated as defined in Minn. Stat. § 15.0575, Subd. 3.

3. Vehicle travel will be reimbursed at the standard Federal IRS mileage rate in effect at the time of travel.

4. Council members who are employees of the State or one of its political subdivisions may receive payment for their expenses incurred in performing their Council member activities, unless those expenses are reimbursed by another source.

5. The Internal Revenue Service (IRS) requires business expenses to be submitted for reimbursement within 60 days after the expense is incurred or the trip ends. If not submitted within 60 days, the reimbursement becomes taxable for federal, state, FICA and Medicare; and withholding tax must be taken.

C. MEETING COORDINATION: The Council directs committee members and staff to schedule additional meetings in conjunction with other Council meetings whenever possible.

Clean Water Council

2023 Field Tour Draft as of August 15, 2023

Dates:

Monday, September 18th (Meeting/Presentations) and Tuesday, September 19th (Tour)

Invitees

- Clean Water Council members
- Legislators and legislative staff (TOUR ONLY)
- Media?
- Members of SWMP, LSOHC, LCCMR members, BWSR? (TOUR ONLY)

Tentative Program on Monday, September 18th

MPCA Offices, 520 Lafayette Road, St. Paul, MN 55155

9:00 General Agenda Items

9:30 **State of Water Quality in the Seven-County Metro**

- General monitoring status
- **Stormwater: Accelerating compliance with MS4 permits**
  - Ryan Anderson, Stormwater Technical Support Supervisor, MPCA (confirmed)
- **Chloride: "Smart Salting" training**
  - Brooke Asleson, Product Sustainability and Partnerships, MPCA (confirmed)
- **PFAS: Clean Water Fund's role in the state's response**
  - Nicole Blasing, MPCA Municipal Division Director (confirmed)

10:15 **Break**

10:30 **Metropolitan Council's Role in Metro Water Quality and Quantity**

- **Water supply planning for the region**
- **Water efficiency grants**
  - Judy Sventek, Manager, Water Resources, Metropolitan Council (confirmed)

11:15 **How the Clean Water Fund Supports Improved Stormwater Quality**

- **Local city stakeholder testimony about why stormwater research is so important**
  - (John Bilotta helping recruit a speaker)
- **Private sector testimony how they are doing research, often in collaboration with university researchers, and how that presents unique value**
  - (John Bilotta helping)
- **Stormwater fees**
  - Minnesota Cities Stormwater Coalition (Craig Johnson recruiting)

12:00 Lunch

12:30 **BWSR**: **How Metro Watershed Planning & Grants Differ from One Watershed One Plan**

- Different planning models
- WBIF and competitive funding by BWSR in the metro
    - Justin Hanson, BWSR (confirmed)

1:00 **Health and Water in the Metro**

- Metro Source Water Protection Plans
    - Lanya Ross, Metropolitan Council (confirmed)
    - Steve Robertson, Minnesota Department of Health (confirmed)
- Contaminants of Emerging Concern
    - Sarah Fossen Johnson, Health Risk Assessment, Minnesota Department of Health (confirmed)
    - Stefan Saravia, Manager, Environmental Laboratory Section (confirmed)
- Dakota County's Experience with Protecting Private Wells
    - Vanessa Demuth, Dakota County (confirmed)(virtual)

2:00 **BREAK**

2:15 **DNR CWF Portfolio**

- Groundwater Management Area (GWMA) in North and East Metro
- Well Interference (Blaine example)
- Other Nonpoint Source Implementation support (like metro area stream restorations)

3:00 **Metro Area Agriculture and the Clean Water Fund**

- Groundwater Protection Rule
- Metro-based AgBMP Loans, MAWQCP certified farms in metro
    - Margaret Wagner, Pesticide & Fertilizer Management, MN Department of Agriculture

3:45 **Open**

4:15 **Group Discussion: Take Note**

5:00 Adjourn

6:30 **Dinner** at Jimmy's Food & Drink, 1132 County Road E East, Vadnais Heights, MN 55110

8:00 Free social time

Tour Tentative Schedule on Tuesday, September 19th

8:00 a.m. Meet at MPCA

8:15 a.m. Leave on bus for MPCA (33 minutes to Afton)

8:45 a.m. **Trout Brook in Afton Alps/Afton State Park** (6600 Peller Ave S, Hastings, MN 55033; follow signs for Afton Alps, and then the chalet; then to the bottom of the hill until you see the stream)

Trout Brook in Afton: Southern Washington County Watershed District has been working to re-meander the previously ditched stream. The portion that flows through Afton Alps was completed in 2019, has interpretive signs installed, and is easy to walk along and view. It received funding from Clean Water Fund and Outdoor Heritage Council. SWWD is also re-meandering a second stretch in Afton State Park this spring. See the old straight channel and new meandered channels side by side. This year's project is getting funding from the Lower St. Croix Watershed Partnership, via WBIF grant funding. An explosion in the trout population in the stream is happening.
Story Map: Trout Brook Restoration (arcgis.com)

- John Loomis, Deputy Administrator, South Washington Watershed District, John.Loomis@woodburymn.gov, 651-714-3714, www.swwdmn.org (confirmed)
- Nick Proulx, stream restoration specialist, DNR's Clean Water Team

9:45 a.m. Get on Bus (33 minutes)

10:15 a.m. **Target parking lot retrofit,** 2199 Highway 36 E, North St. Paul, MN 55109

The local watershed district has specialized in major stormwater retrofits on private parking lots.

- Tina Carstens, Administrator, Ramsey-Washington Metro Watershed District (RWMWD)(confirmed)
- Paige Ahlborg, Ramsey-Washington Metro Watershed District (RMWMD)(confirmed)

Good opportunity for a bathroom break in Target

10:45 a.m. Get on Bus

11:15 a.m. **Forest Lake/Sunrise River Highway 61 Wetland Enhancement Project**, 5868 245th St., Forest Lake, MN (private driveway)

Comfort Lake – Forest Lake Watershed District has received several very large Clean Water Fund grants in recent years to restore large wetland complexes near Forest Lake that were ditched in the early 1900s. The Sunrise River Highway-61 Wetland Enhancement Project us under construction right now and should be complete by the fall. View the project from the Hardwood Creek Trail or park along the access road parallel to Hwy 61.

- Mike Kinney, Comfort Lake-Forest Lake Watershed District, 651-395-5855, mike.kinney@clflwd.org (confirmed)
- Beth Carreno, Senior Program Manager, CLFLWD, 651-395-5852, beth.carreno@clflwd.org (confirmed)
- Also discussion of Moody Lake (BWSR Snapshot coming) Moody Lake Wetland Rehabilitation - Comfort Lake Forest Lake Watershed District (clflwd.org)

12:00 noon Get on Bus

12:15 p.m. **Picnic Lunch** Shelter 2/Lions Park, Long Lake Park, 1500 Old Highway 8, New Brighton

12:45 p.m. **Presentation by Rice Creek Watershed District on CWF projects in RCWD**

- Nick Tomczik, Administrator (confirmed)
- Matt Kocian, Lake and Stream Program Coordinator (confirmed)

1:15 p.m. Get on Bus

1:45 p.m. **Rosland Park Filtration Vault ,** 4300 West 66th Street, Edina, MN 55435 (proceed to second parking lot)

The Rosland Park Filtration vault is an experimental best management practice (BMP) located in Rosland Park between Swimming Pool Pond and Lake Cornelia in Edina. It treats polluted water from Swimming Pool Pond before cleaner water is discharged into Lake Cornelia. This project is part of a larger Lake Cornelia Improvement Project which aims to reduce the amount of phosphorous, nitrogen, and solids entering Lake Cornelia. This specific project will also contribute to the scientific community by providing data on different filtration media.

- Randy Anhorn at Nine Mile Creek WSD ranhorn@ninemilecreek.org (confirmed)
- Ross Bintner at the City of Edina RBintner@edinamn.gov (confirmed)
- Barr Engineering

2:30 p.m. Get on Bus

3:00 p.m. **Highland Bridge Development** at old Ford Motor Company site, turn on Cretin Avenue from Ford Parkway and unload at Bohland Avenue and Falls Passage E.

Highland Bridge is a new community in Saint Paul at the site of the former Ford Assembly Plant. The City of Saint Paul, master developer Ryan Companies, and partners like CRWD took the time to carefully plan energy, waste, transportation, landscape, and water needs for the new community.

The Highland Bridge community is a beautiful landmark atop a once-industrial stretch of our precious Mississippi River bluffs. Treated stormwater fills the central water feature, flowing to the re-imagined Hidden Falls Creek before emerging at the new Mississippi Boulevard Crossing, tumbling over its namesake falls, and ending at the Mississippi River. The water is surrounded by paths, rain gardens, and inviting nature stretches. All are enhanced with expansive vistas from the river bluffs.

In 2021, the Public Facilities Authority made a Point Source Implementation Grant (PSIG) of $7,000,000. The grant supported construction of a stormwater management system to meet total maximum daily load allocations (TMDL) for the 122-acre site, which treats 64 million gallons a year of water before it enters the Mississippi River and reduces phosphorus by 145 pounds a year.

- Capitol Region Watershed District staff (confirmed)

3:45 p.m. Get on Bus at Hidden Falls Overlook on Mississippi River Parkway south of Montreal

4:00 p.m. **Allianz Field**, 400 Snelling Avenue North, St. Paul, MN 55104

When the City of Saint Paul and Minnesota United FC – the Twin Cities' newest professional sports franchise – announced plans for a soccer stadium on a 35-acre brownfield site at Snelling and University Avenue, Capitol Region Watershed District (CRWD) saw an opportunity to demonstrate stormwater innovation for thousands of District and metro area residents. The project would be one of the largest and most visible redevelopments in the city's history and creating new green infrastructure improvements to the site would be essential to advancing CRWD's mission of improving the District's water resources. Minnesota's 2019 Watershed Project of the Year.

SAFETY NOTE: Tour participants will need to descend a ten-foot ladder into a confined space. Staff can describe the system above ground if you wish.

- Capitol Region Watershed District staff (confirmed)

4:30 p.m. **Get on bus**

Allow for rush hour traffic, extra buffer in case we run late

5:00 p.m. **Arrive MPCA**

Draft Revision to Clean Water Council Strategic Planning

16 August 2023

Groundwater Vision

Groundwater is clean and available to all in Minnesota.

Goal 1: Protect groundwater from degradation and support effective measures to restore degraded groundwater.

- Strategy 1.1: Develop baseline data on Minnesota's groundwater quality, including areas of high pollution sensitivity.
    - Action 1.1.1: Complete groundwater atlases for all Minnesota counties.
        - Performance Measure: Complete all Part B atlases by 2038.
    - Action 1.1.2: Monitor ambient groundwater quality throughout the state.
        - Performance Measure: Maintain roughly 265 ambient groundwater quality wells through MPCA Groundwater Monitoring Program.
    - Action 1.1.3: Characterize nitrate and pesticide contamination in vulnerable aquifers.
        - Performance Measure: Map vulnerable aquifers using MDA's Township Testing private well monitoring network.
        - Performance Measure: Maintain MDA's Central Sands Private Well Network and Southeast Minnesota Volunteer Nitrate Monitoring Network.
    - Action 1.1.4: Characterize natural contaminants in groundwater.
        - Performance Measure: Map locations with high concentrations of manganese, arsenic, and _____.
    - Action 1.1.5: Characterize synthetic contaminants in groundwater.
        - Performance Measure: Provide groundwater monitoring as appropriate for contaminants of emerging concern.
- Strategy 1.2: Develop and carry out strategies that will protect and restore groundwater statewide.
    - Action 1.2.1: Complete plans for protection and restoration of groundwater statewide using a major watershed scale.
        - Performance Measure: Complete Groundwater Restoration and Protection Strategies (GRAPS) for all 80 major watersheds by 20__.
    - Action 1.2.2: Complete tasks in groundwater plans.
        - Performance Measure: Provide financial support for __% of strategies in each GRAPS by 2034.
    - Action 1.2.3: Reduce risk of bacteria in groundwater.

- Performance Measure: Maintain a compliance rate for subsurface septic treatment (SSTS) systems at a minimum of 80 percent, and to attain a goal of 90 percent annually, through enhanced county-level inspection.
- Performance Measure: Provide financial assistance for low-income households to replace and repair individual SSTSs.
- Performance Measure: Meet demand by under-sewered or unsewered small communities for long term solutions using Small Community Wastewater Treatment Program.

- Action 1.2.4: Reduce nutrient contamination of groundwater.
  - Performance Measure: Implement the Nitrogen Fertilizer Management Plan in *priority townships* with vulnerable groundwater by assessing agricultural practices, forming local advisory teams, and publishing recommended practices that are adopted on 80% of row crop acres excluding soybean by year ____.
  - Performance Measure: Implement the Nitrogen Fertilizer Management Plan *all remaining townships* with vulnerable groundwater by assessing agricultural practices, forming local advisory teams, and publishing recommended practices that are adopted on 80% of row crop acres excluding soybean by year ____.
  - Performance Measure: Support alternative land management activities that protect groundwater such as easements, perennials, and continuous living cover.
  - Performance Measure: Update science needed to understand impacts of nitrogen application through updated manure crediting guidelines, optimal nitrogen application rates, as well as of impacts of perennial crops, cover crops, and other protective vegetative cover practices.
- Action 1.2.5: Reduce risk of groundwater contamination through irrigation water management.
  - Performance Measure: Support Minnesota Extension in irrigation outreach to producers
  - Performance Measure: Update science needed to minimize impacts from irrigation.
  - Performance Measure: Support an update to state irrigation BMPs and irrigation guidelines through University of Minnesota.
  - Performance Measure: Support research, evaluation, and demonstration of irrigation management and technology to increase water and nutrient use efficiency.
  - Performance Measure: Increase number of producers with irrigation water management endorsement from Minnesota Agricultural Certification Program (MAWQCP)
- Action 1.2.6: Reduce risk of pesticide contamination in groundwater.
  - Performance Measure: Maintain 167 ambient groundwater quality wells through MDA pesticide monitoring program and analyze samples for 130 pesticides and pesticide breakdown products.
  - Performance Measure: Provide outreach and demonstration sites and actions.
  - Performance Measure: Promote recommended pesticide BMPs for pesticides detected in groundwater.
- Action 1.2.7: Reduce risk of stormwater contaminants entering groundwater.
  - Performance Measure: Recommend funding for Stormwater Research Council projects that are protective of groundwater and can be scaled to a large number of communities.

        - Performance Measure: Support enhanced compliance funding for MPCA NPDES/MS4 staff to ensure all permittees are in compliance.
        - Performance Measure: Prioritize the sealing of unused groundwater wells that present a risk to drinking water aquifers.

Purposely left off this list are most point source activities that are governed by permits or other requirements, or are supported by other major funding sources (landfills, large feedlots, manure management plans, leaking storage tanks, PFAS work funded by 3M settlement, etc.)

Goal 2: Ensure groundwater use is sustainable and avoid adverse impacts to surface water features due to groundwater use

- Strategy 2.1: Support ongoing monitoring of groundwater quantity.
    - Action 2.1.1: Monitor groundwater levels throughout the state.
        - Performance Measure: Achieve a goal of 1,600 state-owned and managed long-term groundwater monitoring wells statewide by 2034.
    - Action 2.1.2: Identify groundwater-dependent lakes; designated trout streams; calcareous fens, wetland complexes, and native plant communities.
        - Performance Measure: Provide data to water planners for development of WRAPS, GRAPS, and comprehensive watershed management plans.
- Strategy 2.2: Support planning to achieve sustainability standard for groundwater.
    - Action 2.2.1. Prioritize areas of high water use intensity.
        - Performance Measure: Designate Groundwater Management Areas (GWMA), highly sensitive areas, areas of high water use intensity from agricultural irrigation.
- Strategy 2.3: Support best management practices to achieve a sustainability standard for groundwater.
    - Action 2.2.2. Implement water efficiency BMPs, water use reduction, and irrigation water management in areas of high water use intensity by agricultural irrigators, highly sensitive areas, Groundwater Management Areas (GWMAs), and highly vulnerable Drinking Water Source Management Areas (DWSMAs).
        - Performance Measure: DNR has the tools available to address conflicts related to use of groundwater for economic and ecological purposes.
- Strategy 2.4: Prepare for possible groundwater recharge in the Twin Cities Metropolitan Area to ensure continuous orderly and economic development.
    - Action 2.4.1: Identify significantly contributing groundwater recharge areas to the aquifers in the Twin Cities Metropolitan Area.
        - Performance Measure: Produce map of potential recharge areas by 2025.
    - Action 2.4.2: Develop protection and management strategies for these aquifers.
        - Performance Measure: Met Council approves strategies by 2034.

- Strategy 2.5: Identify policy options that will accelerate progress to achieving a sustainable groundwater standard.
    - Action 2.5.1. Clean Water Council Policy Committee will make annual policy recommendations.

Drinking Water Source Protection Vision

Drinking water is safe for everyone, everywhere in Minnesota.

Goal 1: Public Water Systems

Ensure that users of public water systems have safe, sufficient, and equitable drinking water.

- Strategy 1.1: Identify sources of risks to public drinking water sources.
    - Action 1.1.1. Delineate Drinking Water Supply Management Areas (DWSMAs)
        - Performance Measure: All DWSMA delineation complete. [Do we still need this if the job is done?)
    - Action 1.1.2. Coordinate among agencies to identify threats using geologic and groundwater atlases, groundwater assessments, etc.
        - Performance Measure: Ongoing?
- Strategy 1.2: Reduce risks to drinking water sources by investing in technical training, planning, coordination, and source water protection grants.
    - Action 1.2.1. Assist public water suppliers in completing Drinking Water Source Protection Plans and supporting implementation projects listed in the plans.
        - Performance Measure: All first-generation DWSP plans for the 500 vulnerable systems are complete. Fifty plans will be updated annually.
        - Performance Measure: For 420 non-vulnerable systems, 306 first-generation plans are complete with 114 remaining.
        - Performance Measure: Eight source water assessments out of 23 surface water systems should be revised by 2023, with all completed by 2027.
        - Performance Measure: Five source water intake protection plans out of 23 surface water systems should be complete by mid-2023, with the remaining 18 complete by 2029.
        - Performance Measure: Complete pilot source water protection planning for non-community public water systems.
        - Performance Measure: MDH plans to fund half of budget requests for DWSP grants.
    - Action 1.2.2. Integrate drinking water source protection with surface water planning.

        - Performance Measure: Complete a statewide drinking water plan by YEAR.
        - Performance Measure: Include drinking water source protection as part of all comprehensive watershed management plans (One Watershed One Plan)
- Strategy 1.3: Prioritize implementation funding that supports the Ground Water Protection Rule (GPR).
    - Action 1.3.1 Fully implement actions to reduce nitrate in DWSMAs that are Level 1 and Level 2 under the GPR
        - Performance Measure: Agricultural practices in DWSMAs that are Level 2 under the GPR are assessed, local advisory teams formed, and recommended practices are published. (There are 21 Level 2 DWSMAs currently. Level 2 indicates nitrate-nitrogen levels >8 mg/L at any time in last ten years or projected to exceed 10 mg/L in next ten years.)
        - Performance Measure: In Level 2 DWSMAs, MDA recommended practices or approved alternative practices are adopted on 80 percent of row crop acres, excluding soybean, or regulatory actions are taken.
        - Performance Measure: Agricultural practices in DWSMAs that are Level 1 under the GPR are assessed, local advisory teams formed, and recommended practices are published. (There are eight Level 1 DWSMAs currently. Level 1 indicates nitrate-nitrogen levels between 5.4 and 8 mg/L.)
        - Performance Measure: In Level 1 DWSMAs, MDA recommended practices or approved alternative practices are adopted on 80% of row crop acres excluding soybean.
        - Performance Measure: No additional existing municipal water supply wells exceed the drinking water standard for nitrate.
- Strategy 1.4: Support prevention efforts to protect groundwater in DWSMAs.
    - Action 1.4.1. Fund protective actions.
        - Performance Measure: Protect approximately 400,000 acres of vulnerable land surrounding drinking water wellhead areas statewide by 2034.
        - Performance Measure: Increase landowner adoption of soil health practices for drinking water protection through technical assistance, conservation equipment support, financial assistance, easements, drinking water protection/restoration grants, targeted wellhead protection grants, continuous living cover, soil health grants, etc.
- Strategy 1.5: Support prevention and management of newly identified contaminant risks.
    - Action 1.5.1. Fund Contaminants of Emerging Concern (CEC) program.
        - Performance Measure: The CEC program will screen at least 20 chemicals each biennium to determine if they are an exposure of actual or potential concern to Minnesotans.
    - Action 1.5.2. Fund adequate monitoring and assessment activities to examine emerging risks.
        - Performance Measure: Support river and lake monitoring assessment, ambient groundwater monitoring, and ambient drinking water monitoring, with enough contingency for rapid response. (This may overlap with Action 1.1.2 under groundwater.)
- Strategy 1.6: Identify policy options that will accelerate progress to achieving federal safe drinking water standards.
    - Action 1.6.1. Clean Water Council Policy Committee will make annual policy recommendations.

