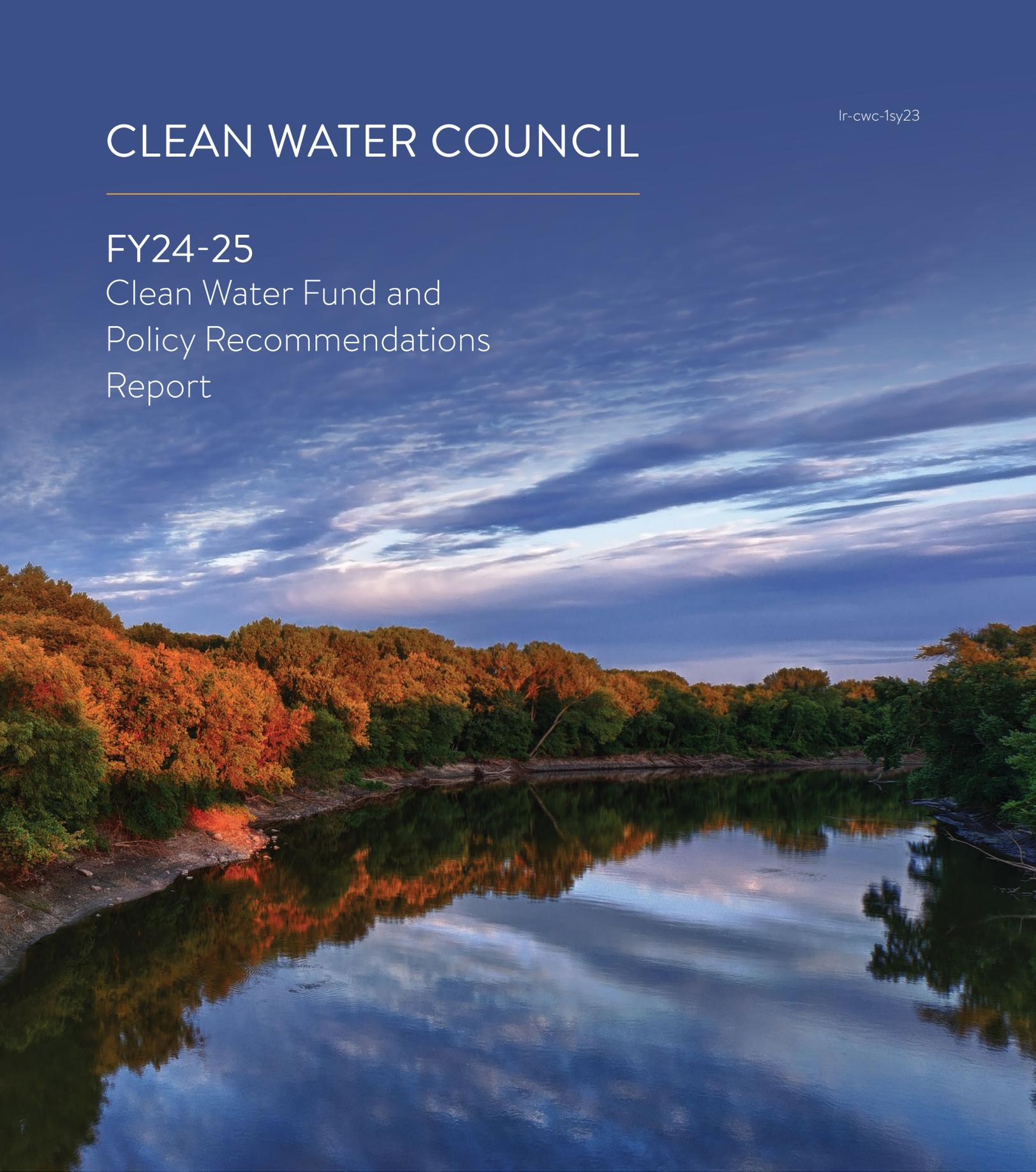


# CLEAN WATER COUNCIL

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FY24-25

Clean Water Fund and  
Policy Recommendations  
Report



Biennial Report to the Legislature  
January 2023



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# LEGISLATIVE CHARGE AND COUNCIL MEMBERSHIP

Minn. Stat. § 114D.30, Subd. 7, of the Clean Water Legacy Act (CWLA) requires the Clean Water Council (Council) to submit a biennial report to the Legislature by January 15 of each odd-numbered year. The CWLA also requires the Council to recommend to the Governor and the Legislature the manner in which money from the Clean Water Fund (CWF) should be appropriated for the purposes stated in Article XI, Section 15, of the Minnesota Constitution and Minn. Stat. § 114D.50.

## Voting members appointed by the Governor:

- John Barten, Lakes & Streams Non-Profit, Chair
- Steven Besser, Fishing Organizations, Vice-Chair, Budget and Outcomes Committee
- Rich Biske, Environmental Organizations, Chair, Policy Committee
- Richard Brainerd, City Governments
- Gary Burdorf, Township Officers
- Warren Formo, Farm Organizations
- Kelly Gribauval-Hite, Business Organizations
- Frank Jewell, County Governments-Rural
- Jen Kader, Environmental Organizations, Vice-Chair
- Holly Kovarik, Soil and Water Conservation Districts, Chair, Budget & Outcomes Committee
- Raj Rajan, Business Organizations
- Victoria Reinhardt, County Governments, Seven County Metro Area, Vice-Chair, Policy Committee
- Todd Renville, Hunting Organizations
- Peter Schwagerl, Farm Organizations
- Patrick Shea, City Governments
- Jordan Vandal, Tribal Governments
- Marcie Weinandt, Watershed Districts

## Non-voting members appointed by state agencies and the University of Minnesota Board of Regents:

- Tannie Eshenaur, Minnesota Department of Health
- Justin Hanson, Board of Water and Soil Resources
- Peder Kjeseth, Minnesota Department of Agriculture
- Jason Moeckel, Minnesota Department of Natural Resources
- Jeff Peterson, University of Minnesota
- Glenn Skuta, Minnesota Pollution Control Agency
- Phillip Sterner, Metropolitan Council

## Non-voting members appointed by the Legislature:

- Rep. Josh Heintzeman, Minnesota House of Representatives
- Sen. Jen McEwen, Minnesota Senate
- Sen. Carrie Ruud, Minnesota Senate

Council Administrator and Principal Author: Paul Gardner

Council Administrative Support: Brianna Frisch

[www.pca.state.mn.us/cleanwatercouncil](http://www.pca.state.mn.us/cleanwatercouncil)

Graphic Design: Maureen McIlhargey, Momentum Design, Inc.

The Council printed this report in limited quantities. The report is available in alternative formats upon request and online at [www.pca.state.mn.us/cleanwatercouncil](http://www.pca.state.mn.us/cleanwatercouncil). This report was printed on 100% post consumer recycled content paper manufactured without chlorine or chlorine derivatives. Estimated cost to prepare this report (as required by Minn. Stat. §3.197) was \$10,000, which includes agency staff time, printing costs, and graphic design. MPCA document number Ir-cwc-1sy23.