Goal 2: Private Water Supply Wells

Ensure that private well users have safe, sufficient, and equitable drinking water.

- Strategy 2.1 Identify risks to private well users.
  - Action 2.1.1. Provide notification to private well users of the presence of at least five major contaminants.
    - Performance Measure: Support outreach to private well users through private well initiative. [MDH looking at how to measure]
  - Action 2.1.2. Detect, analyze, and assess risk from pesticides that can appear in private wells.
    - Performance Measure: Support research lab and staff capacity to detect and analyze pesticides and their degradates at 650 samples/year.
- Strategy 2.2: Fund testing of private well water by well users.
  - Action 2.2.1. Support free well testing in the most vulnerable areas of the state for nitrates and pesticides.
    - Performance Measure: Township testing has tested 77,000 private wells for nitrate; 6,100 have been tested so far for pesticides. [Testing continues to evaluate potential impacts from pesticides. Nitrate is also tested.]
  - Action 2.2.2. Fund a ten-year effort to give every private well user the opportunity to test for five major contaminants.
    - Performance Measure: Beginning in 2024 and ending in 2033, MDH will provide private well testing opportunities for 10 percent of private well users each year.
- Strategy 2.3: Encourage mitigation activities, including funding for low-income households.
  - Action 2.3.2. Provide assistance to qualifying low-income households to replace private wells or install water treatment system.
    - Performance Measure: Develop a proposal for future CWF recommendations to meet the need.
- Strategy 2.4: Identify policy options that will accelerate the reduction in the number of unsafe private wells.
  - Action 2.4.1. Clean Water Council Policy Committee will make annual policy recommendations.

Expectations for the Clean Water Fund

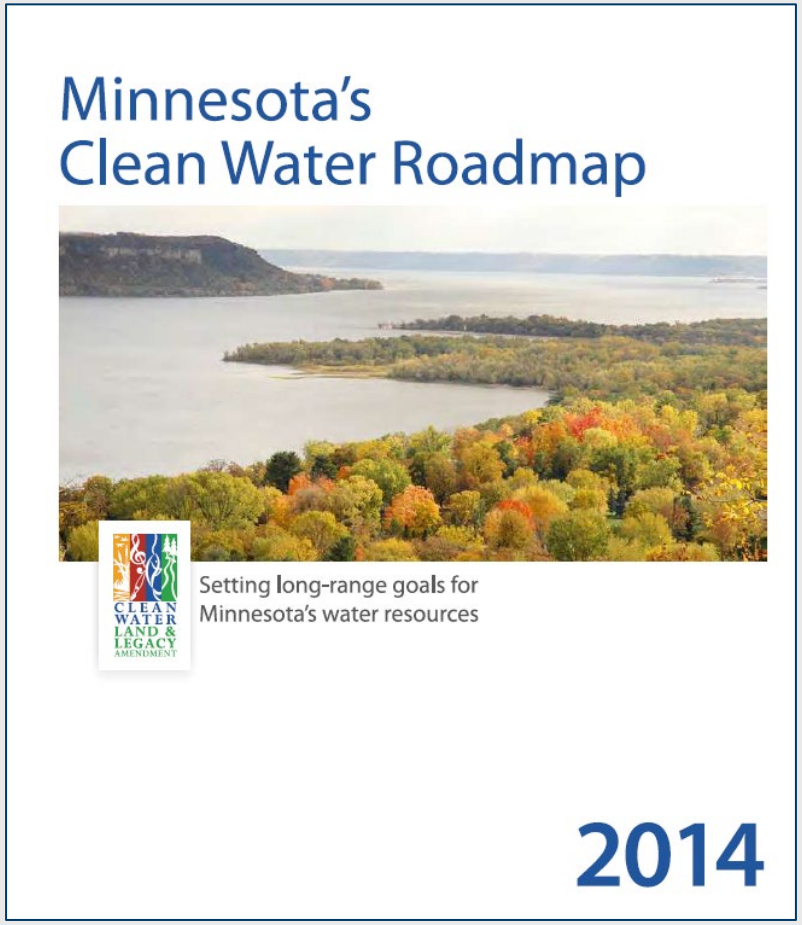
MINNESOTA
CLEAN WATER COUNCIL

August 21, 2023

Topics

- 2014 Road Map
- Nutrient Reduction Strategy Goals and Progress Report
- Using data and calculators to priority and target funding for surface waters

Clean Water Expectations in 2014



- Goals were not set as part of the Legacy Amendment in 2008.
- Agencies met to set goals for what could be accomplished by 2034.
- Meant to be realistic and achievable.
- 2023 Legislature set goal of meeting "all intended uses" by 2050.

Clean Water Expectations in 2014

Lake water quality

Measure: Trophic State Index

2034 statewide goal: Increase the percentage of Minnesota lakes with good water quality, as measured by acceptable Trophic State Index, from 62% to 70%.

Trophic State Index (TSI) summarizes a lake's overall water quality. Lakes with lower TSI values have higher clarity and are better for swimming and other recreational uses. Clean Water Roadmap water quality goals for lakes are based on the percentage of lakes with acceptable TSI in each of Minnesota's 10 basins.

River and stream water quality

Measure: Fish-Based Index of Biotic Integrity

2034 statewide goal: Increase the percentage of Minnesota's rivers and streams with healthy fish communities, as measured by the Index of Biotic Integrity, from 60% to 67%.

An Index of Biological Integrity (IBI) measures the health of a river or stream based on the biological communities it supports. Clean Water Roadmap water quality goals for rivers and streams are based on fish IBI scores for rivers and streams in each of Minnesota's 10 basins.

Nutrient Reduction Strategy (NRS)

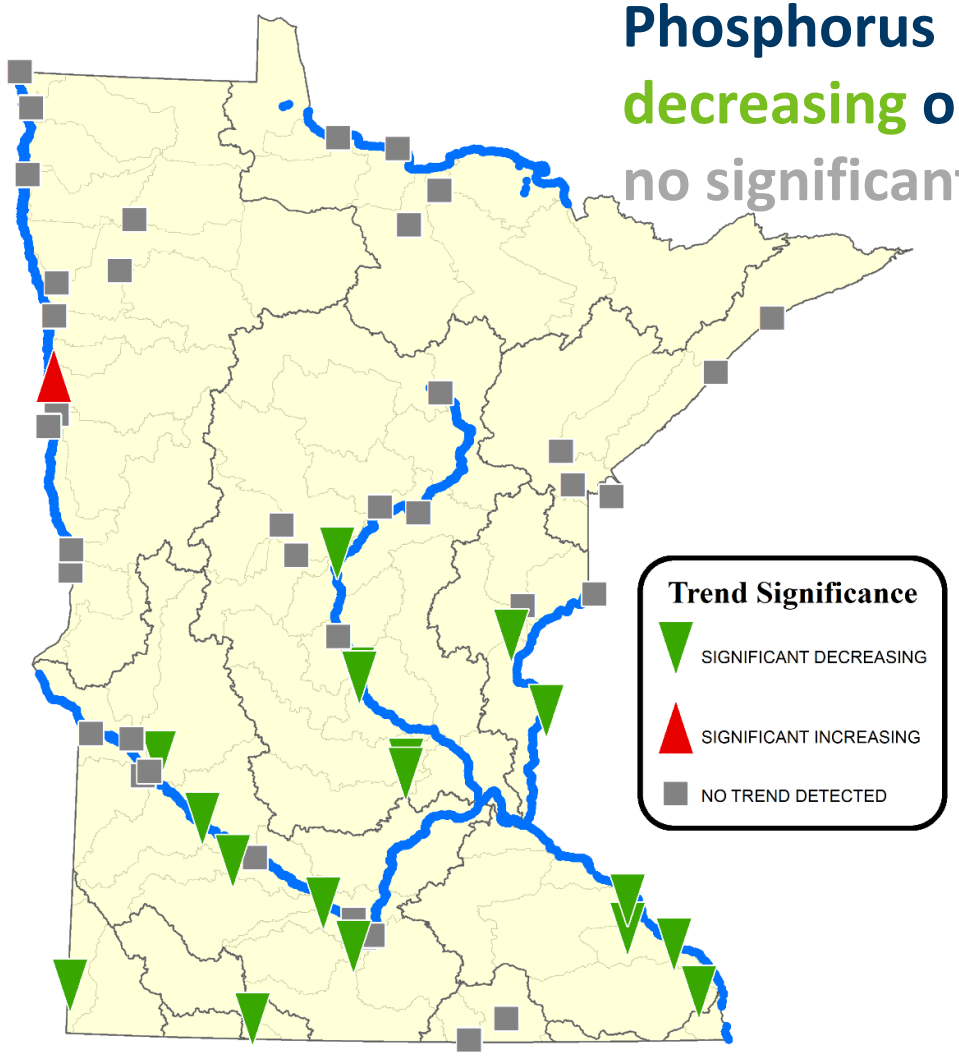
- State required to find solutions for nitrogen and phosphorus ending up in Gulf of Mexico, Lake Winnipeg, Lake Superior
- First completed in 2014
  - 5-year progress report in packet
  - 2024 update coming
  - NRS coordinator hired
- Watershed Pollutant Load Reduction Calculator
- MN NRS BMP Summary

12-year nutrient concentrations
decreasing P, increasing N

Phosphorus 2008-19

decreasing or

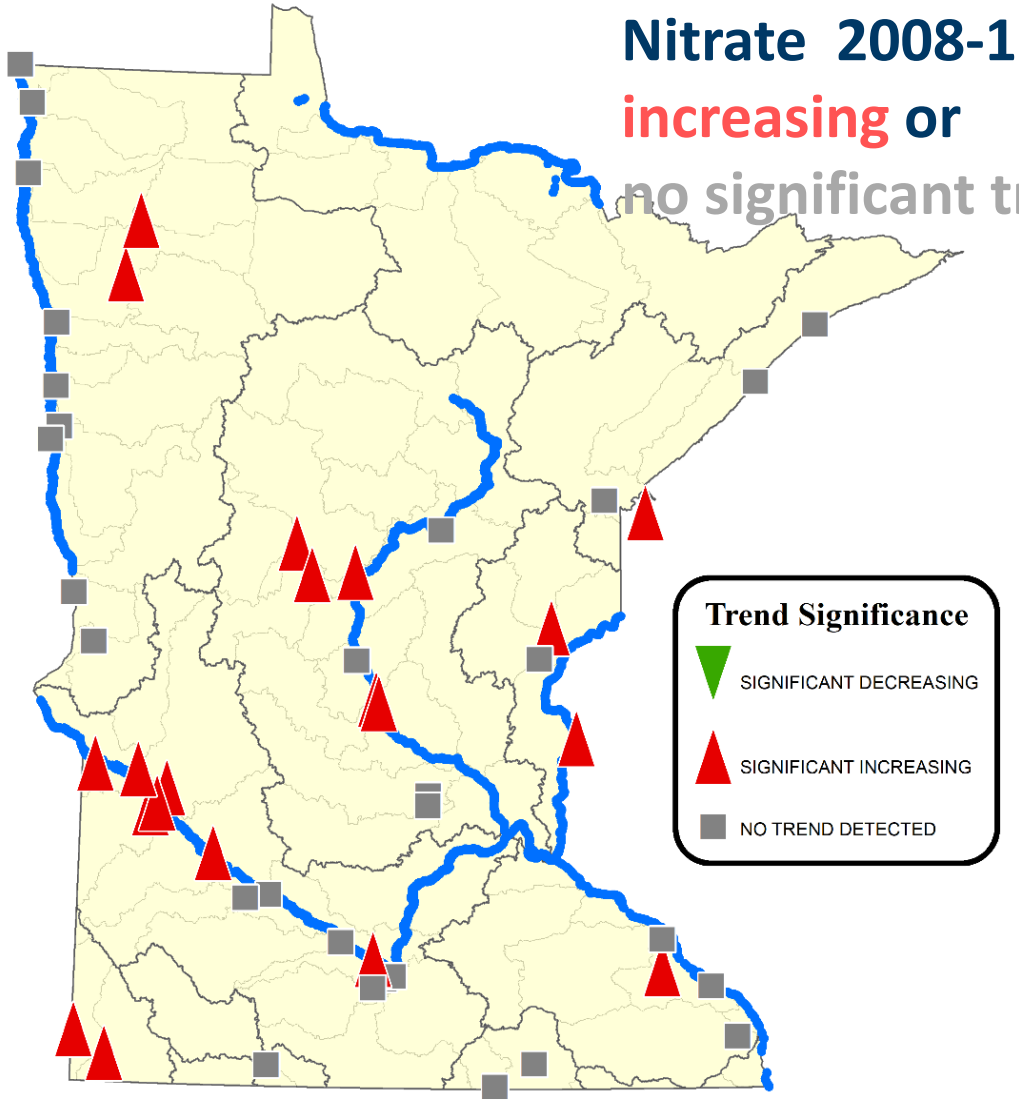
no significant trend



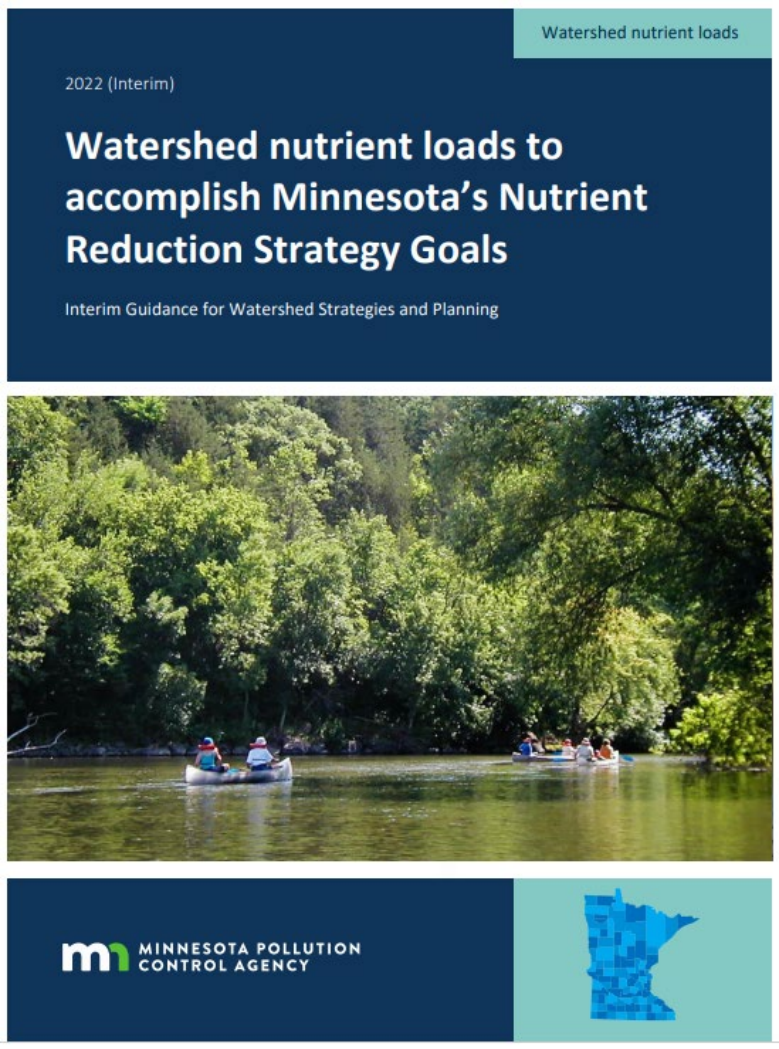
Nitrate 2008-19

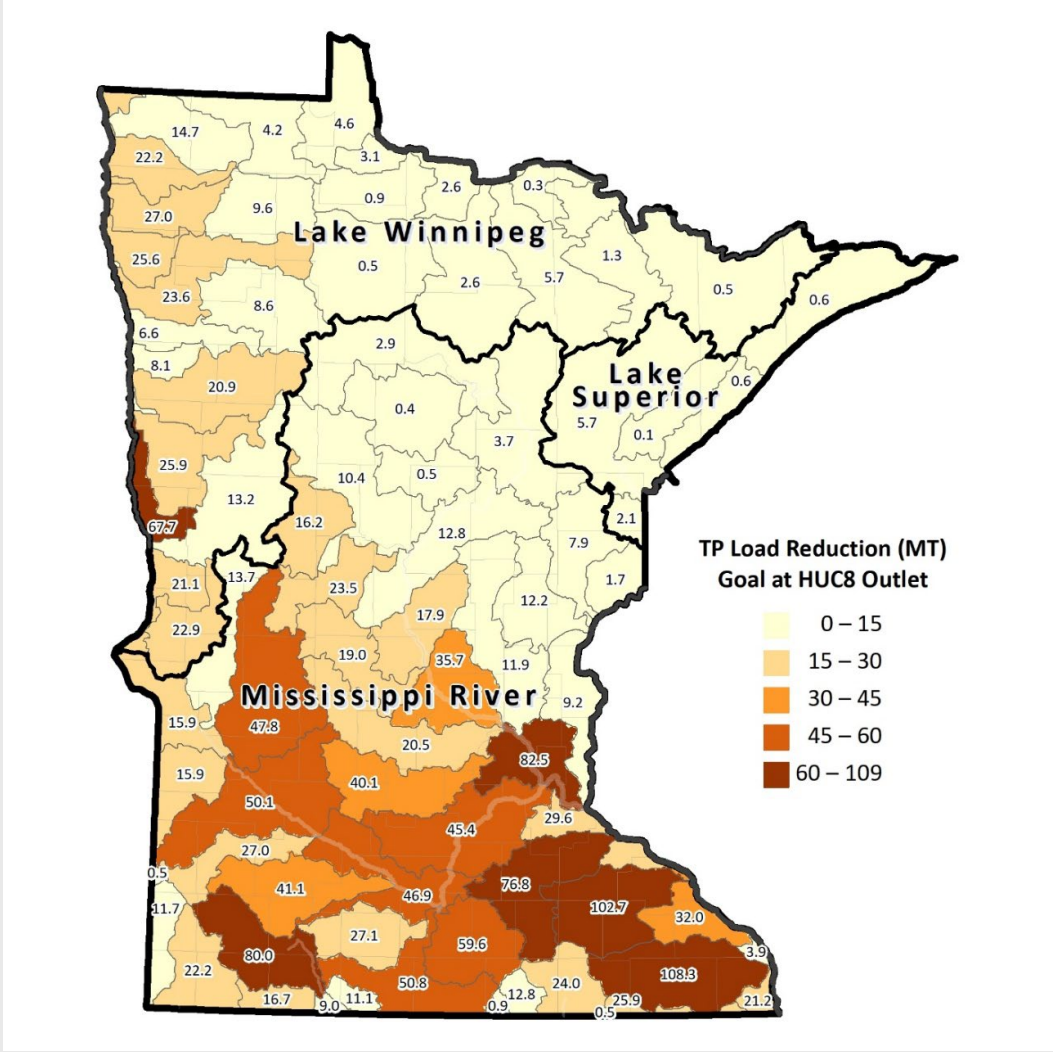
increasing or

no significant trend

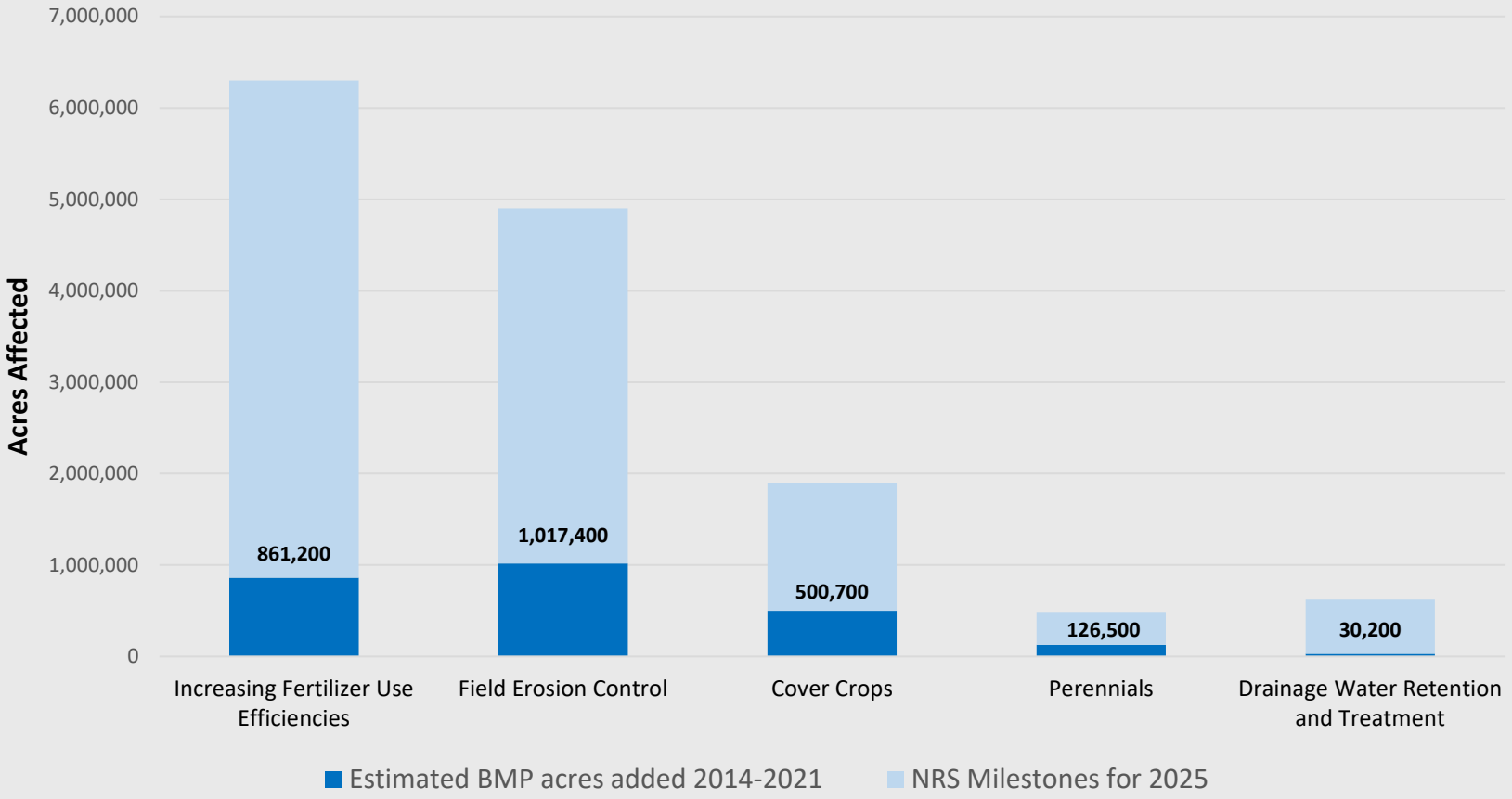


Local watershed nutrient load reductions to meet state goals





BMPs added only through government programs 2014-21 compared to Nutrient Reduction Strategy 2025 milestone scenario



Note: Total BMP adoption is greater than shown - dark blue acres do NOT include private adoption outside of government programs

Nutrient reduction also needed from:

- Wastewater
- Urban Stormwater
- Septic Systems
- Feedlots
- Misc. sources

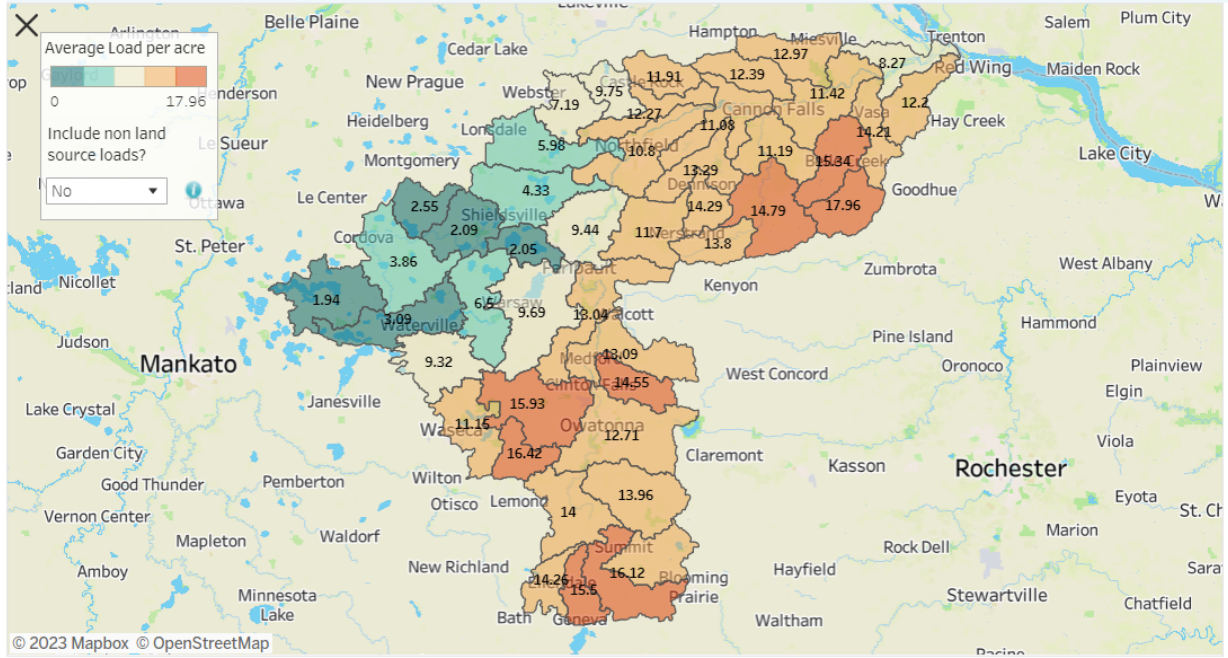
Data Allows Targeting of Practices

Watershed Pollutant Load Reduction Calculator by MPCA Data Services

Watershed Pollutant Load Reduction Calculator

MINNESOTA POLLUTION CONTROL AGENCY

1. Select a watershed Cannon | **2. Select a pollutant** Nitrogen (lbs/ac/yr) | **3. Select pollutant delivery point** Watershed outlet (HUC 8)



This map shows the estimated annual pollutant load per acre delivered to the selected delivery point (from all non-atmospheric sources). Click on the map to assign selected BMPs only to the selected area (use ctrl+click to select multiple HUC 12 subwatersheds).

4. Enter acres of new BMPs below

BMP	Acres of new BMPs	Load reduced (lbs/ac/yr)	Reduction from new BMPs
Alternative Tile Intakes	0	1.43	0.0
Bioreactors to treat tile water	0	3.3	0.0
Conservation Cover Perennials	0	15.06	0.0
Conservation Crop Rotation	0	6.82	0.0
Contour Buffer Strips	0	5.93	0.0
Contour Stripcropping	0	4.24	0.0
Controlled tile drainage (drainage water mgmt.)	0	6.45	0.0
Cover Crops after early harvest crops	0	6.84	0.0
Cover Crops with corn and soybeans	0	4.55	0.0
Drainage Side Inlet Improvements	0	1.19	0.0
Feedlot Manure/Runoff Storage	0	25.25	0.0
Feedlot Runoff Reduction/Treatment	0	20.9	0.0
Filter Strips, 50 ft (Cropland field edge)	0	4.39	0.0
Forestry Erosion Control	0	Null	0.0
Forestry Riparian Management Zones	0	0.62	0.0
Grassed Waterways	0	1.42	0.0
Livestock Access Control/Fencing (to waters)	0	0.43	0.0
Manure/Fertilizer Incorporation (no surface spreading)	0	1.37	0.0
Nutrient Management: Improved Rates/Timing	0	2.04	0.0
Nutrient Management: Precision/Variable Rate	0	3.84	0.0
Reduced Tillage (30%+ residue cover)	0	1.04	0.0
Reduced Tillage (no-till)	0	2.48	0.0
Riparian Buffers, 16.5 ft from ditch (replacing crops)	0	2.77	0.0

The total area of this watershed is **940,544 acres**. You have selected **0 acres** of new best management practices (BMPs). This is **0.00%** of the total watershed area.

BOARD OF WATER AND SOIL RESOURCES

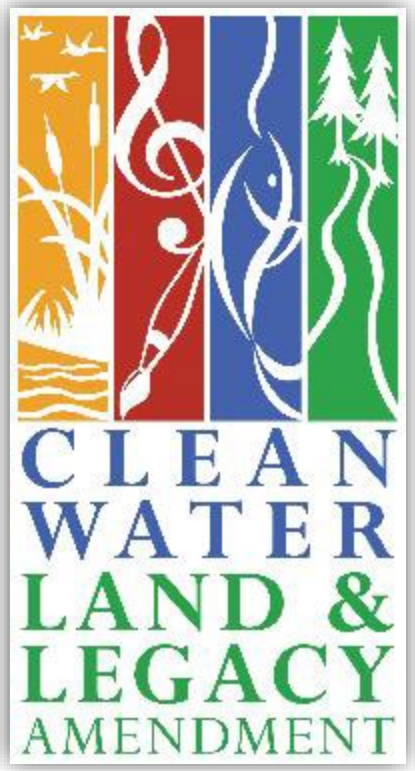
Nonpoint Priority Funding Plan

NPFP Background

- Clean Water Accountability Act (2013)
- A criteria-based process to prioritize Clean Water Fund investments.
- Meant to be adaptive.

NPFP High-Level State Priorities

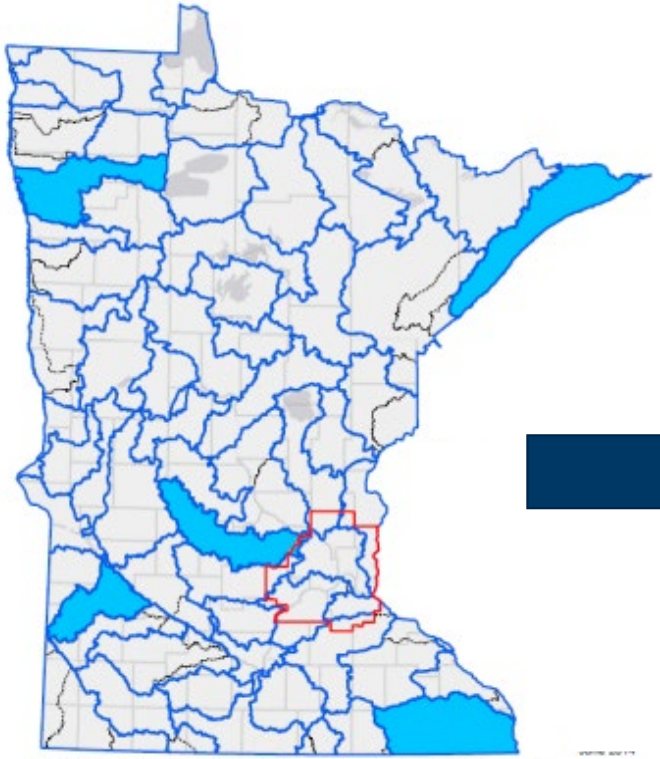
- ✓ Protect those high-quality unimpaired waters at greatest risk of becoming impaired
- ✓ Restore those impaired waters that are closest to meeting state water quality standards
- ✓ Restore and protect water resources for public use and public health, including drinking water



NPFP Keys to Implementation

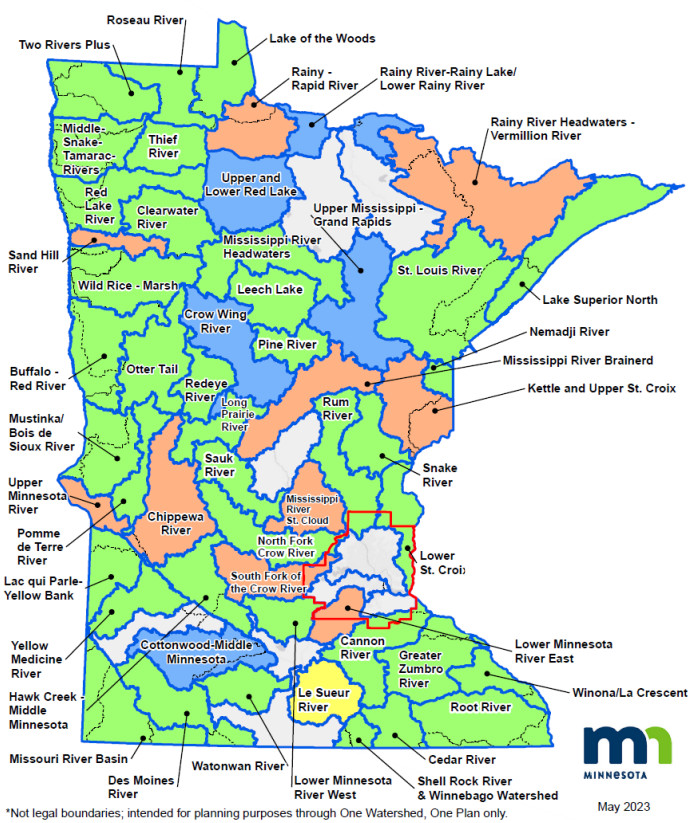
- ✓ Accelerate Watershed Scale Implementation
- ✓ Prioritize and Target at the Watershed Scale
- ✓ Measure Results at the Watershed Scale
- ✓ Use Science-Based Information
- ✓ Build Local Capacity
- ✓ Maximize Existing Laws and Regulations
- ✓ Support Innovative Non-Regulatory Approaches
- ✓ Integrate Hydrologic Management Systems into Watershed Management Plans

2014



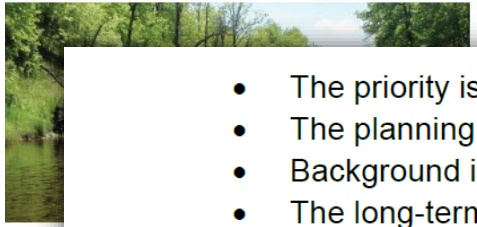
*Not legal boundaries; intended for planning purposes through One Watershed, One Plan only.

2023



*Not legal boundaries; intended for planning purposes through One Watershed, One Plan only.

May 2023



- The priority issues the goal addresses;
- The planning region prioritization for each priority issue;
- Background information about the issue and goal;
- The long-term and short-term goals;
- Example actions that can be implemented to make progress toward goals; and
- Specific resources and/or subwatersheds that are prioritized for the goal.

Specific resources and subwatersheds were prioritized based on a review of scientific data and expertise of the Steering and Advisory Committees. They include surface water resources that are impaired, drainage systems that require stabilization or enhancement, and locations most suitable for water storage.

Priority resources also include “nearly” and “barely” impaired resources. The Nonpoint Priority Funding Plan for Clean Water Funding Implementation prioritizes protection and restoration of water bodies that are nearly or barely impaired. To align implementation efforts with state-level funding priorities, protection and restoration categories for streams, rivers, and lakes were mapped to identify resources that are nearly or barely impaired (Minnesota Soybean Research and Promotion Council, 2019). Including these

Funded by: CLEAN WATER LAND & LEGACY AMENDMENT

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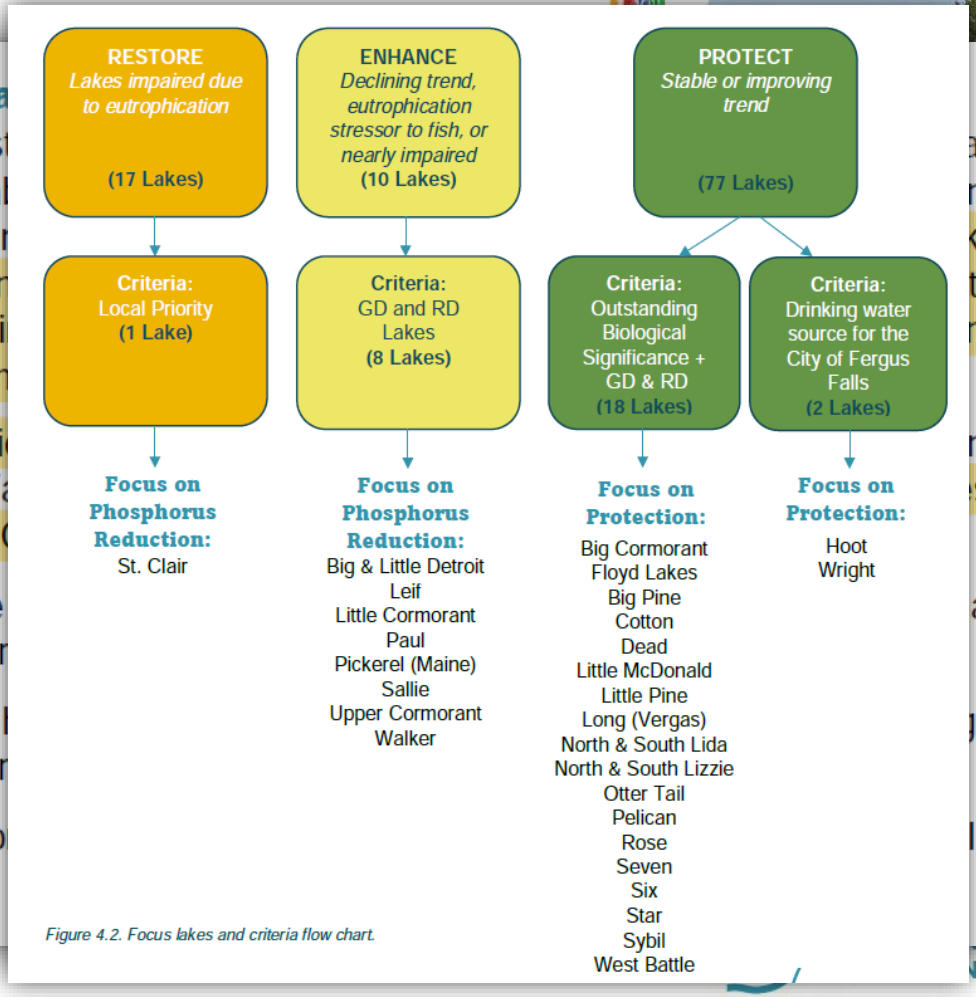

Figure 4.2. Focus lakes and criteria flow chart.