# EXECUTIVE SUMMARY

The Council's Clean Water Fund recommendations for FY24-25 total \$315,300,000. In addition to maintaining support for important programs, the Council recommends the following major changes from FY22-23:

## Expand what works for bigger impact

### Fund more “shovel-ready” water quality projects

Grants to watersheds that have completed a comprehensive plan (One Watershed One Plan) would increase by \$35 million (The BWSR Watershed-Based Implementation Funding).

### Increase investment in perennial crops

The Minnesota Department of Agriculture (MDA) would increase spending by 50 percent its investment into alternative perennial and winter annual cash crops that support both farmers and water quality (Forever Green Initiative).

### Increase grants for reducing chloride

The Minnesota Pollution Control Agency (MPCA) would increase grants to local governments to implement chloride reduction plans involving road de-icers and water softeners (MPCA Chloride Reduction Program).

### Support more low-income households to replace non-compliant septic systems

More grants would be available for low-income residents to repair and replace septic systems to meet

unmet demand (MPCA Enhanced County Inspections/SSTS Corrective Actions).

### Increase water storage

The Board of Water and Soil Resources (BWSR) would receive substantial increases to support Wetland Restoration Easements and Working Land and Floodplain Easements. The Minnesota Department of Natural Resources (DNR) would support numerous new water storage projects on DNR land in southern and western Minnesota.

### Increase farm acreage using more soil health practices

The BWSR would assist more landowners to protect water quality with its Enhancing Landowner Adoption of Soil Health Practices for Drinking Water & Groundwater Protection Program. The MDA would make low or no interest loans available for a wide range of environmental practices including purchasing equipment required to improve soil health using a \$6.5 million investment in the Agricultural Best Management Practices (AgBMP) Loan Program. The MDA's new Conservation Equipment Assistance Program provides \$3.5 million in grants for purchasing equipment necessary to carry out conservation practices. Farmers and local partners such as Soil and Water Conservation Districts (SWCDs) can use the grants to overcome the obstacle of needing special equipment to implement soil health practices like cover crops and strip till.

## Increase capacity to assess threats to groundwater, drinking water, and aquatic life

### Begin a ten-year private well testing effort

Over the next ten years, the MDH would offer every private drinking water well owner in Minnesota the opportunity to test their water for five major contaminants for free, and counsel well owners on how to mitigate any issues (the MDH Private Well Initiative).

### Fulfill monitoring and assessment plans from Minnesota's PFAS Blueprint

Several agencies would use the CWF to monitor and assess more PFAS (Per- and Polyfluoroalkyl Substances) compounds in more places, consistent with the PFAS Blueprint (Blueprint).

### Continue to evaluate potential impacts on human health and aquatic life from additional PFAS compounds

(MDH's Contaminants of Emerging Concern Program; DNR Fish Contamination Assessment; MPCA's River and Lake Monitoring and Assessment Program)



# EXECUTIVE SUMMARY

## Accelerate groundwater analysis

The MDH would scale up Groundwater Restoration and Protection Strategies (GRAPS) to match local needs regarding data/information delivery, staff capacity, training/education, and strategy development, including eventual inclusion of data in comprehensive watershed management plans (aka One Watershed One Plan).

## Support new approaches that will accelerate our progress to more drinkable, fishable, and swimmable water

### Culvert replacement incentive program

The DNR would fund 20 projects that will improve continuous flow for water quality with the pilot. The agency would provide cost-share assistance to local governments that improve water quality, habitat, and climate resilience when replacing road culverts.

### Mussel restoration pilot program

The DNR would increase native mussel production at its Lake City facility and field test restoration in three major watersheds to improve water quality.

### Precision application of manure

The MDA would support an update of the recommendations for proper crediting of the nutrient content of different kinds of manure. This would lead to less wasted nitrate entering

groundwater and surface waters (the MDA Agricultural Research/Evaluation).

## Recreational water quality online portal

The MDH would consolidate reporting on bacterial contamination of swimming lakes into one website, where Minnesotans can see beach closings online in one place.

## Policy recommendations

CWF dollars alone will not meet all of Minnesota's water quality and drinking water goals. To address this need, the Council also makes the following policy recommendations:

### Advanced drinking water protection

- Promote adoption of model county ordinances that require private well testing and a disclosure of the testing at the time a property is transferred
- Provide opportunities for all Minnesota private well owners to test their water for five major contaminants (nitrate, lead, arsenic, manganese, and bacteria)
- Develop cost-effective strategies for private well owners to help mitigate wells that do not meet Minnesota health-based guidance for those five contaminants, with a particular focus on low-income households.

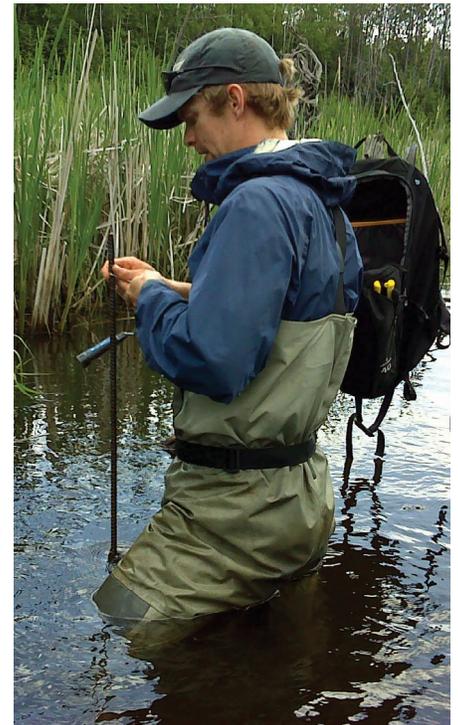
### Minnesota underground utilities mapping project

- To reduce the risk to drinkable, fishable, and swimmable water, Minnesota should develop an accurate map of all underground utilities installed in the state and

require Minnesota's public and private sectors to support sharing of necessary data in a secure and confidential manner.

## Pharmaceutical product stewardship

- Fund research on the pathways of pharmaceuticals into surface water and groundwater, identify priority pharmaceuticals that pose the greatest risk to human health and aquatic life, identify and support practicable solutions to reduce their entry into Minnesota waters, and recoup reasonable costs through an industry-funded safe medication return program
- Require the words or symbols for "do not flush" be printed on all prescription pharmaceutical labels and remove any existing instructions to flush unused portions.



# EXECUTIVE SUMMARY

## PFAS

The Council recommends that the CWF be a partial source of funding to implement the Blueprint. Of the ten key issue areas prioritized in the Blueprint, there are three in which the CWF would both fulfill both the Clean Water Legacy Act and the Blueprint:

- Quantifying PFAS risk to human health
- Limiting PFAS exposure from drinking water
- Reducing PFAS exposure from fish and game consumption.

## Chloride de-icer reduction

- Fund the Smart Salting applicator training and certification program, and the MPCA's chloride reduction budget to support the development and maintenance of tools, resources, policies, trainings and assistance programs to reduce chloride pollution

- Give the MPCA the authority to charge a fee for chloride training
- Provide liability protection for the Smart Salting program certified private winter de-icing applicators for reduced salt applications
- Provide research funds to develop new technology and alternatives to chloride-containing de-icing chemicals, and best management practices
- Encourage and support the adoption of the MPCA's Chloride Reduction Model Ordinance Language by local governmental entities
- Have the MPCA convene and lead a stakeholder process to develop recommendations for new labelling requirements on bags of de-icing chemicals sold in Minnesota.

## Chloride reduction: water softening

- Provide financial support and technical assistance to municipalities to reduce chloride discharges and allow flexibility for how municipalities achieve these reductions
- Update the state plumbing code to effectively prohibit the installation of new water softeners in Minnesota that use timers rather than on-demand regeneration systems
- Fund a program for activities, training, and grants that reduce chloride pollution. Grants should support upgrading, optimizing, or replacing water softener units.



# GLOSSARY

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**1W1P** – One Watershed, One Plan, also known as Comprehensive Watershed Management Plan

**AgBMP** – Agricultural Best Management Practices

**AMT** – Alternative Management Tools

**AOC** – St. Louis River Area of Concern

**BMP** – Best Management Practices

**BOC** – Budget and Outcomes Committee

**BWSR** – Board of Water and Soil Resources

**Ch.** – Chapter

**Council** – Clean Water Council

**CEC** – Contaminants of Emerging Concern

**CREP** – Conservation Reserve Enhancement Program

**CWA** – Clean Water Act (federal)

**CWC** – Clean Water Council

**CWF** – Clean Water Fund

**CWLA** – Clean Water Legacy Act (state)

**DNR** – Minnesota Department of Natural Resources

**DWSMA** – Drinking Water Supply Management Area

**FTE** – Full Time Equivalent

**FY** – Fiscal Year

**GRAPS** – Groundwater Restoration and Protection Strategies

**IBI** – Index of Biological Integrity

**IWM** – Intensive Watershed Monitoring

**LCC** – Legislative Coordinating Commission

**LGU** – Local Government Unit

**LiDAR** – Light Detection and Ranging

**LLBO** – Leech Lake Band of Ojibwe

**LLR** – Leech Lake River

**MAWQCP** – Minnesota Agricultural Water Quality Certification Program

**MDA** – Minnesota Department of Agriculture

**MDH** – Minnesota Department of Health

**Met Council** – Metropolitan Council

**Minn.** – Minnesota

**MOSH** – Minnesota Office of Soil Health

**MPCA** – Minnesota Pollution Control Agency

**MS4** – Municipal Separate Storm Sewer Systems

**NRS** – Nutrient Reduction Strategy

**PFA** – Public Facilities Authority

**PFAS** – Per- and Polyfluoroalkyl Substances

**PSIG** – Point Source Implementation Grants

**RCPP** – Regional Conservation Partnership Program (Natural Resources Conservation Service)

**RLDNR** – Red Lake Department of Natural Resources

**RUSLE2** – Revised Universal Soil Loss Equation

**SSTS** – Subsurface Sewage Treatment System

**Stat.** – Statute

**Subd.** – Subdivision

**Subp.** – Subpart

**SWCD** – Soil and Water Conservation District

**TMDL** – Total Maximum Daily Load

**UMN** – University of Minnesota

**WRAPS** – Watershed Restoration and Protection Strategies

# INTRODUCTION

The Clean Water Fund (CWF) uses 1/3 of the sales tax revenue increase approved by Minnesota voters in 2008 through the Clean Water, Land, and Legacy Amendment (CWLLA) to the State Constitution. The CWF is charged with recommending how the CWF should be used (Minn. Stat. 114D.50), and the Legislature considers these recommendations as it appropriates funding.

The CWF was created to improve water quality in ways that were beyond the state's existing funding capacity in 2008. The result has been a comprehensive statewide approach that prioritizes, targets, and measures results for improved water quality, as well as other impressive accomplishments detailed on pages 13-14 of this report.

## Statutory guidance

**The statute governing the CWF specifies these purposes (Minn. Stat. 114D.50):**

(a) The Clean Water Fund 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 by:

(1) providing grants, loans, and technical assistance to public agencies and others testing waters, identifying impaired waters, developing total maximum daily loads, implementing restoration plans for impaired waters, and evaluating the effectiveness of restoration;

(2) supporting measures to prevent surface waters from becoming impaired and to improve the quality of waters that are listed as impaired, but do not have an approved total maximum daily load addressing the impairment;

(3) providing grants and loans for wastewater and stormwater treatment projects through the Public Facilities Authority;

(4) supporting measures to prevent the degradation of groundwater in accordance with the groundwater degradation prevention goal under section 103H.001; and

(5) providing funds to state agencies to carry out their responsibilities, including enhanced compliance and enforcement.

(b) Funds from the Clean Water Fund must supplement traditional sources of funding for these purposes and may not be used as a substitute.

**State law (Minn. Stat. 114D.30) also specifies what type of spending the Council must recommend:**

(a) The Clean Water Council shall recommend to the governor and the legislature the manner in which money from the clean water fund should be appropriated for the purposes stated in article XI, section 15, of the Minnesota Constitution and section 114D.50.

(b) The Council's recommendations must:

(1) be to protect, enhance, and restore water quality in lakes, rivers, and streams and to protect groundwater from degradation and ensure that at least five percent of the clean water fund is spent only to protect drinking water sources;

(2) be consistent with the purposes, policies, goals, and priorities in this chapter; and

(3) allocate adequate support and resources to identify degraded groundwater and impaired waters, develop TMDLs, implement restoration of groundwater and impaired waters, and provide

assistance and incentives to prevent groundwater and surface waters from becoming degraded or impaired and improve the quality of surface waters which are listed as impaired but have no approved TMDL.

(c) The Council must recommend methods of ensuring that awards of grants, loans, or other funds from the Clean Water Fund specify the outcomes to be achieved as a result of the funding and specify standards to hold the recipient accountable for achieving the desired outcomes. Expenditures from the fund must be appropriated by law.



In response, the CWC has recommended spending over several biennia that creates a comprehensive approach to accomplish the objectives in statute.

# INTRODUCTION – SURFACE WATERS

## Surface waters

The State has used a watershed-based approach for improving or protecting the quality of Minnesota surface waters. It adheres to the Minnesota Water Management Framework developed in 2014.

Figure 1: Water management framework

The blue arrow emphasizes the important connection between state water programs and local water management. Local partners are involved—and often lead—in each stage in this framework.



### Identifying what's wrong (or healthy) with the water: monitoring, assessment, and characterization

State agencies and local government partners test the state's surface waters in our 80 major watersheds. They determine initial water quality, assess water quality compared to the state's water quality standards to determine if waters are supporting their goals or are impaired, and evaluate other factors impacting water quality such as land use. This initial intensive baseline monitoring approach has been completed in a ten-year cycle that ended in 2019. This funding also supports some evaluation of the

presence and levels of contaminants of emerging concern in the state's surface waters. (Monitoring is covered in detail later in the report.)

### Blueprint for improvement: watershed restoration and protection strategies

The MPCA, working with local water resource managers, develops a blueprint for each watershed (called a Watershed Restoration and Protection Strategy, or WRAPS) that identifies what actions will be required to meet water quality goals and how much those actions will cost. The MPCA also determines Total Maximum Daily Loads (TMDLs) for contaminants in water.