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NE PLAN

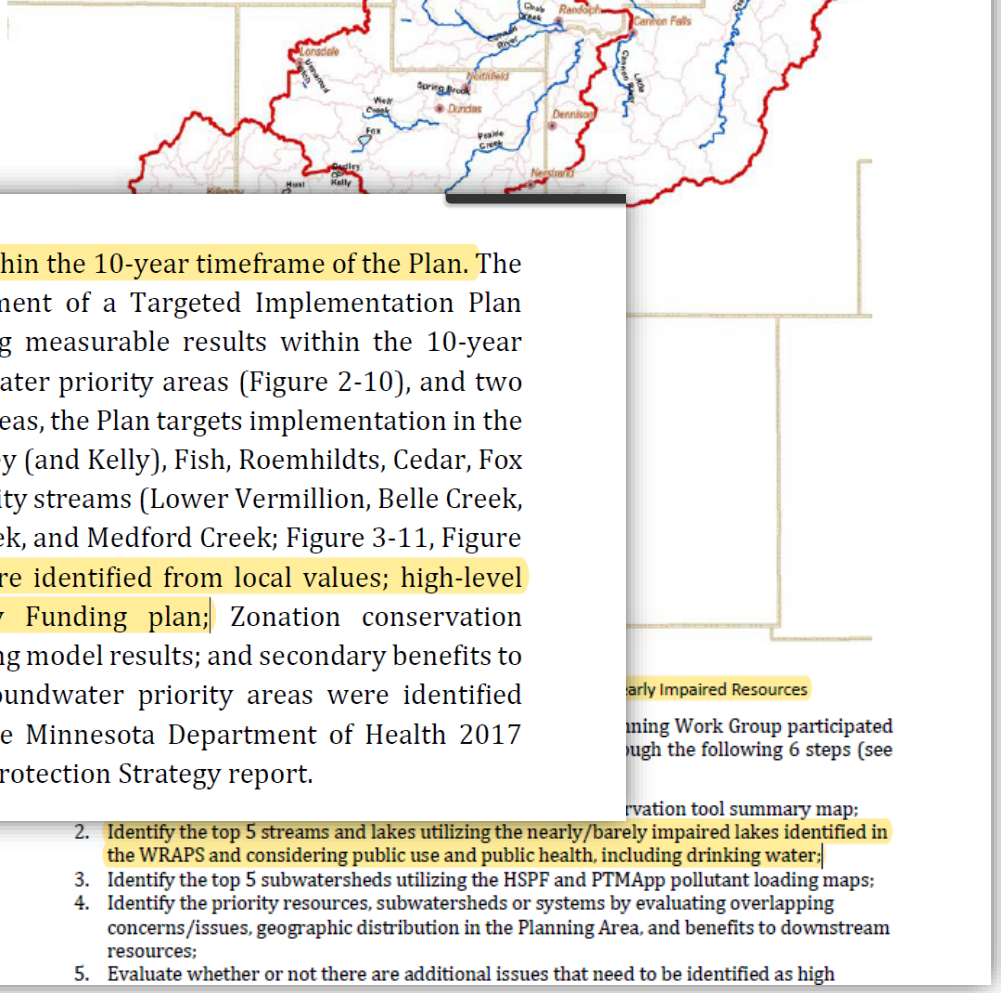
CANNON RIVER

Comprehensive Watershed Management Plan

March 2020

BWSR Approved June 2020

Dakota, Goodhue, Le Sueur, Rice, Steele, and Waseca Counties and Soil Water Conservation Districts, North Cannon River Watershed Management Organization, and the Belle Creek Watershed District.



below.

Not all resources and issues can be feasibly addressed within the 10-year timeframe of the Plan. The identification of priority areas allows for the development of a Targeted Implementation Plan focused on specific locations with the goal of achieving measurable results within the 10-year timeframe of the Plan. The Plan identifies four surface water priority areas (Figure 2-10), and two groundwater priority areas (Figure 2-11). Within those areas, the Plan targets implementation in the drainage areas to 8 Tier One priority lakes (Beaver, Dudley (and Kelly), Fish, Roemhildts, Cedar, Fox and Hunt; Figure 3-1 and Figure 3-2) and 7 Tier One priority streams (Lower Vermillion, Belle Creek, Little Cannon River, Trout Brook, Prairie Creek, Rush Creek, and Medford Creek; Figure 3-11, Figure 3-12 and Figure 3-13). Surface water priority areas were identified from local values; high-level priorities identified in the state's Nonpoint Priority Funding plan; Zonation conservation prioritization software results; watershed pollutant loading model results; and secondary benefits to downstream resources, communities, and systems. Groundwater priority areas were identified based on groundwater important areas identified in the Minnesota Department of Health 2017 Cannon River Watershed Groundwater Restoration and Protection Strategy report.

arly Impaired Resources

ning Work Group participated
ugh the following 6 steps (see

rvation tool summary map;

2. Identify the top 5 streams and lakes utilizing the nearly/barely impaired lakes identified in the WRAPS and considering public use and public health, including drinking water;
3. Identify the top 5 subwatersheds utilizing the HSPF and PTMApp pollutant loading maps;
4. Identify the priority resources, subwatersheds or systems by evaluating overlapping concerns/issues, geographic distribution in the Planning Area, and benefits to downstream resources;
5. Evaluate whether or not there are additional issues that need to be identified as high

The Nonpoint Priority Funding Plan for Clean Water Funding Implementation prioritizes protection and restoration on water bodies that are nearly or barely impaired. To align implementation efforts with state-level funding priorities, protection and restoration categories and subcategories for streams, rivers, and lakes were mapped during the planning process (**Appendix H**). The Steering Committee used these maps to prioritize nearly or barely impaired surface water resources, therefore aligning with the Nonpoint Priority Funding Plan.

Priority resources were identified based on a review of scientific data and expertise of the Steering and Advisory Committees. They include (for example) lakes and streams that are impaired, stream reaches and drainage systems that require stabilization or enhancement, and locations most suitable for habitat expansion. Priority resources also include "nearly" and "barely" impaired resources. The Nonpoint Priority Funding Plan for Clean Water Funding Implementation prioritizes protection and restoration of water bodies that are nearly or barely impaired. To align implementation efforts with state-level funding priorities, protection and restoration categories for streams, rivers, and lakes were mapped to identify resources that are nearly or barely impaired (Minnesota Soybean Research and Promotion Council, 2019). Including these resources in the plan is intentional to align local implementation efforts with the Nonpoint Priority Funding Plan.

Resource Prioritization

BWSR's Nonpoint Priority Funding Plan for Clean Water Funding Implementation and Minnesota's Clean Water Roadmap set the following priorities:

- Restore those impaired waters that are closest to meeting state water quality standards ("barely impaired");
- Protect those high-quality unimpaired waters at greatest risk of becoming impaired ("nearly impaired"); and
- Restore and protect water resources for public use and public health, including drinking water.

The resources in the Long Prairie River Watershed were evaluated with these priorities in mind; however, though there are a few impaired waters, none of the lakes or streams in the watershed are considered "barely impaired" or "nearly impaired." Therefore, for unimpaired resources, the "Enhance" and "Protect" priorities focus on what has the highest value and the most risk.

Prioritization Criteria

In protection-focused watersheds, a useful guide for prioritization is the following quote from Peter Jacobson, retired DNR Fisheries Researcher:

"Conservation priority lies at the intersection of risk and value."

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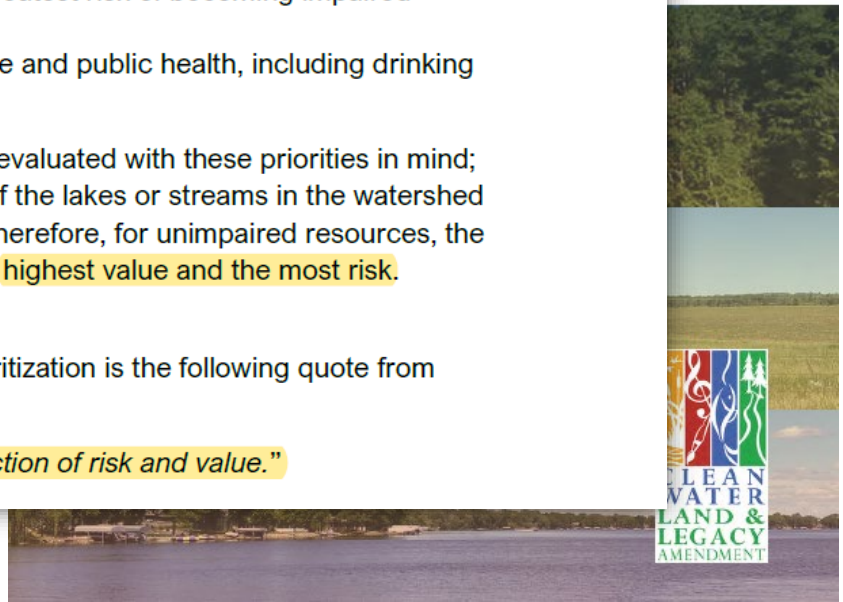


Table 3-4. Issues Prioritization for the Upper Hawk Creek HUC-10 (*0702000407*) Subwatershed

Tier	Issue	Rationale
TIER I (High Priority)	Impaired Lakes and Streams • *Long Lake* • *Ringo Lake* • *Hawk Creek*	Highly valued resources that need to be restored for public use and wildlife habitat. Restoration of riparian areas can also improve biodiversity through increasing habitat continuity and strengthen floodplain connectivity.
	Altered Hydrology	Affects everything else in the watershed; addressing altered hydrology positively influences all of the other issues. For example, increases in storage and reduction in discharge to receiving waters has multiple benefits, including decreased potential for flood damage impacts, increased floodplain and riparian area connectivity, improved water quality, increased groundwater recharge, and resiliency to extreme precipitation events.
	Soil Erosion and Sediment Loss	Focus on stream monitoring sites for measuring and setting goals, actions should include addressing specific practices on farmland. Addressing soil erosion and sediment loss will address many other water quality issues.
	High Quality Lakes and Streams • *Eagle Lake* • *Foot Lake*	Focus on high quality (unimpaired) resources in need of protection and Nearly/Barely (on the threshold of impairment) resources as these can be restored more cost-effectively.
		Cultivated cropland accounts for approximately 84% of the land use in

NPFP High-Level State Priorities

- ✓ Protect those high-quality unimpaired waters at greatest risk of becoming impaired
- ✓ Restore those impaired waters that are closest to meeting state water quality standards
- ✓ Restore and protect water resources for public use and public health, including drinking water

CWC Strategic Priorities

- Drinking water is safe for everyone, everywhere in Minnesota;
- Available groundwater is clean and sustainable for Minnesotans;
- Surface waters are swimmable and fishable throughout the state;
- All Minnesotans value water and take actions to sustain and protect it

NPFP Keys to Implementation

- ✓ Accelerate Watershed Scale Implementation
- ✓ Prioritize and Target at the Watershed Scale
- ✓ Measure Results at the Watershed Scale
- ✓ Use Science-Based Information
- ✓ Build Local Capacity
- ✓ Maximize Existing Laws and Regulations
- ✓ Support Innovative Non-Regulatory Approaches
- ✓ Integrate Hydrologic Management Systems into Watershed Management Plans

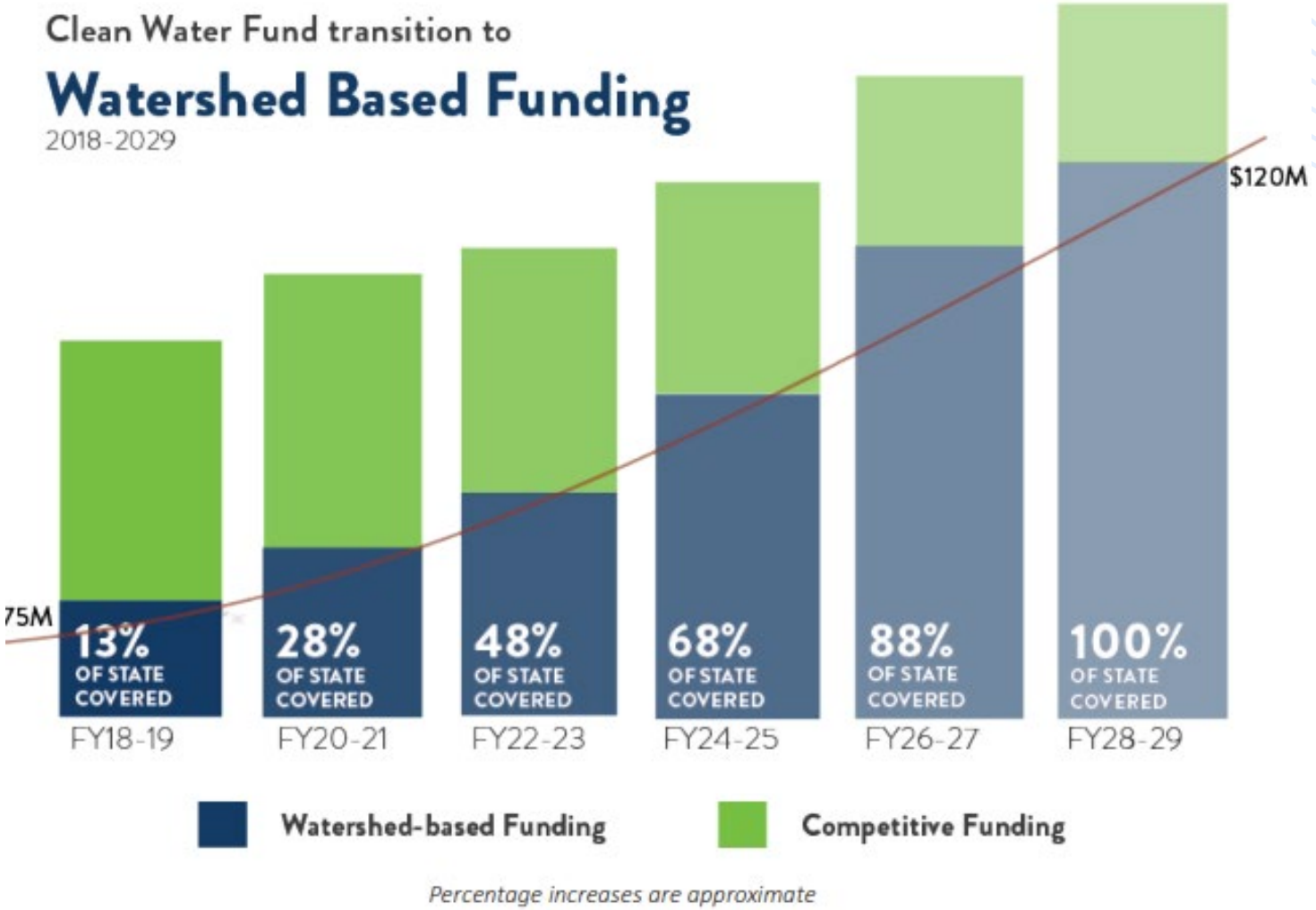
Opportunities for alignment with CWC Strategies?

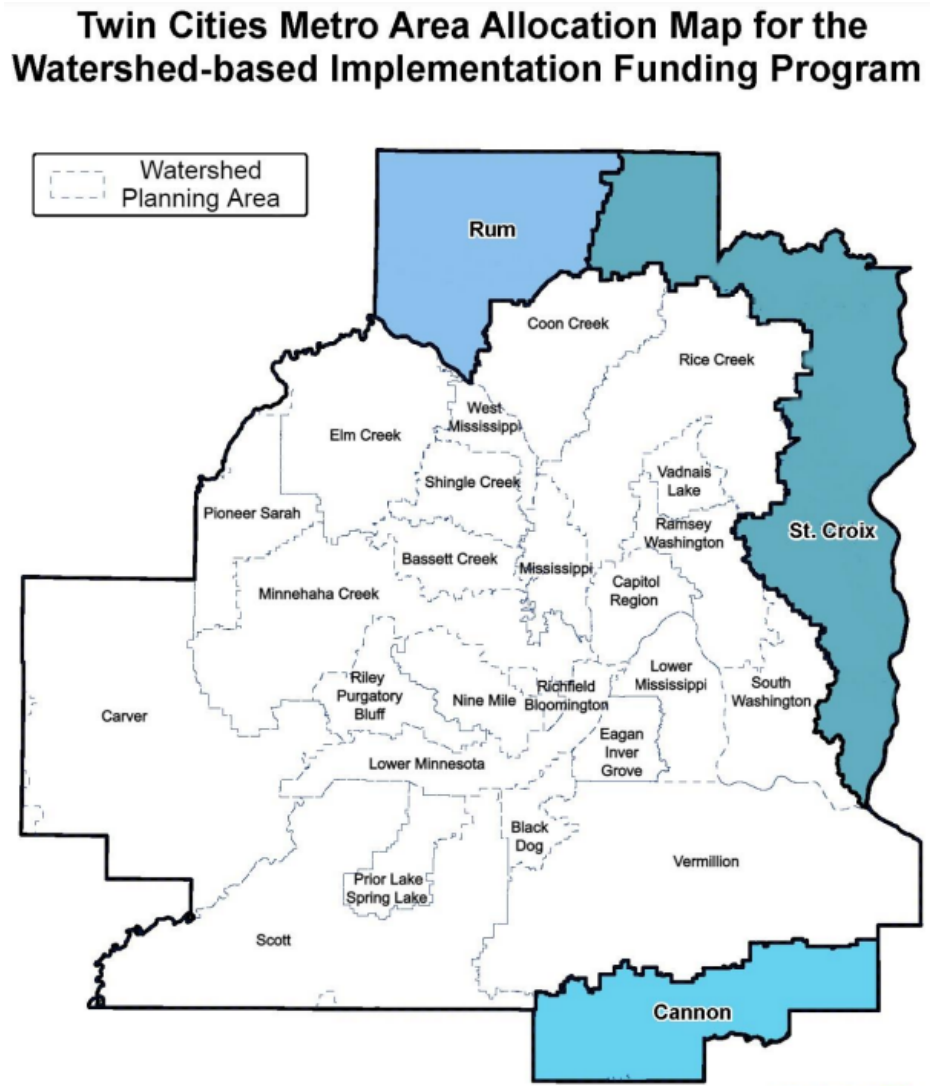
Watershed Based Implementation Funding Allocation

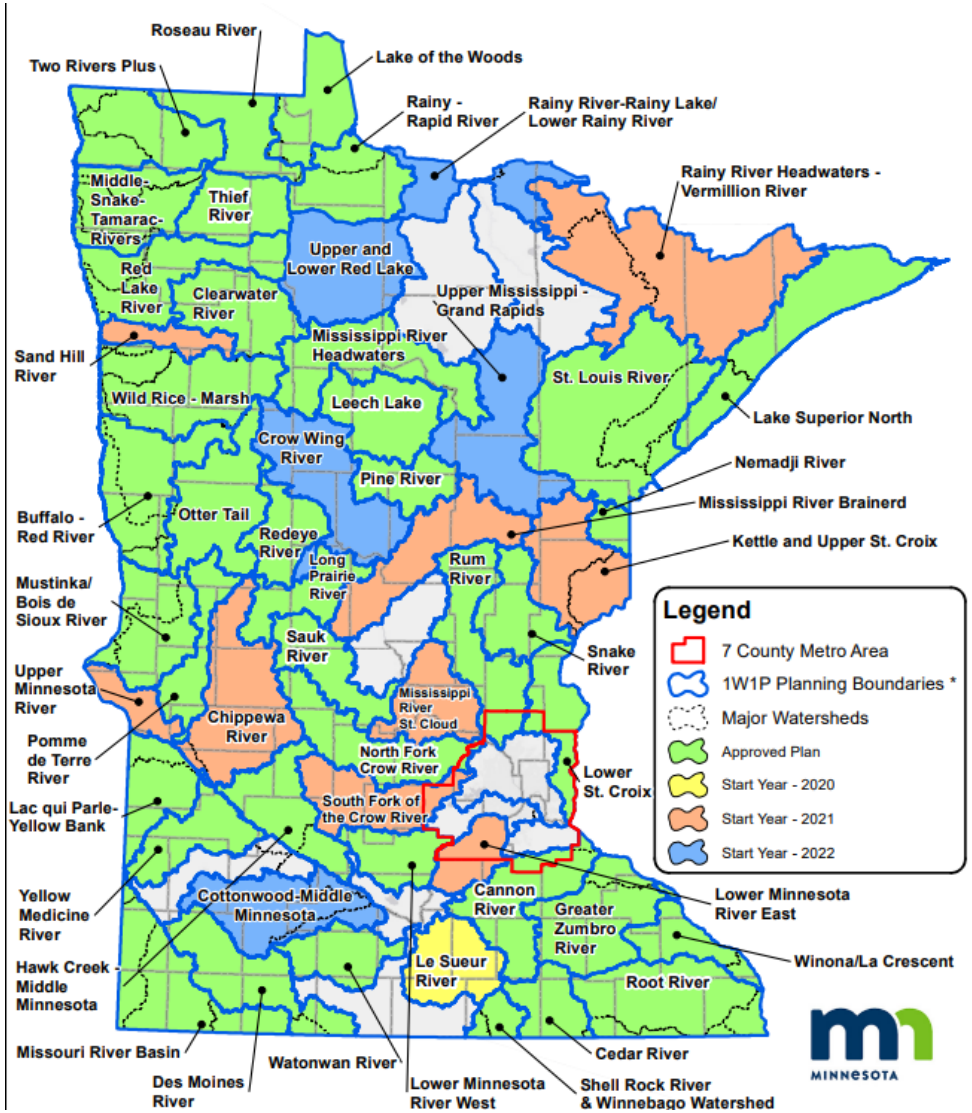
Justin Hanson
Assistant Director, Board of Water and Soil Resources