### Prioritizing projects: One Watershed One Plan

The BWSR supports local government partners in each major watershed to develop a comprehensive watershed management plan under the One Watershed One Plan program. These plans identify local concerns which, along with strategies in the WRAPS, guide funding priorities.

# INTRODUCTION – SURFACE WATERS

## Funding the priorities: implementation

The CWF provides financial support via the BWSR for priority projects in the comprehensive watershed management plan. The CWF has also supported capacity building for local governments to implement projects (“accelerated implementation”) as well as competitive grants to watersheds that do not yet have an approved plan (“projects and practices”).

The CWF is also a source of funds for “protection” strategies such as easements that maintain or improve water quality through less intensive

land use. “Restoration” projects help waterways and surrounding land mimic natural functions for improved water quality.

The DNR, MDA, and MDH provide technical assistance to landowners and local governments to ensure project success.

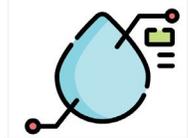
The CWF supports implementation in several other ways that are mentioned later in the report:

- The CWF funds the MPCA subsurface sewage treatment system (SSTS) enhanced compliance program to improve septic system performance.

- The MPCA also leads the St. Louis River Area of Concern (AOC) program to clean up the Duluth-Superior Harbor and the area upstream.
- A group of local governments in St. Louis County use the CWF to reduce the amount of sewage entering Voyageurs National Park.
- The PFA receives CWF support for water treatment facility upgrades through the Point Source Implementation Grant (PSIG) program.

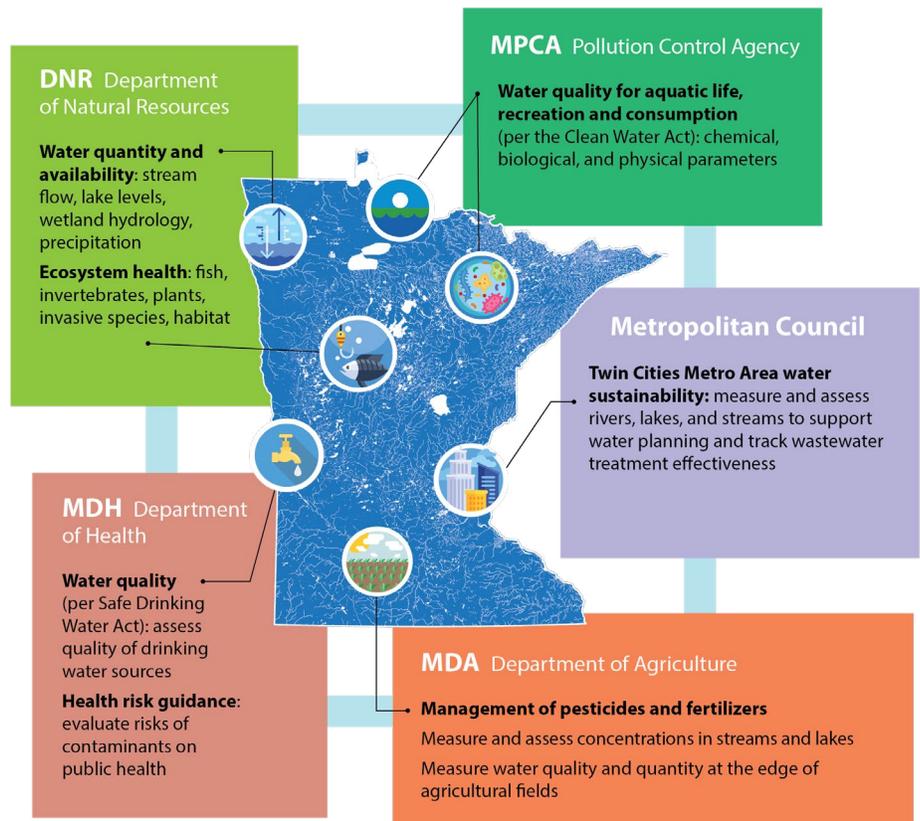
Figure 2: Surface water monitoring in Minnesota ▶

These agencies, along with their many local partners, work together and share responsibilities for monitoring water bodies in the state, from edge of agricultural fields, to streams and rivers, wetlands and lakes. Each agency plays an important role with a distinct focus.



## Measurement and evaluation

The MPCA has now begun a targeted second ten-year monitoring cycle using a reduced set of monitoring sites and a strategy to measure progress for projects completed during the process listed above.



## INTRODUCTION – DRINKING WATER

### Drinking water

Minnesota’s approach to protecting drinking water sources has been comprehensive and often aligns with the watershed-based approach for surface waters.

(A more detailed description of how the CWF programs protect and restore sources of drinking water can be found later in the report.)

### Gathering groundwater and drinking water information: monitoring, assessment, and characterization

The state compiles data on our groundwater, both quality and quantity, from multiple sources that work together to provide a comprehensive picture. This includes county geologic and groundwater atlases from the Minnesota Geological Survey and the DNR, respectively. In addition, the DNR also maintains a network of aquifer level monitoring wells. The MDA samples for pesticides and nitrate in private wells in areas with vulnerable groundwater and analyzes pesticides statewide with some of the most sophisticated laboratory capability in the country. The MPCA monitors groundwater quality in non-agricultural parts of the state. The MDH develops health-based guidance for selected contaminants that are anticipated to be found in state’s waters and federally regulated, as well as contaminants that are not regulated by the federal government.

### Blueprint for improvement: drinking water source protection planning

The MDH works with public water suppliers to develop plans to protect community drinking water wells. The MDH funds many of the activities required to fulfill the plans ensuring the wells are protected indefinitely.

### Watershed-based planning: Groundwater Restoration and Protection Strategies (GRAPS)

An interagency team led by the MDH completes Groundwater Restoration and Protection Strategies (GRAPS) that align with the MPCA’s Watershed Restoration and Protection Strategies (WRAPS). The GRAPS identify which steps need to happen to protect groundwater in major watersheds. The GRAPS assist in the development of Comprehensive Watershed Management Plans (One Watershed One Plan).

### Funding priority projects: implementation

The MDH provides source water protection grants that help keep contaminants out of community water supplies. The BWSR uses easements, grants, and technical assistance to protect drinking water sources through better land use. The MDA works with farmers and agronomists to adopt practices that protect groundwater. The Metropolitan Council (Met Council) works with businesses and households to reduce their groundwater use in the seven-county metro area to accommodate future population growth. The MPCA’s Subsurface Sewage Treatment System program supports enhanced inspection of septic systems and grants for selected low-income households.

# INTRODUCTION – VALUE OF THE CLEAN WATER FUND

## The value of the clean water fund

The CWF has given the State of Minnesota new tools and resources that empower it to identify impaired waters and then protect and restore them in a way not possible before 2008 when the Legacy Amendment passed. Prior to the passage of the Legacy Amendment, there were several barriers preventing the state from achieving its goals of protecting and improving Minnesota's water.

- The U.S. Environmental Protection Agency (EPA) requires that the state develop Total Maximum Daily Load (TMDL) reports to determine how much of a particular contaminant would cause a body of water to be impaired. Prior to 2008, the State lacked the funding to do this in a systematic fashion and on a reasonable time frame. The state has greatly accelerated progress and is exceeding EPA expectations.
- Accurate data and information, such as that provided by the MPCA's intensive watershed monitoring approach and water quality models, is needed to support development of effluent limits and other discharge permit requirements. Permit holders such as municipal wastewater treatment plants rely on accurate data and information to make appropriate investments to meet the requirements in discharge permits. Regulatory agencies may need to be more conservative, resulting in more expensive fixes, if accurate information is lacking.
- State agencies only had the funding to sample a small amount of the state's waters infrequently, and in

response to complaints, before the Legacy Amendment. They could not determine in most places which waters were healthy and in need of protection, or see if protection and restoration efforts were working. This resulted in long delays to develop and issue discharge permits and ultimately led to legal challenges from communities where economic and population growth was limited because of the delay. Minnesota now has a world-class monitoring system.

- There was little coordination among various local government units on local nonpoint water plans, and quality varied. Planning is now conducted in a coordinated, watershed basis, rather than discreetly along political boundaries.

The predictable and long-term funding from the Legacy Amendment has overcome these obstacles.

- The State has completed intensive water monitoring and assessment for every watershed in the state over ten years. The MPCA knows which waters are impaired, and which are not but could be without action. In a second ten-year monitoring cycle, the State is now targeting its efforts to determine whether protection and restoration activities are working, while preserving the overall data record to continue monitoring overall conditions over time.
- The MPCA will complete all Watershed Restoration and Protection Strategies (WRAPS) reports for all 80 major watersheds in the state in 2023. The WRAPS incorporates all the monitoring and assessment work as well as the TMDLs for each watershed.

- The BWSR is leading work with local units of government to develop comprehensive watershed management plans ("One Watershed One Plan") for all 80 major watersheds, using the WRAPS and GRAPS to set priorities for action. In late 2022, 90% of watersheds have completed or initiated a comprehensive plan.
- CWF investments in water treatment facilities through the PSIG program make it possible for the state to leverage more federal investments from the Clean Water Revolving Fund.
- The MDH coordinates with the agencies charged with protecting groundwater by producing Groundwater Restoration and Protection Strategies for the One Watershed One Plan watersheds. In addition, the MDH has delineated all areas around public water supply wellheads that require protection—a Drinking Water Supply Management Area (DWSMA).
- CWF investments have allowed the MDA to revise and implement the Nitrate Fertilizer Management Plan and create the Groundwater Protection Rule to address nitrate from fertilizer in groundwater.

Beyond identifying impaired waters, the CWF is now supporting an increasing number of projects that are designed to remove these impairments in a way that could not be done without the CWF.

- The BWSR provides non-competitive grants to watersheds to fulfill priority activities in comprehensive watershed management plans (One Watershed One Plan). These targeted efforts—

# INTRODUCTION – VALUE OF THE CLEAN WATER FUND

based on the water monitoring, assessment, and characterization supported by the CWF—speed up priority projects and avoid “random acts of conservation.”

- The CWF is the catalyst that allows high-impact projects to happen more quickly. The CWF is often the seed funding that attracts matching local, state, federal, and/or private dollars. An example is the St. Louis River Area of Concern (AOC). In and upstream from the Duluth harbor, the CWF supports MPCA staff who administer a complex set of clean-up projects. These projects bring in state bonding dollars, other Legacy Amendment support for outdoor habitat (Outdoor Heritage Fund), and federal Great Lakes Restoration Initiative funding. Other prominent examples include the Forever Green Initiative and the Minnesota Agricultural Water

Quality Certification Program, both of which attract significant private and federal financial support, respectively.

- The 2022 Clean Water Fund Performance Report estimates that for the period 2010-2021, other funding sources provide \$1.09 for every dollar spent from the CWF. This is likely a conservative estimate as it does not include landowner contributions.
- Smaller amounts of CWF funding—such as the BWSR Accelerated Implementation grants—help local governments increase their capacity to handle bigger projects.
- The federal Safe Drinking Water Act requires that public water suppliers prepare a source water assessment of potential threats to drinking water from surface waters. The CWF allows the MDH to go beyond

just an assessment by supporting a source water protection plan that identifies what activities will protect the source.

- The CWF has developed tools that few other states have. For example, Minnesota is the first state to create a statewide chloride management plan. The plan, which includes some new elements to the statewide general storm water permit, will help reduce impairments for chloride. The MPCA’s Smart Salting Assessment Tool is something used by many other states.
- By supporting key staff and equipment, clean water funding has allowed the MDA to increase the number of detectable pesticides, increase the sensitivity of detection of certain pesticides and increase the overall number of samples that can be analyzed on an annual basis.

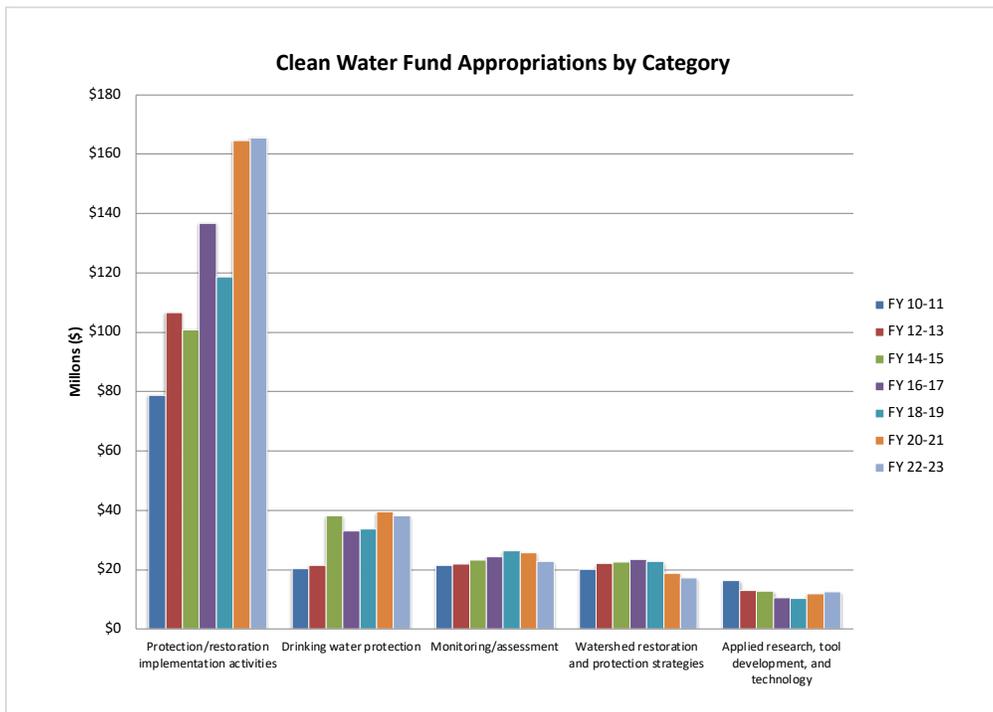


Figure 3: CWF appropriations by category

# FUNDING RECOMMENDATIONS

These recommendations for fiscal years 2024-2025 apply for the period beginning July 1, 2023 and ending June 30, 2025.