BOARD OF WATER AND SOIL RESOURCES

WBIF
Fy24-25 allocation
$79M







Step 1: Determine eligible watersheds & boundaries

Step 2: Gather data for formula

Step 3: Run allocation calculation for State

~$67.5M	(Statewide Allocation)
– $13.5M	(54 watersheds x Base ($250K))
= ~$54.0 M	(Amount remaining, run formula)

Individual watershed = Base ($250,000) + Formula derived amt

Step 3: Run allocation calculation for Metro

$9M	(Metro amount available for allocation)
– $3.3M	(33 Areas x Base ($100K))
= $5.7 M	(Amount remaining, run formula)

Watershed planning area = Base ($100,000) + Formula derived amt

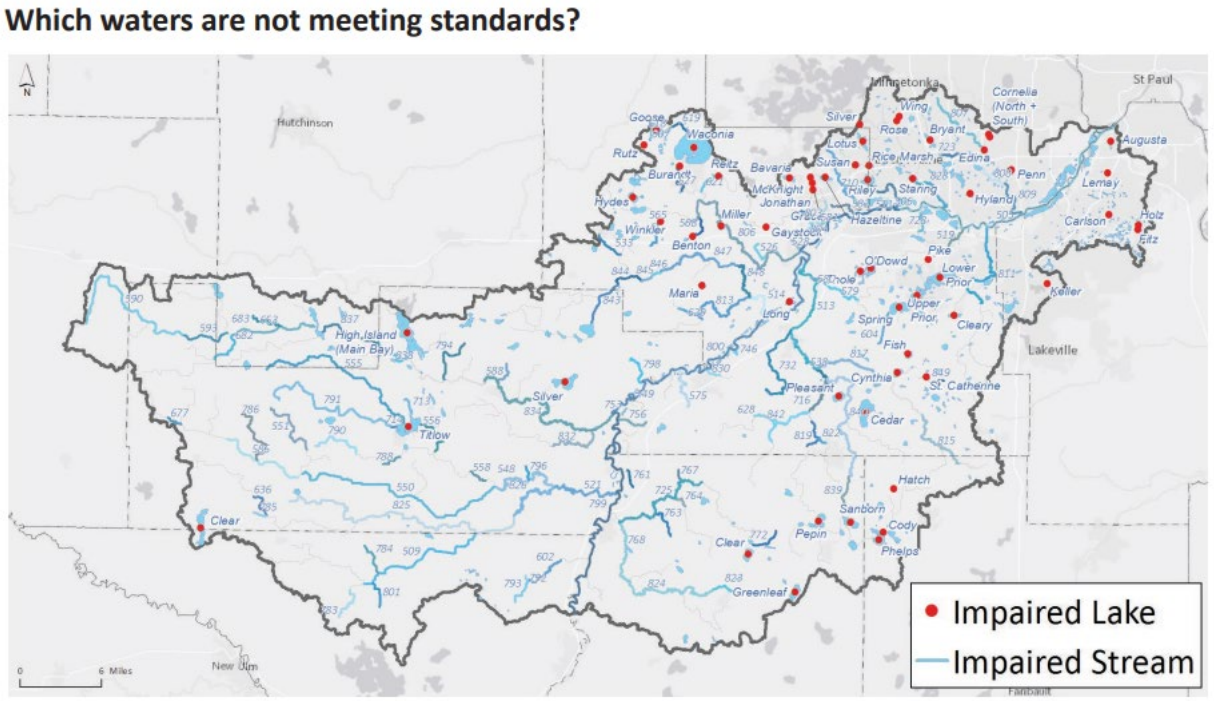
CLEAN WATER LAND & LEGACY AMENDMENT

Protection and Restoration Funding

BOARD OF WATER AND SOIL RESOURCES

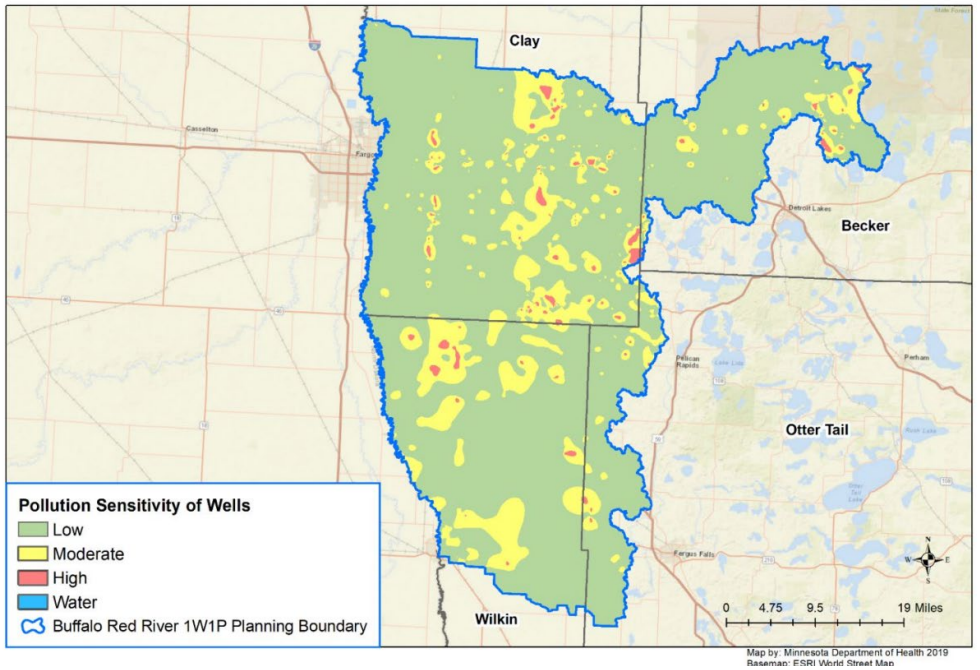
Restoration

- Mitigating land or water resources that have been designated as impaired

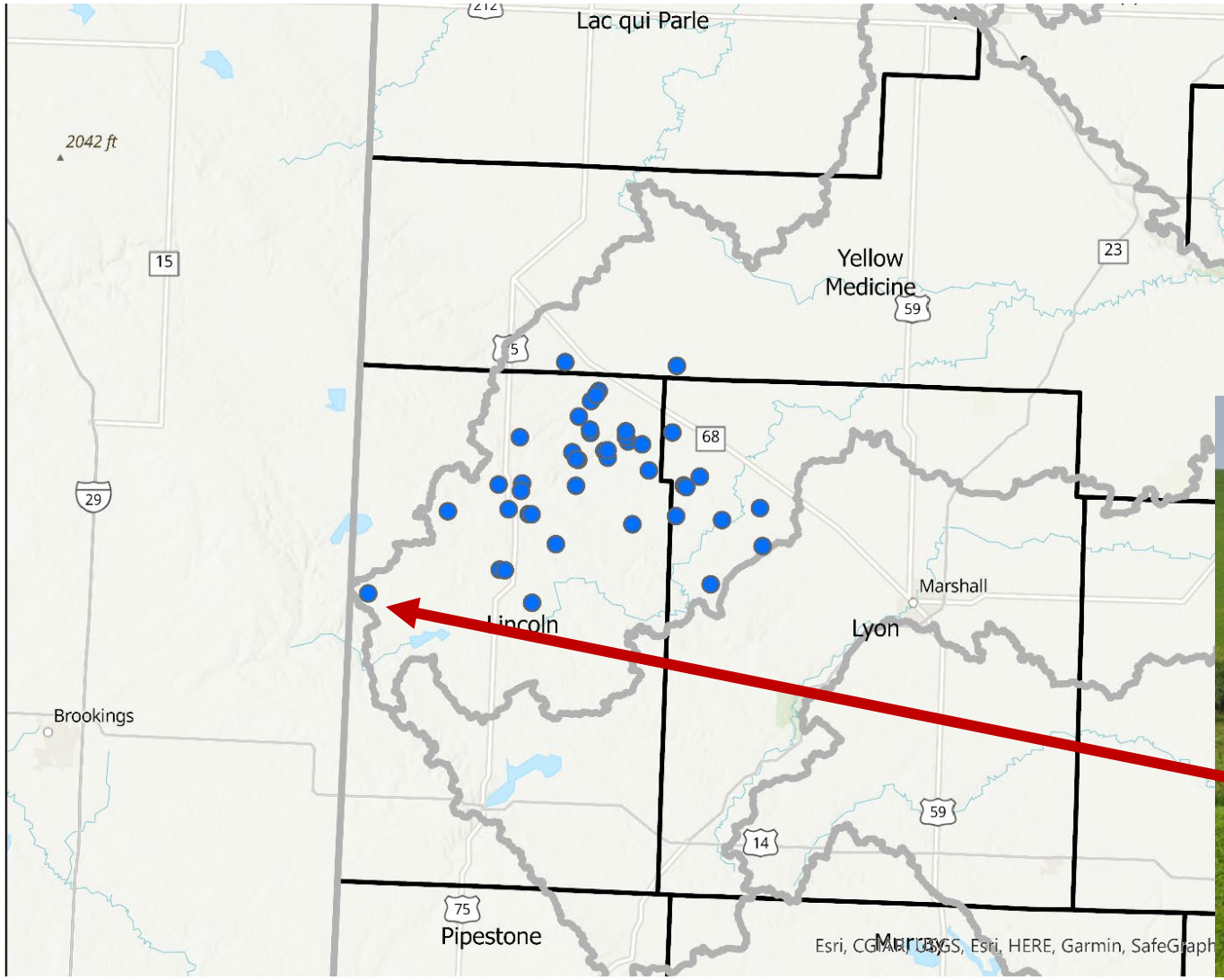


Protection

- Protecting the land and water resources that may become impaired or may impact human health



Restoration:
Soil Stabilization Projects in Yellow Medicine Watershed



10-Year Goal: Protection

Increase protection by 1,717 acres in the most sensitive areas for habitat, lakes, springs, forests and drinking water

Wild Rice
Resource Protection

Drinking Water
Human Health

Restoration and Protection Strategies

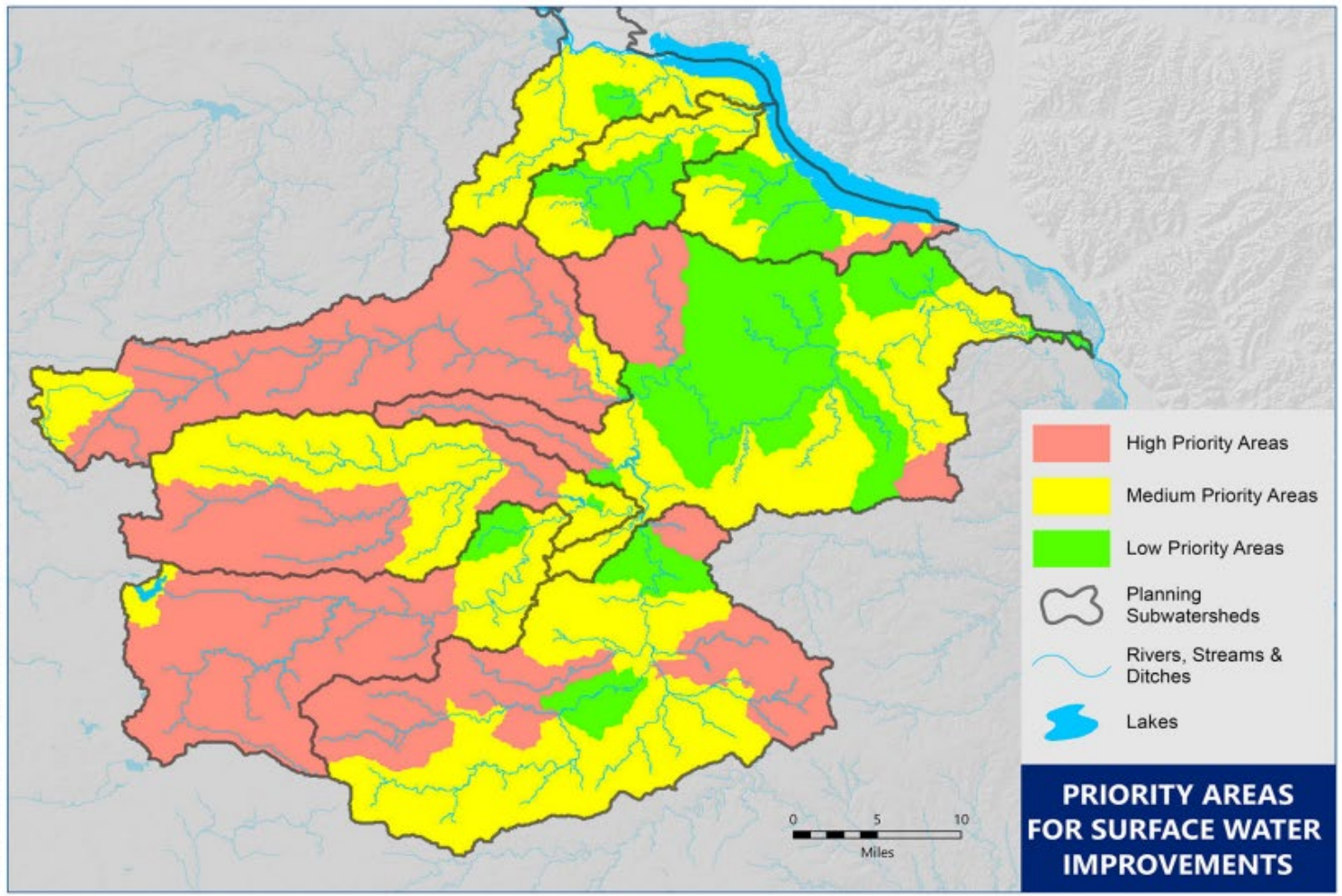
Local Strategies are prioritizing multi benefits

Tier 1 – Includes locations presenting opportunities for both restoration and protection efforts. The number of factors present in each area, the risk of future impacts from development, and the ecological features of each of these areas contributed to their inclusion in the Tier One category. See Table 2. Summary of Tier 1 Priority Areas.

Nemadji 1W1P

PRIORITIZING AREAS FOR PROTECTION AND RESTORATION

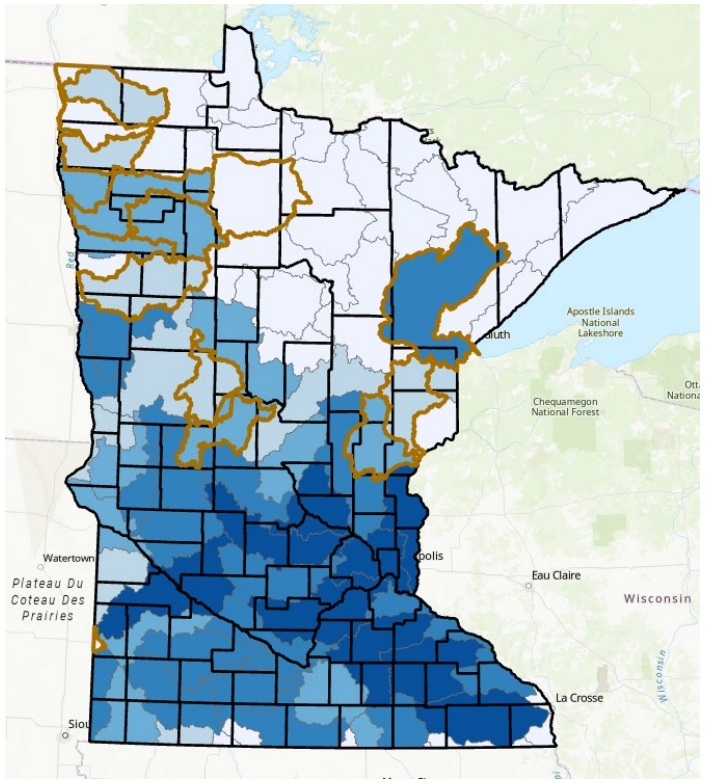
With the high diversity of land use and geological landscapes within such a large watershed, prioritizing areas for protection and restoration action is an important piece of the puzzle. We used models, monitoring data, and input received during planning to prioritize subwatersheds where we can achieve the greatest impact for our efforts to protect and improve surface water and groundwater quality.



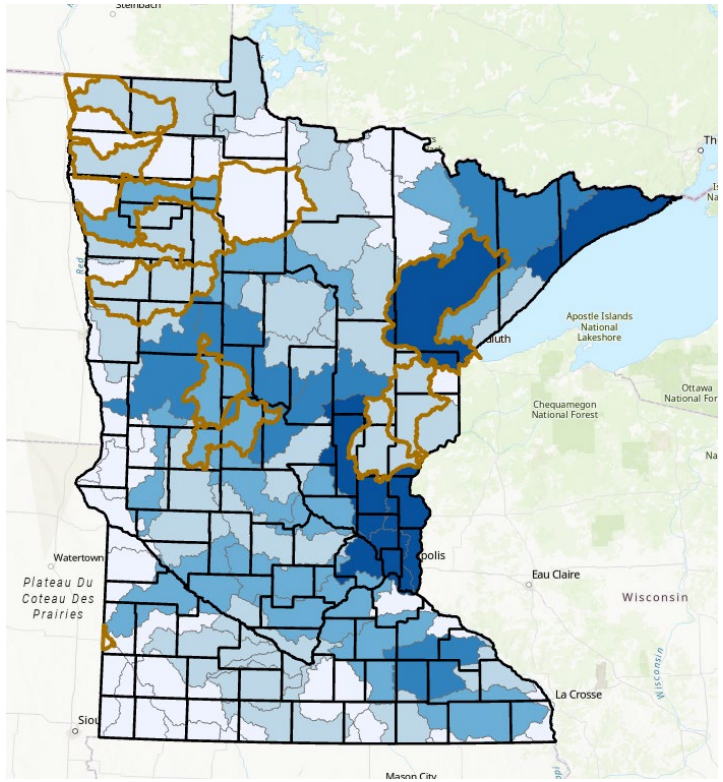
Zumbro River 1W1P

Implementation and Drinking Water Dollars Restoration vs. Protection based on PCA Derived %

Restoration



Protection



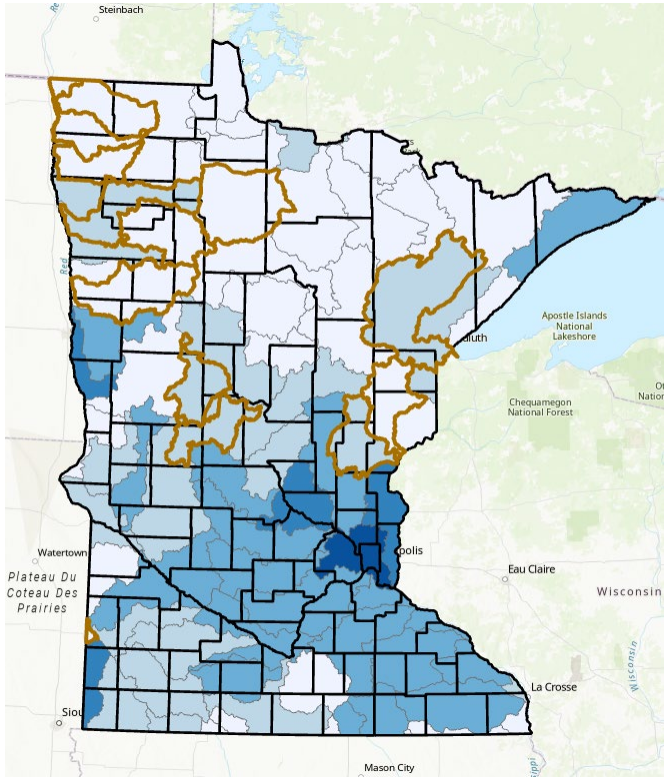
Restoration and Protection by Watershed

Watershed Type	Sum of acres	Sum of Restoration Dollars	Sum of Protection Dollars	Total Dollars	Dollars Per Acre for Total Dollars	Dollars Per Acre Restoration	Dollars Per Acre Protection
Mixed Watersheds	10,097,696	$23,043,817	$20,071,665	$43,115,482	$4.27	$2.28	$1.99
Low Impairment Watersheds	19,354,639	$12,719,495	$51,231,476	$63,950,971	$3.30	$0.66	$2.65
Highly Impaired Watersheds	24,544,439	$264,475,556	$51,470,631	$315,946,187	$12.87	$10.78	$2.10
Grand Total	53,996,774	$300,238,869	$122,773,771	$423,012,640	$7.83	$5.56	$2.27