The Council's Budget & Outcomes Committee (BOC) developed its recommendations over the course of six months, first beginning with presentations from applicants. The Council then requested that state

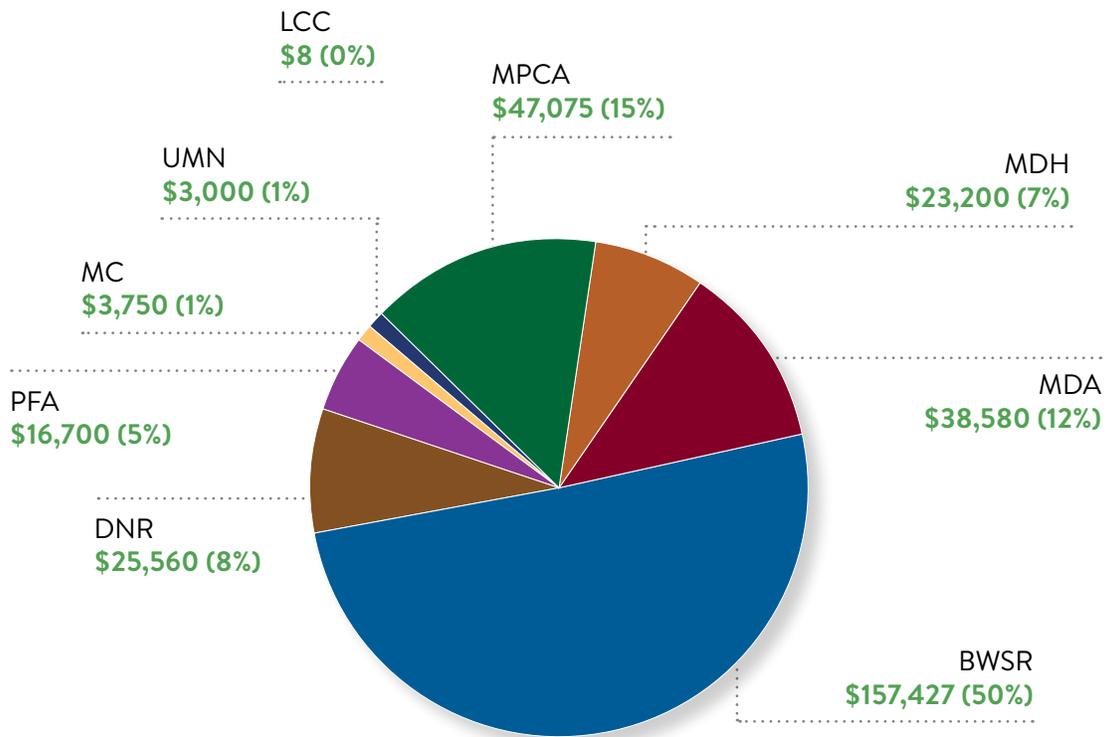
agencies and the University of Minnesota adhere to the objectives in the Council's 2020 Strategic Plan when submitting proposals for CWF funding.

The Council requested public input in writing and received comments from the following organizations:

- 
- American Crystal Sugar Company
  - Association of MN Counties
  - City of Baudette
  - City of Bloomington
  - City of Bovey
  - City of Broton
  - City of Cottage Grove
  - City of Dassel
  - City of Eden Prairie
  - City of Edgerton
  - City of Ellendale
  - City of Fairmont
  - City of Glenwood
  - City of Halstad
  - City of Mahanomen
  - City of Mankato
  - City of Moorhead
  - City of New Brighton
  - City of North St. Paul
  - City of Princeton
  - City of Prior Lake
  - City of Randall
  - City of Rochester
  - City of Roscoe
  - City of Upsala
  - City of Walker
  - City of White Bear Lake
  - Coalition of Greater MN Cities
  - Conservation Minnesota
  - Curtis Flats, Champlin MN
  - Empire Township, Dakota County
  - Freshwater
  - Irrigators Association of Minnesota
  - Kabetogama Township
  - Koochiching County Board
  - Koochiching County Environmental Services
  - Koochiching Economic Development Authority
  - League of MN Cities
  - Marshall & Polk Rural Water System
  - Mississippi Water Management Organization
  - MN Association of Wheat Growers
  - MN Corn Growers
  - MN Crop Production Retailers
  - MN Environmental Partnership on behalf of Clean Water Action Minnesota, Friends of Minnesota Scientific and Natural Areas, Friends of the Mississippi River, Land Stewardship Project, League of Women Voters Minnesota, Minnesota Center for Environmental Advocacy, Northern Waters Land Trust, Save Lake Superior Association, Save Our Sky Blue Waters, St. Paul Audubon Society, and Wilderness in the City
  - MN Environmental Science and Economic Review Board
  - MN Sunflower Council
  - MN Wheat Research & Promotion Council
  - National Park Service
  - Nature Conservancy
  - North Harvest Bean Growers Association
  - Pedginski, Michael & Wendy
  - Ramsey Washington Metro Watershed District
  - Rock Co Rural Water
  - Schlichting Farms
  - St. Louis County Board
  - St. Louis County Planning
  - St. Paul Regional Water Services
  - University of MN Water Resources Center
  - White Bear Township
  - Wuorinen, Arne & Gina
-

# FUNDING RECOMMENDATIONS

Spending breakdown by agency (000's)  
(Figure 4)



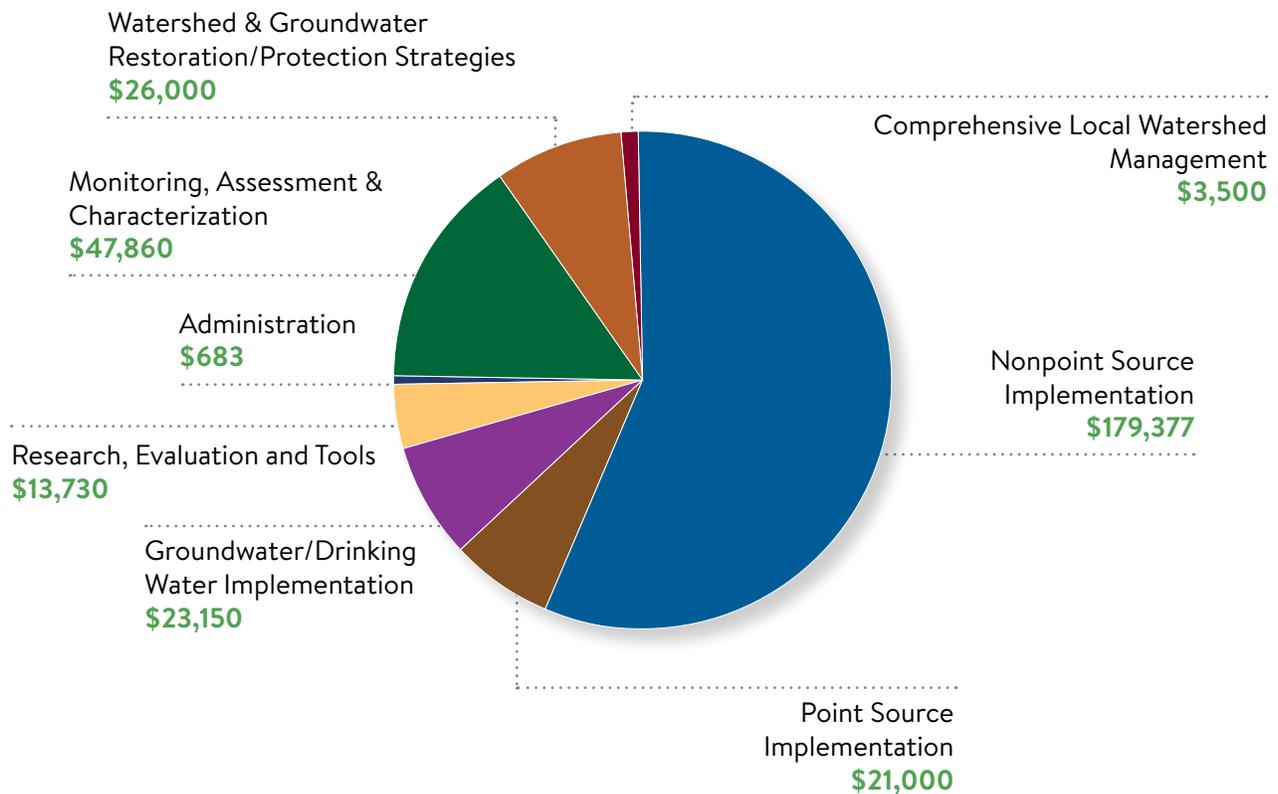
## Agency Acronyms

BWSR – Board of Water & Soil Resources  
 DNR – Department of Natural Resources  
 LCC – Legislative Coordinating Committee  
 MC – Metropolitan Council

MDA – Minnesota Department of Agriculture  
 MDH – Minnesota Department of Health  
 MPCA – Minnesota Pollution Control Agency  
 PFA – Public Facilities Authority

# FUNDING RECOMMENDATIONS

Spending breakdown by water management framework category (000's)  
(Figure 5)



- Nonpoint source implementation:** Programs and projects that address pollution from nonpoint sources — storm sewers, failing septic systems, and runoff from construction sites, animal feedlots, paved surfaces, and lawns.
- Point source implementation:** Programs and projects that address pollution from a single location such as a water treatment plant.
- Groundwater/drinking water Implementation:** Projects that address water quality and quantity needs in groundwater and drinking water.
- Monitoring, characterization, and assessment:** Programs that determine the condition of ground and surface waters, and analyze and synthesize data so that key interactions, stressors, and threats are understood.
- Watershed and groundwater restoration and protection strategies:** Development of strategies and high level plans that identify priorities in each of the state’s 80 major watersheds.
- Comprehensive local watershed management:** Planning for prioritized, targeted, and measurable actions for each major watershed (“One Watershed One Plan”).

# FUNDING RECOMMENDATIONS

## Monitoring, Assessment, and Characterization

Agency	Activity	Summary of Program	Recommendations (000's)
DNR	Aquifer Monitoring for Water Supply Planning	Monitors 1,125 wells statewide and installs 50 new wells annually. Provides planning and technical assistance to water suppliers and LGUs	\$4,000
DNR	Fish Contamination Assessment	Tests fish for mercury and PCBs for 1385 lakes and 114 rivers	\$910
DNR	Lake IBI Assessment	Surveys fish and aquatic plants in 495 lakes for stressors. Results serve as proxy for “fishable” waters	\$2,900
DNR	Buffer Map Maintenance	Maintains mapping capability to determine compliance with buffer law	\$50
DNR	Stream Flow Monitoring	Continuously monitors 172 sites for volume, chemistry, and sediment	\$5,100
MDA	Monitoring for Pesticides in Surface Water and Groundwater	Analyzes an additional 650 pesticide samples annually at MDA lab for risk assessment, planning, and BMPs	\$700
MDA	Pesticide Testing of Private Wells	Provides free pesticide testing for vulnerable wells in agricultural regions around the state, and has completed free pesticide testing for 6,100 vulnerable wells in 344 priority townships.	\$1,000
MDH	Drinking Water Contaminants of Emerging Concern Program	Develops health-based drinking water guidance for about five contaminants annually, with PFAS efforts to increase with this new recommendation	\$10,100
MDH	Private Well Initiative	Will offer free private well testing for five contaminants to 10 percent of Minnesota’s private well owners annually for ten years	\$3,000
MPCA	River and Lake Monitoring and Assessment	Completes intensive monitoring in about eight watersheds per year, and annual pollutant monitoring at 197 sites annually. New recommendations will support regular PFAS monitoring	\$18,100
MPCA	Groundwater Assessment	Performs water quality sampling & data analysis from network of 270 ambient wells	\$2,000
<b>Monitoring, Assessment, and Characterization Total – \$47,860</b>			

# FUNDING RECOMMENDATIONS

## Watershed & Groundwater Restoration/Protection Strategies

Agency	Activity	Summary of Program	Recommendations (000's)
DNR	Watershed Restoration and Protection Strategies	Adds geomorphology, hydrology, and connectivity data to WRAPS process, and supports Watershed Health Assessment Framework (WHAF) tool	\$4,300
MDH	Groundwater Restoration and Protection Strategies	Completes GRAPS for six to eight major watersheds annually in alignment with comprehensive watershed management plans (One Watershed One Plan). Also provides training and makes groundwater data public	\$1,500
MDH	Source Water Protection	Assists public water systems in the management of over 500 source water protection plans statewide. Completes new or updated planning and data driven strategies for 60 systems during the biennium. Provides grants for implementation activities. Collaborates with other local planning efforts and develops and coordinates water quality surveillance activities	\$7,500
MPCA	Watershed Restoration and Protection Strategies (includes TMDL development)	Develops data-driven strategies to meet water quality goals in each of 80 watersheds at about eight to ten watersheds annually. Required by law to be complete in 2023. Also completes required TMDLs for impaired waters	\$12,700
<b>Watershed &amp; Groundwater Restoration/Protection Strategies Total – \$26,000</b>			

## Comprehensive Local Watershed Management

Agency	Activity	Summary of Program	Recommendations (000's)
BWSR	Water Management Transition (One Watershed, One Plan)	Completes about seven comprehensive watershed management plans annually on average. All plans covering all 80 major watersheds will be started by 2025	\$3,500
<b>Comprehensive Local Watershed Management Total – \$3,500</b>			