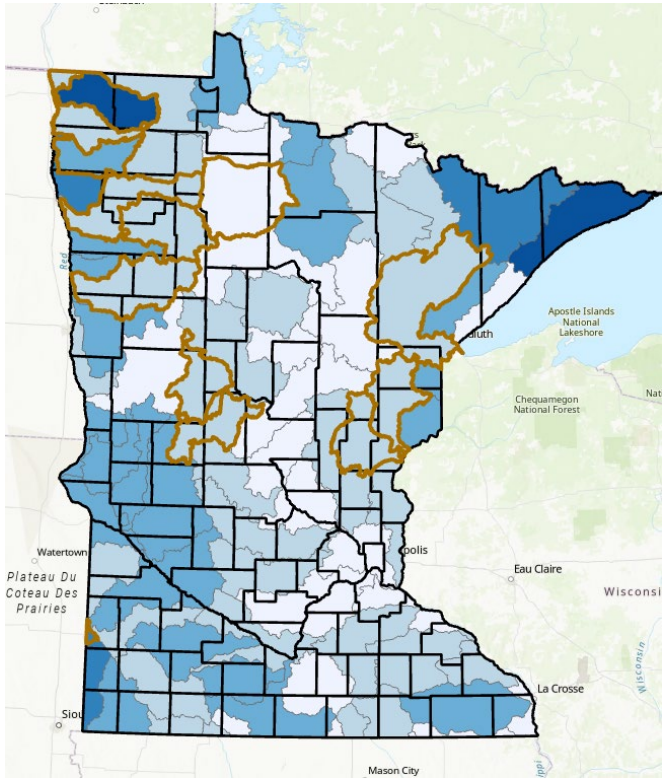
CLEAN WATER LAND & LEGACY AMENDMENT

Implementation Dollars per Acre (or SQ Mile) and Per Capita by Watershed

$/Per Acre

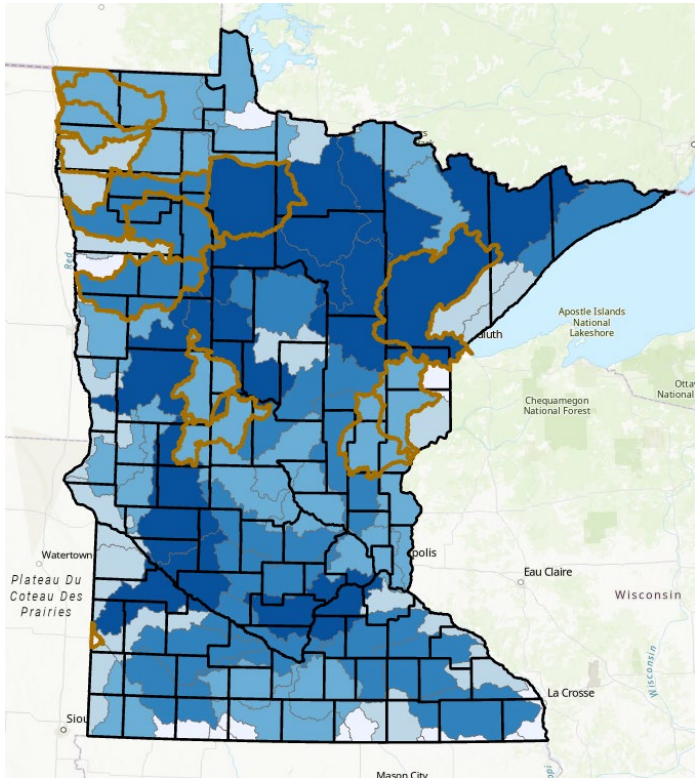


$/Per Capita

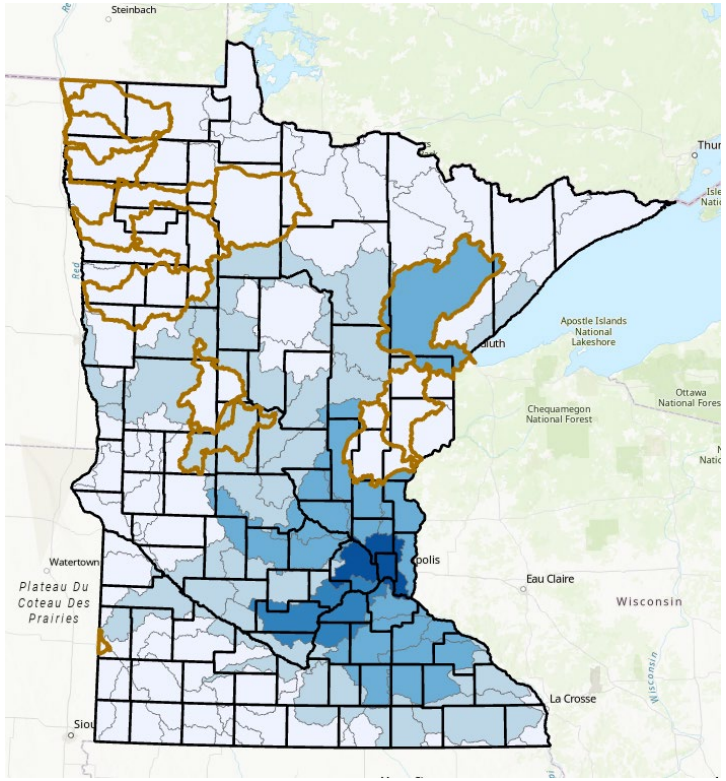


New Data (Population and Land Area)

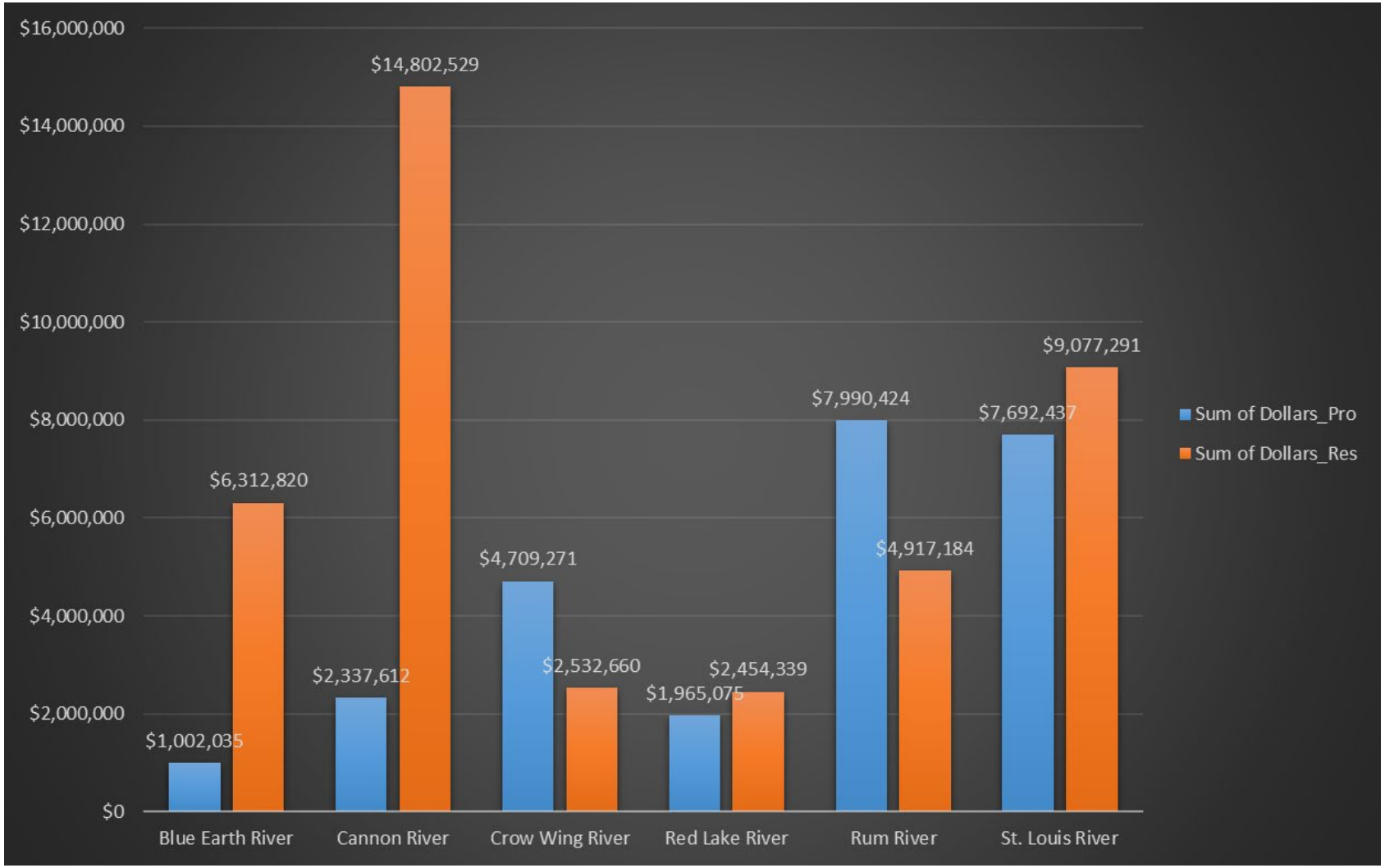
Acres per Watershed



Population per Watershed



Restoration and Protection Implementation Dollars Comparison of a Few Watersheds



Minnesota's Clean Water Roadmap

CLEAN WATER LAND & LEGACY AMENDMENT

Setting long-range goals for Minnesota's water resources

2014

Additional data and information supporting the Clean Water Fund goals
can be found in the most recent copy of the Clean Water Fund Performance Report:
http://legacy.leg.mn/sites/default/files/resources/2014_CleanWaterFund_Performance_Report.pdf

Interagency Coordination Team:
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Clean Water Council Liaisons:
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Editors:
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Photo credits: Minnesota Department of Health and Minnesota Department of Natural Resources
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A message from Clean Water Fund agency leaders

This first edition of Minnesota's Clean Water Roadmap is a major advancement in the Clean Water, Land, and Legacy Amendment's promise to protect, enhance, and restore the state's water resources. We created the Roadmap to communicate our agencies' goals, inform our strategies and resource allocations, and assess our progress over time. The roadmap goals are ambitious, yet achievable. They capture the core areas of Legacy investment and address elements of water resource sustainability that directly affect Minnesotans' quality of life. As agency leaders, we are committed to working collaboratively across the Executive Branch, with the Legislature, and with local government and stakeholders to achieve these goals. The Roadmap is a living document, with a five-year schedule for comprehensive updates. In addition, agency leadership will meet annually to review progress and identify incremental adjustments.

John Jaschke, Director
Minnesota Board of Soil and Water Resources

David Frederickson, Commissioner
Minnesota Department of Agriculture

Dr. Edward Ehlinger, Commissioner
Minnesota Department of Health

Tom Landwehr, Commissioner
Minnesota Department of Natural Resources

John Linc Stine, Commissioner
Minnesota Pollution Control Agency

Jeff Freeman, Director
Minnesota Public Facilities Authority

Susan Haigh, Chair
Metropolitan Council

Table Contents

Executive summary

The Clean Water Roadmap is a set of goals for protecting and restoring Minnesota's water resources during the 25-year life of the Clean Water, Land and Legacy Amendment. Clean Water Roadmap goals are based on currently available data and are intended to be ambitious, yet achievable. Progress in meeting these goals will require significant investment from the Clean Water Fund established by the Amendment, combined with historical water resource funding from other sources.

Wise investment of Clean Water Fund dollars requires that partners in water resource management share common expectations and join together in creating a pathway to achieve meaningful improvements in Minnesota's water resources. To assist in the process of developing this future-oriented Clean Water Roadmap, state agencies involved with water resource management turned to Environmental Initiative, a nonprofit organization with expertise in facilitating environmental policy discussions.

The Clean Water Roadmap will help the seven agencies with Clean Water Fund responsibilities:

- Define aspirational, yet achievable goals for outcomes associated with 25 years of Clean Water Fund expenditures,
- Establish interim benchmarks, to assess progress towards the 25-year goals,
- Adjust program or funding priorities based on progress made towards the benchmarks and the 25-year goals,
- Create realistic expectations among interested stakeholders and citizens about the potential for progress with the addition of Clean Water Fund dollars.

This first edition of the Clean Water Roadmap lays out goals for four high-level indicators that describe surface water quality, groundwater quality, and groundwater quantity. These concrete measures mirror Minnesotans' desire for healthy lakes, rivers, streams, drinking water, and groundwater.

Lake water quality

Measure: Trophic State Index
2034 statewide goal: Increase the percentage of Minnesota lakes with good water quality, as measured by acceptable Trophic State Index, from 62% to 70%.

Trophic State Index (TSI) summarizes a lake's overall water quality. Lakes with lower TSI values have higher clarity and are better for swimming and other recreational uses. Clean Water Roadmap water quality goals for lakes are based on the percentage of lakes with acceptable TSI in each of Minnesota's 10 basins.

River and stream water quality

Measure: Fish-Based Index of Biotic Integrity
2034 statewide goal: Increase the percentage of Minnesota's rivers and streams with healthy fish communities, as measured by the Index of Biotic Integrity, from 60% to 67%.

An Index of Biological Integrity (IBI) measures the health of a river or stream based on the biological communities it supports. Clean Water Roadmap water quality goals for rivers and streams are based on fish IBI scores for rivers and streams in each of Minnesota's 10 basins.

Groundwater quality

Measure: Drinking water standards for arsenic and nitrate

2034 statewide goal: Reduce the percentage of new wells exceeding the drinking water standard for arsenic by 50%.

2034 statewide goal: Reduce nitrate levels in groundwater by 20%, which will decrease the percentage of wells exceeding the drinking water standard by 50% (in two vulnerable areas of the state).

Arsenic and nitrate are two contaminants found in Minnesota's groundwater over large areas of the state sometimes in concentrations exceeding the drinking water standard. The goal for arsenic is based on samples collected from all new potable wells. The nitrate goal is based on samples collected from private well networks in two vulnerable areas of the state.

Groundwater quantity

Measure: Changes over time in groundwater levels

2034 statewide goal: Ninety percent of groundwater monitoring sites affected by groundwater pumping will have either a steady or increasing water level trend.

This measure allows state agencies to track whether or not groundwater is being used sustainably. Groundwater availability, today and in the future, is crucial for people's health, natural ecosystems, and economic development.

The Clean Water Roadmap also acknowledges that other important factors such as climate, demographic shifts, and systemic changes in land use are largely beyond the influence of Clean Water Fund activities. These factors do impact water quality and quantity and will affect progress.

While many tools exist to assist in managing Minnesota's water resources, the Clean Water Roadmap is unique in articulating statewide, high-level goals for the 25 years of heightened activities supported by the Clean Water Fund. The Clean Water Roadmap does not replace local water plans, the Clean Water Performance Report, restoration and protection strategies, or any of the other planning, implementation, or evaluation activities currently underway. The Clean Water Roadmap seeks to answer questions raised by agency leadership and citizens alike about the pace of progress and water resource outcomes that can be expected after 25 years of investment from the Clean Water Fund.

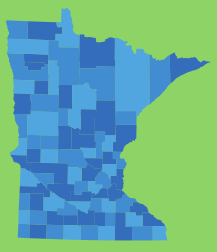
Nutrient Reduction Strategy

August 2020

Executive Summary

5-year Progress Report on Minnesota's Nutrient Reduction Strategy

MINNESOTA



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Executive summary

The Nutrient Reduction Strategy (NRS) outlines how Minnesota will reduce nutrient pollution in its lakes and streams, and reduce the impact downstream. The strategy specifies goals and provides a framework for reducing phosphorus and nitrogen levels.

The NRS, adopted by 11 organizations in 2014, calls for reducing nutrient levels by 10 to 20% over much of the state by 2025, with much larger long-term reductions by 2040.

The NRS calls for a progress report every 5 years to evaluate whether Minnesota is on track for reducing nutrient pollution. The state evaluates progress in three primary ways:

Nutrients cause algal blooms in Minnesota rivers and downstream.

1. Analysis of trends in waters over the past one to two decades: Is water quality improving?
2. Evaluation of state-level program advancements: Are programs making progress?
3. Assessment of change in practices: Are enough practices being added to reduce nutrient pollution?

Analysis of trends in waters over the past one to two decades: Is water quality improving?

In looking at data from intensive river monitoring efforts across Minnesota over the past 10 and 20 years, it's both good and bad news:

- The good news is that phosphorus concentrations - the amount of phosphorus per liter of water - have generally decreased.
- The bad news is that nitrogen concentrations have increased at many locations.
- For both, high year-to-year variability makes it difficult to detect trends at many of the monitoring locations.

Both flow-adjusted and non-flow adjusted evaluation methods were used to create a more complete picture of how nutrients are changing in Minnesota rivers. Flow-adjusted methods are intended to separate the water quality effects caused by human changes on the land and cities from those caused by variability in precipitation and river flow.

Past 10 years

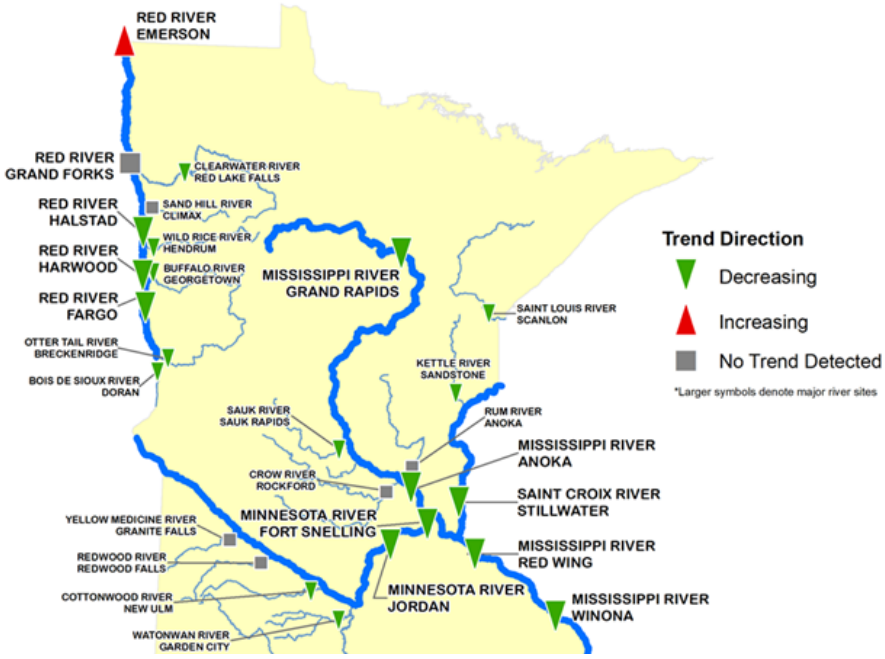
When using the flow-adjusted techniques for the past decade:

- For phosphorus, 24 of 50 (48%) river sites showed decreasing trends, with all other sites showing no detected trend. This indicates that efforts to reduce phosphorus in recent years have been making a difference.
- For nitrate-nitrogen, the dominant form of nitrogen in polluted rivers, 14 of 38 sites (37%) had increases, with the rest having no detected trend. This suggests that efforts to reduce nitrate thus far are either insufficient and/or need more time to be effective.

Past 20 years

Similar patterns were found when looking at flow-adjusted trends over the past two decades:

- The Mississippi River monitoring sites near the Twin Cities showed phosphorus concentration decreases of 21 to 26%. Whereas nitrate had 20-year increases in the range of 25 to 34%.
- Further downstream, closer to the Iowa border, the Mississippi River phosphorus concentrations have dropped by 50%, and nitrate was too variable to detect the trend.
- In the Red River of the North, phosphorus concentrations over the past two decades have decreased in the upstream reaches but increased at the Minnesota-Canada border. With some exceptions, river nitrate concentrations increased in the Red River Basin.



Phosphorus concentrations are decreasing throughout much of Minnesota.

Nitrogen concentrations are increasing throughout much of Minnesota.

High flows lead to high loads

While reducing nutrient concentrations is important for local water health and drinking water, reducing nutrient loads - the total amount that goes downstream - is important for downstream waters such as the Gulf of Mexico. Nutrient loads are affected by both nutrient concentrations and river flow:

- Because precipitation and associated river flow has markedly increased during the past two decades throughout much of Minnesota, decreasing phosphorus concentrations are not translating into statistically significant decreasing phosphorus loads.

Phosphorus loads in the Mississippi River Basin do not have a detectable decreasing trend unless the influence of river flow changes is removed through statistical methods.

- For nitrate, the combination of increasing concentrations and increasing flow has led to load increases of 62% in the Mississippi River near Red Wing.

Smaller monitoring efforts

In addition to intensive river monitoring across the state, Minnesota has dozens of edge-of-field and small watershed monitoring efforts that help scientists understand reasons for water nutrient changes. Evaluating connections between changes on the land and associated trends in water quality is important for demonstrating the effects of changing practices. The MPCA and partners are using results from small-scale monitoring to refine watershed-level nutrient strategies.

Steps for next 5 years – river monitoring

During the next 5 years, river monitoring and associated trends analysis should continue so that nutrient changes occurring between 2014 and 2024 can be used for the 2024 NRS update and republishing.

Evaluation of state-level program advancements: Are programs making progress?

All Minnesotans are part of the nutrient reduction solution. In order to make the wide-scale changes to significantly reduce nutrient pollution, Minnesota needs large-scale collaboration at all levels and in all sectors. The NRS identifies a multi-pronged approach to advance state, local, private industry, and federal programs that can drive nutrient reduction changes.

During the first 5 years of NRS implementation, Minnesota advanced almost every major program area identified in the 2014 Strategy. At the state and regional levels, Minnesota has initiated and/or expanded more than 30 programs associated with Strategy recommendations. The table on the following page outlines many of the programs that advanced between 2014 and 2019. While several programs are prompting changes on hundreds of thousands of acres, effects of other programs are more difficult to quantify or need much more time to reach their full potential.

Steps for next 5 years – Program advancements

During the next 5 years, Minnesota partner agencies need to continue developing, implementing, and expanding the programs that have advanced thus far. If these programs continue to advance, best management practice (BMP) adoption is expected to accelerate in the 2020 to 2024 timeframe, as compared to 2014 to 2018.

Education, Outreach and Research	Voluntary Programs	Regulatory Programs	Watershed Partnerships
• Nitrogen Smart training for farmers and farm-advisers • Annual nutrient management and conservation tillage conferences • Forever Green Initiative • Discovery Farms • Minnesota Office of Soil Health • Guidance manuals for agricultural best management practices, drainage, and urban stormwater management • Conservation professionals training and certification • Nutrient Mgmt. Initiative with on-farm cover crop trials • Center for Changing Landscapes	• Minnesota Agricultural Water Quality Certification • 4R Certification led by private industry (cropland nutrient management) • Red River Basin Initiative and Red River Valley Drainage Water Management • Minnesota Conservation Reserve Enhancement Program • Board of Water and Soil Resources Cover Crop Demonstration Program • Clean Water Fund – increases for BMP implementation • Point – nonpoint trading • Reinvest in Minnesota • Multi-purpose drainage water management	• Municipal and industrial wastewater program • Groundwater Protection Rule (nitrogen fertilizer) • Minnesota Riparian Buffer Law • Feedlot and land application of manure rules and inspections • Urban stormwater runoff program • Subsurface Sewage Treatment Program	• Watershed Restoration and Protection Strategies (WRAPS) • One Watershed, One Plan (1W1P) Program • Groundwater Restoration and Protection Strategies • Watershed Conservation Planning Initiative • Small focus watersheds – Federal Section 319 Program (20 new watersheds) • Guidance on Lake Protection for WRAPS and 1W1P • National Water Quality Initiative and Mississippi River Basin Healthy Watershed Initiative • Watershed-based funding implementation program • Local Field to Stream Partnerships

Assessment of change in practices: Are enough practices being added to reduce nutrient pollution?

Cropland practices

To guide Minnesota's progress toward reducing nutrients, the 2014 NRS included cropland BMP adoption goal scenarios. These scenarios were intended to serve as an example of the level of BMP adoption needed to achieve the nutrient reduction goals and milestones in major river basins.

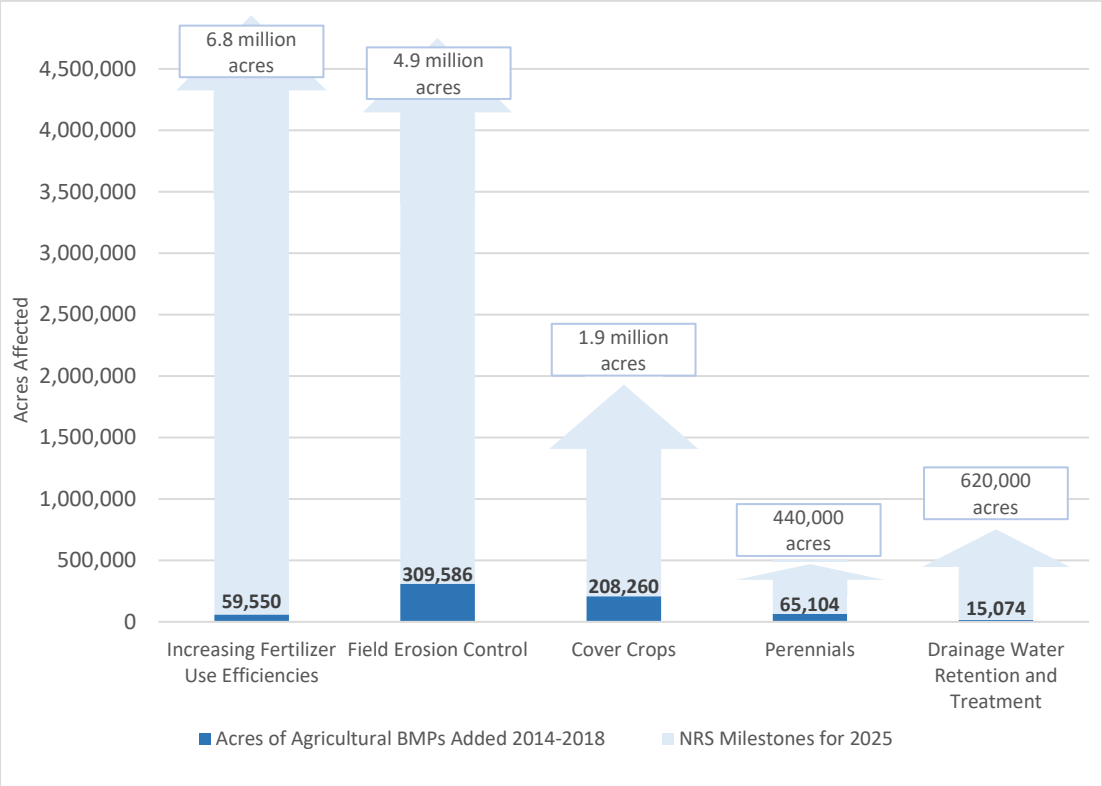
Achieving NRS goals depends on landowners and producers adopting millions more acres of BMPS, such as:

- Cover crops and other continuous living cover vegetation;
- Optimal use of nitrogen fertilizer and manure;
- Cropland erosion control practices; and
- Storing and treating tile drainage waters.

Minnesota has made significant progress during the past 5 years to establish tools to help track BMP adoption progress. BMPs adopted through all major government programs are tracked through a new web-based system entitled, "Healthier watersheds: Tracking the actions taken," which now shows new

BMP adoption at the same scales needed for NRS progress evaluation. Additionally, satellite imagery advancements are beginning to provide useful snapshots on the use of conservation tillage and cover crop practices.

As the figure below shows, between 2014 and 2018 Minnesota has added many BMPs through government assistance programs that reduce nutrient pollution. However, these new practices represent only a small fraction of the NRS scenario goals needed to reach 2025 milestones.



Comparing the actual acres of agricultural BMPs adopted through government programs to the total number of acres needed to meet NRS goals by 2025, showing that Minnesota has a long way to go.

New BMPs adopted through government funding programs achieved the following percentage of acres needed for reaching 2025 NRS milestones:

- 1% of nutrient efficiency acres;
- 10% of cover crops and perennials;
- 6% of conservation tillage and erosion control acres; and
- 2% of the tile drainage treatment acres.

It is clear that the scale of agricultural BMP adoption through government programs alone has not been on-pace to achieve 2025 NRS milestones thus far. Because private adoption of practices outside of government programs are also critical for increasing the rate of BMP adoption, this progress report also considered indicators of overall BMP adoption in the state derived from survey information, sales data, satellite imagery findings, soil testing and other sources of information.

Most of these overall indicators show trends during the past 5 to 10 years also show that Minnesota is not on track to reach the needed scales of change for meeting nutrient reduction goals.

Steps for next 5 years – Cropland practices

During the next 5 years, Minnesota partner agencies and organizations will need to identify and address the primary social, economic, and human dimension barriers impeding the scaling-up of new BMP adoption. Strengthening Minnesota's soil-health building emphasis and new private-public partnerships for 4R nutrient stewardship will also be very important.

Regulatory practices: Wastewater, urban stormwater, rural septic systems and feedlots

In addition to practices on cropland, reducing nutrients from regulated urban and rural sources is also important for meeting NRS goals.

Wastewater

The NRS calls for continued phosphorus reductions through limits in wastewater permits. It also outlined steps to make progress with wastewater nitrogen removal.

Much of the 70% reduction in wastewater phosphorus discharges occurred prior to the 2014 NRS. Statewide, wastewater dischargers have maintained these improvements and achieved additional reductions in alignment with the NRS. Currently, 90% of municipal wastewater flow volumes across the state have phosphorus limits.

One of the first NRS steps for reducing nitrogen from wastewater was to increase monitoring. Minnesota now has 255 facilities regularly monitoring nitrogen in their effluent, which represents the majority of wastewater flow volumes. Estimated statewide nitrogen loads from wastewater have generally remained steady, increasing slightly along with population and precipitation.

Other regulatory programs for urban stormwater, rural septic systems, and feedlots continued to make progress that is in-line with the NRS:

- Regulated stormwater requirements are applying to more urban areas, and there are more requirements for reporting progress on annual phosphorus and sediment reductions.
- For septic systems, more than 13,000 annual inspections show a decrease in imminent public health threats, which is consistent with meeting the NRS milestone. However, continued work is needed to further reduce health threats and to better protect groundwater from untreated septic system discharges.
- Feedlot inspections showed a high rate of compliance (about 97%) related to runoff at the feedlot facility itself. However, inspections of land application of manure showed considerable room for improvement concerning setbacks from waters, rates of nitrogen applied, record-keeping practices, and soil phosphorus testing and management.

Steps for next 5 years – Regulatory programs

During the next 5 years, the MPCA and partner organizations need to continue taking the steps outlined in the NRS for achieving nitrogen reductions from wastewater, while at the same time maintaining and continuing the progress with phosphorus. Continued progress with urban stormwater, septic systems and manure spreading will also be important.

Additional steps to take in the next 5 years

At this mid-way point to the NRS milestones, indicators of progress suggest that existing efforts alone are not likely sufficient for reaching the scale of change needed to achieve nutrient reduction goals. Building on the steps listed above, Minnesota needs to:

1) **Maximize the multiple benefits of NRS practices by coordinating with other plans and strategies that use similar practices to achieve resiliency to climate change and ecosystem improvements.**

NRS implementation should be increasingly coordinated and integrated with other water plans and strategies, at state and local levels, to inspire the needed scale of change for nutrient reduction, while at the same time maximizing multiple benefits such as:

- Greenhouse gas reductions;
- Sediment reduction to waters;
- Resiliency to climate variability;
- Long-term agricultural; sustainability and profitability;
- Wildlife habitat improvement;
- Drinking water source protection (for public and private wells);
- Lake water quality improvement; and
- Other ecosystem benefits.

Reducing nutrient pollution will help keep Minnesota streams healthy for aquatic life and recreation.

2) **Identify and address social, economic and other human dimension obstacles to scaling-up BMP implementation.**

Refine effective, socially-acceptable and financially feasible approaches for programs, policies and incentives that will increase rates of BMP adoption. Plans should be developed and implemented to address hindrances to large-scale adoption. Increase support for private-public partnerships that are achieving success with new practice adoption, including the Agricultural Water Quality Certification Program.

3) **Use the latest research to continue refining the optimal combination of practices that will achieve the needed nutrient reductions in our waters.**

Concurrent with ongoing NRS implementation, evaluate recent scientific findings to set the stage for an updated NRS in 2024. A team of scientists should develop alternative scenarios that ensure Minnesota is moving forward with:

- The most effective BMPs;
- Accurate nutrient reduction potential estimates;
- Optimal combinations of practices to achieve goals; and
- Updated implementation cost estimates.

4) **Optimize wastewater nitrogen treatment**.

Define strategies to reduce wastewater nitrogen discharges through optimization of nitrogen and phosphorus removal, emphasizing use of existing infrastructure.

BOARD OF WATER AND SOIL RESOURCES

2018 Nonpoint Priority Funding Plan

July 1, 2018 – June 30, 2020
6/29/2018

Section 1: Nonpoint Priority Funding Plan Summary

1.1 Purpose

Preparation of a Nonpoint Priority Funding Plan (NPFP) is required by the *Clean Water Accountability Act* (Act). The Act placed into law the Minnesota Pollution Control Agency (MPCA) Watershed Restoration and Protection Strategy (WRAPS), which required the MPCA to produce a biennial report of progress in achieving pollutant reductions, and required the Minnesota Board of Water and Soil Resources (BWSR) to prepare a priority funding plan to prioritize how Clean Water Funds are used, with updates required on both of these reports every two years.

Specifically, the Act amends Minnesota Statutes 2012, section 114D.50 to read:

Subd. 3a. Nonpoint Priority Funding Plan.

(a) Beginning July 1, 2014, and every other year thereafter, the Board of Water and Soil Resources shall prepare and post on its Web site a priority funding plan to prioritize potential nonpoint restoration and protection actions based on available WRAPS, TMDLs and local water plans. The plan must take into account the following factors: water quality outcomes, cost-effectiveness, landowner financial need, and leverage of nonstate funding sources. The plan shall include an estimated range of costs for the prioritized actions.

(b) Consistent with the priorities listed in section 114D.20, state agencies allocating money from the clean water fund for nonpoint restoration and protection strategies shall target the money according to the priorities identified on the nonpoint priority funding plan. The allocation of money from the clean water fund to projects eligible for financial assistance under section 116.182 is not governed by the nonpoint priority funding plan.
M.S. 2013, Chapter 137, Article 2, Section 14.

1.2 Version 1.0

Version 1.0 of the NPFP (June 25, 2014) was foundational and continues to provide guidance on how to prioritize nonpoint implementation actions at the State level. The NPFP sets forth:

- High-level State priorities for investing Clean Water Fund nonpoint implementation funding
- Criteria for evaluating proposed activities for purposes of prioritizing nonpoint funding
- High-level *Keys to Implementation*
- Estimated costs for implementing nonpoint pollution reduction practices and activities

BWSR and other State agencies that use the Clean Water Fund to implement nonpoint source implementation actions are required to use the NPFP when making nonpoint investment decisions. The NPFP does not include a single scoring system with weighted criteria. Instead, it allows State agencies the flexibility to apply the NPFP priorities and criteria in ways that meet their strategic and legislative goals.

1.3 Scope of Update

Only two biennium of funding has been distributed since the first publication of the NPFP. As a result, the three high-level state priorities and the nine criteria are not being reassessed or changed in this update. Version 1.0 of the NPFP will continue to provide guidance on the prioritization of Clean Water Fund nonpoint implementation allocations for the July 1, 2018 to June 30, 2020 time frame (Appendix A). One focus of this update is to highlight progress made to date, including:

- Status update from state agencies using the NPFP
- MPCA's Watershed Restoration and Protection Strategies and program progress
- BWSR's watershed-based local water plans and program progress
- Minnesota Department of Health's (MDH) Groundwater Restoration and Protection Strategies and program progress
- New and improved tools for targeting management practices and measuring practice effectiveness

Updated financial information from the FY20-21 biennial budget request (BBR) is included in this report. Finally, two case studies were selected to show how Comprehensive Watershed Management Plans use science-based information from Total Maximum Daily Load Studies (TMDLs) and Watershed Restoration and Protection Strategies (WRAPS) to produce local lists of prioritized, targeted actions capable of achieving measurable results.

1.4 High-Level State Priorities and Criteria

Leadership from the state agencies that are tasked with protection and restoration of Minnesota's water resources came together and agreed on a set of high-level state priorities that align their programs and activities, working to reduce nonpoint source pollution as follows:

- Restore those impaired waters that are closest to meeting state water quality standards
- Protect those high-quality unimpaired waters at greatest risk of becoming impaired
- Restore and protect water resources for public use and public health, including drinking water

The first version of the NPFP established the following nine criteria as a guide for evaluating program or project activities that are under consideration for receiving nonpoint implementation funding from the Clean Water Fund. Integrating the criteria into decision-making ensures that the uses of Clean Water Funds are cost-effective and will result in measurable water quality improvements. Currently, drinking water management is integral to both groundwater and surface water restoration and protection efforts. Over the next biennium, criteria will be evaluated in relation to how they align with groundwater and drinking water projects.

- **Aligned with State Priorities:**
  Alignment of proposed activities with state priorities.
- **Locally Prioritized and Targeted:**
  Effective prioritization and targeting of proposed activities at the watershed scale.
- **Measurable Effects:**
  Capability of the proposed activities to produce measurable results at the watershed scale.
- **Multiple Benefits:**
  Secondary water quality or other environmental benefits of the proposed activities.
- **Longevity:**
  Expected lifespan of the proposed activities with proper maintenance or, for annual management practices, assurance that practices will be maintained for a specified period of time.

- **Capacity:**
  Readiness and ability of local water management authorities and partners to execute the proposed activities.
- **Leverage:**
  All non-Clean Water Fund dollars contributed for every dollar of Clean Water Fund money. Non-Clean Water Fund dollars include non-state dollars as well as state dollars from sources other than the Clean Water Fund.
- **Cost-Effectiveness:**
  Cost per unit of pollutant load reduced or prevented as compared against specific water quality goals – Clean Water Fund cost and total project cost.
- **Landowner Financial Need:**
  Increased financial assistance for low-income landowners.

BOARD OF WATER AND SOIL RESOURCES

Watershed-Based Implementation Funding Allocation Formula White Paper

Purpose

As watershed-based funding expands as the primary mechanism through which the Board of Water and Soil Resources (BWSR) distributes Clean Water Fund grants, BWSR staff, management, and the Board found it is necessary to revisit the allocation formula developed in 2017 for the watershed-based funding pilot program to ensure a robust process and to make recommendations on what changes, if any, need to be made. The purpose of this white paper is to document the history of the short-term pilot allocation development, to explain principles and rationale used in the process, and to identify important factors for consideration in the development of a long-term allocation formula.

Introduction

In December 2017, BWSR implemented a pilot program to allocate $8.7 million in Clean Water Funds on a non-competitive, watershed basis to those areas across Minnesota that had completed comprehensive watershed planning, called Watershed-based Funding (WBF). The purpose of the WBF pilot program was to provide systematic and predictable funding for collaborating local governments to pursue clean water solutions based on a watershed's highest-priority needs.

In developing an allocation formula for the pilot program, BWSR sought to find an equitable and systematic method to provide implementation funding to the pilot One Watershed, One Plan (1W1P) watersheds and metropolitan surface water/groundwater management plans without creating false expectations for unsustainable future funding. The allocation formula also needed to recognize the future growth in the number of 1W1P watersheds across the state, and the complexity of the seven-county metropolitan area (Metro) which has been planning on a watershed basis for over 30 years under the Metro Surface Water Management Act.

The following criteria guided the development of the pilot allocation recommendations:

- Be transparent, simple, and easy to understand
- Be systematic and equitable
- Maximize environmental benefits
- Provide for periodic review and revision
- Balance resource needs with available capacity
- Be developed in consideration of future funding available

While the intent was to create a long-term funding allocation formula as part of the pilot program, the innate complexities of designing a new formula coupled with the relatively short time frame for creating the program resulted in a simple, short-term pilot funding allocation formula. The pilot formula provided a minimum allocation of $250,000 to each of the five 1W1P pilots and each of the seven Metro counties, with the remaining

funding allocated on the percentage of private land area within each 1W1P pilot area relative to the combined pilot area, and the percentage of total land area within the Metro relative to the total Metro (Table 1). A full, detailed account of the pilot allocation development process and budget assumptions is described in the Watershed-Based Funding Pilot Allocation: A Brief History (Appendix A).

Table 1: FY18-19 Watershed-Based Funding Formula and Biennial Allocations

7-County Area	**% of Area** (based on sq. mi. of Metro)	**Allocation** ($250,000 + % of Area)
Anoka County	15%	$ 826,000
Carver County	13%	$ 749,200
Dakota County	20%	$ 1,018,000
Hennepin County	20%	$ 1,018,000
Ramsey County	5%	$ 442,000
Scott County	13%	$ 749,200
Washington Co.	14%	$ 787,600
Total, Metro	100%	$ 5,590,000
One Watershed, One Plan Pilots	**% of Private Lands** (based on acres)	**Allocation** ($250,000 + % of Private Lands)
Root River	32%	$ 851,301
Yellow Medicine	16%	$ 551,712
Lake Superior	7%	$ 387,059
Red Lake	23%	$ 677,551
North Fork/Crow	21%	$ 642,377
Total, 1W1P	100.0%	$ 3,110,000

As BWSR prepares to move from a pilot to a long-term WBF program in FY2020-2021, it was necessary to revisit the funding allocation formula, both to be sure that BWSR is thorough and transparent in its funding process and to allow for more robust dialogue to occur on the topics outlined below. This revisit was important not only to provide clarity to stakeholders and local governments, but also to ensure that WBF dollars deliver unquestionable progress towards Minnesota's clean water goals.

Insights from the Pilot Process

A major goal for the pilot program was to deliver insight and experience that would inform future decisions. While the final pilot allocation formula reached was simple, BWSR staff researched many potential factors on which the allocation could be based and considered and compared the relative merits of using these factors and consistent statewide data sources to inform the allocation. This paper will outline the major category of factors that where explored, challenges considered in the pilot process and options for consideration for a long-term allocation process.

Minimal (base) amount

Providing a minimal amount of funding to each watershed for implementing their comprehensive watershed management plan was considered a strong means for equitable distribution across watersheds. In the pilot, $250,000 was used based on the premise that this amount could support a prioritized project, program or key staff position.

Equal Allocation

An equal allocation of available watershed-based funding among the pilot organizations was considered, as this would be a simple and unbiased method. However, it was decided that this would not be justifiable or defensible due to the highly variable needs and sizes of watersheds across the state.

Plan Implementation Cost

Basing allocations on actual water resource needs identified in comprehensive water management plans developed under the 1W1P program was considered as an alternative to formula based on land characteristics, resource risk factors, or demographics. This method was a potentially equitable solution for watershed-based funding that included a way for the local partnerships to collectively drive allocations based on plan costs. It was decided that basing allocations on stated plan needs has the potential to drive inflated plan costs in the short term as the majority plans have yet to be or are being developed across the state. With this potential in mind, it was recommended this option be considered after 2027 and/or once the state has fully converted to the 1W1P model.

Demographics

A number of demographic data sources to address the equitability of the allocation were considered during the development of the pilot formula, such as the area-normalized tax capacity or the population density of a watershed. Such factors could also address the ability of a watershed to generate funding to implement conservation work. However, sources of data relating to tax capacity are not available on a statewide watershed basis. Additionally, further consideration would be needed whether Clean Water Fund dollars should be prioritized for those areas with higher population densities and tax bases (i.e. where more Minnesotans live and pay taxes) or to those less populated areas where local funding is scarcer. For the pilot, these factors were omitted from the allocation formulas for both the Metro and the 1W1P watersheds.

Density of Water Resources

The density of water resources of each watershed was also discussed as a potential formula factor during the process, as a way to assess and prioritize funding based on which watersheds had the most water to manage. However, this led to questions of which waters would be included in this measurement: Would only surface waters be counted, or would groundwater be included? Would wetlands and ditches be a part of the water resources accounted for? In consideration of these ambiguities, a water resource density factor was not used in the pilot allocation.

Prioritization of Resource Concerns

A challenge consistently encountered throughout the pilot allocation process was the issue of ranking regionally distinct resource concerns across the state. Minnesota's landscapes and water resources are diverse, and it is difficult to evaluate the benefit of protecting relatively pristine waters against that of the legally-required work of restoring impaired waters impacted by nutrient and sediment pollution. From 2009 to 2018, approximately 20% of Clean Water Funds from BWSR have funded projects, practices, and programs targeted at protecting water resources not yet impaired, with 80% spent on restoration efforts for impaired waters[1].

To illustrate the difficulty of representing specific resource concerns within the allocation, Figure 1 shows three maps created by the University of Minnesota's Natural Capital Project as part of a return on investment study of the Clean Water Fund. Were either groundwater vulnerability or frequency of lake visitation to be chosen as a state-wide resource concern within the allocation formula, high priority areas of the omitted resource concern would be left with less funding. Alternatively, if both factors were included, resource prioritization would be muted as the opposing high and low priority areas appear to cancel each other out.

[1] Paul Radomski & Kristin Carlson (2018): Prioritizing Lakes for Conservation in Lake-Rich Areas, Lake and Reservoir Management, DOI: 10.1080/10402381.2018.1471110

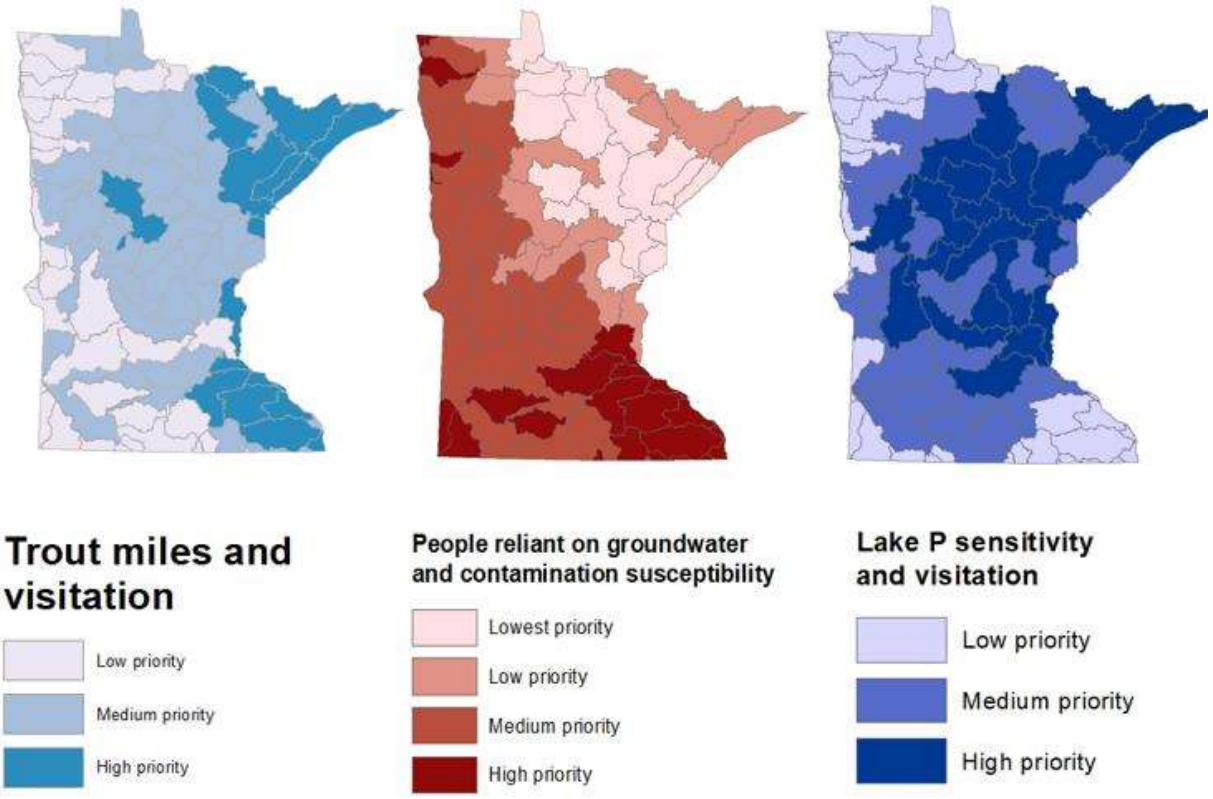


Figure 1. The map on the left show trout streams that are visited the most frequently by watershed; the map in the center shows statewide groundwater vulnerability by watershed; the map on the right shows watersheds by frequency of lake visitation.

In an attempt to account for these regional differences, BWSR staff discussed if dollars should first be allocated by major river basin or directly to a watershed planning area. By first allocating to river basins based on resource issues at a regional scale, a second allocation could be made to the watersheds within each basin allowing for comparison between similar resource issues. Ultimately, however, this option was declined for use in the pilot as it still required ranking of diverse resource issues.

Now that Minnesota has solid, statewide data to inform both protection and restoration strategies, comprehensive water management plans developed under the 1W1P program must prioritize those projects, practices, and programs that are most likely to make measurable progress toward clean water goals. Grounded in the science provided by Watershed Restoration and Protection Strategies (WRAPS), Groundwater Restoration and Protection Strategies (GRAPS), and other state reports, each watershed will have its own unique set of restoration and protection goals.

Looking forward, a question to be considered is: how much funding should be allocated to implement efforts to protect unimpaired waters versus efforts to restore impaired waters, and should that decision be made on a state-wide or watershed-by-watershed basis?

Formula Complexity

The guiding principle that any formula should be transparent and easy to understand led BWSR toward limiting the number of variables in a potential formula where possible. Additionally, staff recognized that a more complex formula may provide a false sense of precision due to the likelihood that many of the factors may be correlated, thus minimizing the impact of each individual factor. This was something that the Government Accountability Office also noticed when reviewing the Natural Resources Conservation Services allocation for EQIP in 2006 (GAO -06-969). At the time there were over 30 factors in the EQIP funding formula. Recognizing one factor alone may not be robust enough, the challenge is balancing a formula that helps allocate dollars in accordance with the Legacy Amendment without creating such complexity. Based on this information, ideally, a funding formula would be limited to no more than three factors.

Key ideas and options for consideration for long-term allocation

The WBF allocation formula describes how BWSR will distribute implementation funds to eligible recipients. To assist in developing the allocation formula for fiscal years 2020 and 2021, BWSR held multiple meetings (facilitated by staff from the Metropolitan Council) with local government stakeholders in the Metro, and with statewide local government and BWSR staff stakeholders (facilitated by staff from the Department of Natural Resources) in 2018 and 2019. Many factors and methods to systematically and equitably provide funding to the 1W1P planning areas, and areas covered by Metro surface water and groundwater management plans, were considered in these meetings. The key ideas and options carried forward for consideration by the BWSR Board included:

- Any formula should be transparent and easy to understand.
- Primary factors in the formula to consider include:
    - **Private lands** (factor used for the pilot WBF allocations outside the Metro)
    - **Watershed area** (factor used for the pilot WBF allocations inside the Metro)
    - **Water resource density** (e.g. square or linear miles of water resources. New potential factor with added complexities of how to quantify or incorporate groundwater and the potential for increased formula complexity if included.)
    - **Tax-based** (new factor suggested through the Metro stakeholder process with the added complexity of lack of a statewide, watershed-based data set)
    - **Maintain a minimum amount per area** (method used in for the pilot WBF with the added caveat that it should not encourage splitting planning boundaries for the purposes of receiving additional funds)
- To the extent possible, one consistent formula should be used across the state.
- The formula should not attempt to establish priorities or values for water resources; these are best determined at a watershed scale as part of the local planning process.

- To the extent possible, application of the formula should minimally maintain the amounts allocated through the pilot WBF program and at the same time not increase such to create false expectations of unsustainable future funding amounts as the number of participants in 1W1P increases across the state.
- Application of the formula should recognize and consider the general complexity of watershed management in the Metro area by taking into account the existing surface water and groundwater management plans in the Metro and the additional complexity of watershed planning for watersheds that span the Metro boundary. To the extent possible, application of the formula should encourage or incentivize watershed-wide partnerships spanning the Metro boundary while recognizing potential for perceptions of unfairness that may occur if funds are distributed in a Metro allocation as well as in an overlapping allocation to a 1W1P area that spans the Metro boundary.

Narrowing of Factors

After reviewing the ideas and options above, the BWSR board, through the board's Water Management and Strategic Planning and Grants Program and Policy committees, chose to:

- Investigate groundwater as an additional factor and an important component of the Clean Water Fund. Through review, the committees determined a consistent statewide data set does not exist in a manner that can be applied to an allocation formula and directed staff to work with other agencies to develop such a data set, specifically looking at groundwater vulnerability, for future consideration.
- Eliminate consideration of a tax-based factor such as tax capacity because there currently are no statewide watershed-based data sets available.
- Eliminate consideration of watershed area in lieu of including acres of private lands per watershed and the amount of public water per watershed.

The two factors the committees recommended to move forward for final development into an allocation formula are:

- **Private lands**: Area of non-federal, non-state, non-tribal land within a planning boundary determined at a 40-acre resolution with ownership assigned to the majority landowner[2].
- **Amount of public waters**[3]: Shoreline miles of lakes, wetlands, rivers, streams, and ditches that meet the definition of public water.

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[2] Data based on the 2008 USGS Landcover Inventory used for the Gap Analysis Project. Actual parcel data not available/accessible at a statewide scale.
http://www.mngeo.state.mn.us/chouse/land_own_general.html

[3] Public waters are all water basins and watercourses that meet the criteria set forth in Minnesota Statutes, Section 103G.005 , subd. 15 identified on
Public Water Inventory maps authorized by Minnesota Statutes, Section 103G.201
https://www.dnr.state.mn.us/waters/watermgmt_section/pwi/maps.html

Based on discussions, the committees indicated private lands should be weighted higher than the amount of public waters in an allocation formula because water quality problems and threats are generally more pronounced on privately held land and is where most conservation provided by local governments is targeted.

Topics to Discuss for Implementation Part of CWC Strategic Plan

August 2023

Outcome for Today:

Main Question: What have been our expectations for the Council and the Clean Water Fund since 2008, and how well are we meeting them? How should we adjust between now and 2034 when the Legacy Amendment expires?

Brainstorm list from a previous meeting on surface water implementation is listed below as a refresher.

How do we define success and set expectations?

- Public Expectations
  - New Legislative goal says all waters should meet designated uses (fishable, swimmable) by 2050
  - 2014 Road Map says we could have 67% of waters fishable and 70% swimmable by 2034; should this be reviewed?
  - Communicate that we are evaluating performance and real outcomes
  - Show how monitoring is connected to results
  - Feature one part of work at a time
  - U of M: Understand how the public sees water (Mae Davenport)
  - How do we best communicate how much time is needed to meet water quality goals?
  - How do we best communicate what is being prioritized and why?

- Impairments
  - Number of impairments not always indicative of success compared to other states
  - Impairment numbers go up as new water quality standards are set
  - Let's not have desire for getting "better numbers" (e.g., looking for fewer impairments) drive funding decisions
  - Showing impairment de-listings along with how they happened
  - How do we show the value of preventing impairments—how many "nearly impaired waters" that didn't become impaired as a result of protection/restoration?
  - BWSR Watershed-Based Implementation Funding (WBIF) funding formula does not take into account the number or severity of impairments; would metro would see more need if it did?

- Durability of impact
  - Example: Soil health efforts that have multiple benefits vs. traditional agricultural BMPs?
  - Example: Changing norms for durable behavior change rather than # of projects
  - Example: Upstream work to address phosphorus avoids more downstream work like lake alum treatments
  - Example: Multi-year trends trajectory like decreasing P in major rivers

- Progress against strategies in One Watershed One Plan/WRAPS
    - Example: X% of strategies addressed in a specific watershed by a certain year
    - Example: Should we show progress against WRAPS for each of 80 HUC-8 watersheds?
    - Example: We spent $X in each subwatershed and got Y result

- Miscellaneous
    - "But for" test: What happened that wouldn't have happened without the Clean Water Fund?
    - Next generation tools for determining impact would be helpful for ag producers; hard for producers to get data back in timely way to improve performance

Should the Council consider participating in discussions on major projects not generally in our "lane"?

- Example: Dam/lock removals on Mississippi River
- Example: Major permitted activities (mines, large feedlots, pipelines)
- Or focus on things we have control over or are more likely to influence?

"Portfolio Mix"

- What is the right mix between protection vs. restoration funding?
    - Concern about good waters becoming impaired due to development, agriculture, forestry, etc.
    - Are we prioritizing the list of nearly/barely impaired waters as described in the Nonpoint Funding Plan as opposed to highly impaired waters?
    - Is the Council satisfied with the funding formula for Watershed Based Implementation Funding grants among watersheds with approved plans, and its increasing trajectory?
    - Need to show context of CWF with other funding sources (Outdoor Heritage Fund, farm bill, infrastructure law, Inflation Reduction Act, etc.)—need data
    - Are we acknowledging that each watershed is unique and is in a different stage of planning?
    - Examine experience to see where more $$ would make more difference and not just an incremental bump
    - Root River Field to Stream model—expensive; saturated buffers have data; learning to target ideas that work
    - We Are Water—show public how they can be involved

- What percentage of the Clean Water Fund and/or the Council's attention should be paid to innovative/experimental ways to improve water quality and emerging issues?
    - Examples of innovation/experimentation: stormwater research, freshwater mussel reintroduction, culvert design cost-share
    - Examples of emerging issues: microplastics, new PFAS discoveries, pharmaceuticals, wake board use, water reclamation/reuse, treated wastewater reuse

    - Should we include equity/environmental justice as a prioritization factor in funding?
    - Should we include stormwater ponds?
    - Innovation: next generation observation tools; drones, satellites, small cheap sensors; U of M, other universities, USGS (Jeff Peterson has speaker suggestions)

- Miscellaneous
    - Should we transition out of spending the CWF on programs that are bondable (taking into account that bonding bills are often politicized and unpredictable)?
    - Do we emphasize leverage of other resources vs. "frosting on the cake"?
    - How do we distinguish between supplanting (not permitted) existing funding vs. additionality (e.g., funding something that already exists but CWF adds more acreage, lakes, etc.)?

How will changes in climate and hydrology affect long-term water quality plans?

- Need for water storage
- Floodplain restoration
- Groundwater recharge
- Tighter alignment between drainage law and watershed-based planning, strategy development, and implementation
- Drinking water resilience/storage with drought/flood—infrastructure needs
- What are we learning from groundwater monitoring wells?

"Jen's Notes"

- How are we doing?
- What have we learned?
    - Working well?
    - Not working well?
    - Gaps?
- Is the work happening enough to meet our goals?
- What are the implications?
- What next steps or changes make sense?
- What other resources are needed? Is spending more going to lead to a different outcome?
- What policy adjustments should be explored?

Paul's Notes:

- Is the CWF too reliable and does it keep us from going the harder thing (policy, general fund, etc.)
- Should we move some spending out of the CWF before the Legacy Amendment expires, or just cross that bridge when we come to it and face a possible funding cliff?
- Should funding be spent evenly across the state or spent on high statewide priorities?