# FUNDING RECOMMENDATIONS

## Nonpoint Source Implementation

Agency	Activity	Summary of Program	Recommendations (000's)
BWSR	Implementation Funding for Watersheds with Approved Comprehensive Watershed Plans (Watershed-based Implementation Funding)	Makes non-competitive grants to fulfill projects in approved comprehensive watershed management plans (One Watershed One Plan)	\$79,000
BWSR	Accelerated Implementation	Builds technical skills through Technical Service Areas and technical trainings. This grant program builds the capacity of local governments to accelerate on-the-ground projects that improve or protect water quality and perform above and beyond existing standards	\$11,000
BWSR	Conservation Drainage Management and Assistance	Provides grants and technical assistance to SWCDs/drainage authorities for water quality BMPs	\$2,000
BWSR	Critical Shoreland Protection-Permanent Conservation Easements	Protects threatened shoreline with easements to protect good water quality	\$3,000
BWSR	Wetland restoration easements	Creates permanent easements for de-nitrification and rate and volume control	\$10,000
BWSR	Measures, Results and Accountability	Supports grants management, reporting, and oversight	\$2,500
BWSR	Buffer Law Implementation	Supports oversight and grants to SWCDs for implementation of the buffer law. Does not include enforcement	\$4,000
BWSR	Working Land and Floodplain Easements	Establishes and restores easements in floodplains and riparian areas	\$5,000
BWSR	Surface and Drinking Water Protection/Restoration Grants	Makes competitive grants for high priority conservation BMPs in local water plans. Up to twenty percent must support drinking water	\$17,000
BWSR	Watershed Partners Legacy (WPL) Grants	Makes small grants to tribal governments and nonprofit organizations	\$1,000
BWSR	Enhancing Landowner Adoption of Soil Health Practices for Drinking Water & Groundwater Protection	Supports Minnesota Office of Soil Health (MOSH). Makes grants to SWCDs for cover crop and conservation tillage demonstration projects. Supports Governor's climate initiative	\$12,077
DNR	Nonpoint Source Restoration and Protection Activities	Provides technical assistance for 85 projects annually that are prioritized in comprehensive watershed management plan	\$3,200
DNR	NEW Mussel Restoration Pilot Program	Will increase native mussel production at Lake City facility and field test restoration in three major watersheds for water quality	\$600

# FUNDING RECOMMENDATIONS

## Nonpoint Source Implementation Cont'd

Agency	Activity	Summary of Program	Recommendations (000's)
DNR	<b>NEW</b> Culvert Replacement Incentive Program	Will provide financial and technical assistance for 20 local government projects to replace culverts that support floodplain connectivity, biological connectivity, and channel stability	\$2,000
DNR	<b>NEW</b> Water Storage	Will support water storage on drained wetlands on selected DNR lands in southern and western Minnesota	\$1,000
MDA	AgBMP Loan Program	Loan program to provide low or no interest financing to farmers, agricultural businesses, rural landowners and others for the implementation of best management practices that prevent, reduce or eliminate environmental pollution. Recommended increase will meet increased demand	\$6,500
MDA	MN Agricultural Water Quality Certification Program	Provides technical and financial assistance for farmers to adopt water quality BMPs with verified results. Matched with federal Regional Conservation Partnership Program (RCPP) grant	\$7,000
MDA	Technical Assistance	Supports 25 edge-of-field water quality monitoring sites, 100 farm demonstration plots, and 30 field days and other events annually	\$3,000
MDA	<b>NEW</b> Conservation Equipment Assistance	Will assist SWCDs and farmers with new or retrofitted equipment for implementing soil health practices, such as conservation tillage and cover crops	\$3,500
MDA	<b>NEW</b> Expand Ag Weather Station Network	Will expand network to optimize timing of irrigation, fertilizer, pesticide, and manure applications	\$3,000
MC	Water Demand Reduction Grant Program	Makes grants to metro cities to replace inefficient residential fixtures/sprinklers to reduce groundwater demand	\$1,500
MPCA	Great Lakes Restoration Project	Manages cleanup of the St. Louis River/Duluth harbor. Attracts state and federal matching funds	\$1,500
<b>Nonpoint Source Implementation Total – \$179,377</b>			

# FUNDING RECOMMENDATIONS

## Point Source Implementation

Agency	Activity	Summary of Program	Recommendations (000's)
MPCA	Chloride Reduction Efforts	Provides technical assistance and grants to public entities to meet chloride TMDLs, mostly from road de-icers and water softening	\$1,300
MPCA	Wastewater/Stormwater TMDL Implementaton	Provides technical assistance to cities to help them comply with state stormwater permit. Integrates stormwater and wastewater data with WRAPS and includes TMDLs in permits. Supports pollutant trades. Maintains Minnesota Stormwater Manual	\$3,000
PFA	Point Source Implementation Grant (PSIG) Program	Upgrades municipal water treatment facilities to comply with TMDLs	\$16,500
PFA	Small Community Wastewater Treatment Program	Makes grants & loans to replace failing community SSTS	\$200
<b>Point source implementation Total – \$21,000</b>			

## Groundwater/Drinking Water Implementation

Agency	Activity	Summary of Program	Recommendations (000's)
BWSR	Targeted Wellhead/Drinking Water Protection	Makes easements and grants to LGUs in priority wellhead protection areas	\$5,000
MDA	Irrigation Water Quality Protection	Funds irrigation UMN extension staff to educate on agricultural irrigation and nitrate BMPs	\$300
MDA	Nitrate in Groundwater	Supports implementation of the new Groundwater Protection Rule and Nitrate Fertilizer Management Plan to reduce nitrate from fertilizer to groundwater. Working with 38 local government units on nitrate monitoring and reduction activities	\$6,000
MDH	Future of Drinking Water	Will develop a statewide Drinking Water Plan that will include public health policies and will address threats to public and private drinking water supplies	\$500
MC	Metropolitan Area Water Supply Sustainability Support	Provides technical support to communities and businesses to use groundwater more efficiently	\$2,250
MPCA	Enhanced County Inspections/SSTS Corrective Actions	Provides county grants for more SSTS inspections and income-based assistance to maintain 80 percent compliance	\$7,100
MPCA (funds passed through)	National Park Water Quality Protection Program	Replaces failing septic systems polluting Voyageurs National Park. Matched by local, state, and federal sources	\$2,000
<b>Groundwater/Drinking Water Implementation Total – \$23,150</b>			

**LOCAL IMPLEMENTATION TOTAL (NPS, PS, GW/DW) – \$223,527**

# FUNDING RECOMMENDATIONS

## Research, Evaluation and Tools

Agency	Activity	Summary of Program	Recommendations (000's)
BWSR	Tillage and Erosion Survey	Estimates soil erosion and tracks use of tillage BMPs and cover crops	\$850
BWSR	Technical Evaluation	Conducts up to 10 technical evaluations of CWF projects annually. Required by law	\$200
DNR	Applied Research and Tools	Evaluates water flow ("digital dams") and forestry BMPs throughout the state, and develops fine-scale watershed models using LiDAR	\$1,300
DNR	County Geologic Atlases	Develops Part A county-level geologic atlases	\$200
MDA	Research Inventory Database	The MN Water Research Digital Library is a one stop to find water related research and reports in Minnesota	\$80
MDA / UMN	Forever Green Agricultural Initiative (UMN)	Supports competitive R&D grants for crops providing continuous living cover, and implementation of those crops	\$6,000
MDA	Agricultural Research/Evaluation	Will update recommendations for manure crediting and manure BMPs	\$1,500
MDH	Recreational Water Quality Online Portal	Will develop a statewide portal for beach monitoring results, closures, and public health notifications	\$600
UMN	Stormwater BMP Performance Evaluation & Technology Transfer	Makes competitive grants to research and evaluate stormwater BMPs	\$2,000
UMN	Geologic Atlas with Department of Natural Resources	Develops Part B county level groundwater atlases	\$1,000
<b>Research, Evaluation and Tool Development Total – \$13,730</b>			

## Administration

Agency	Activity	Summary of Program	Recommendations (000's)
MPCA	Clean Water Council Budget	Funds two FTEs, communications, planning, and Council member expenses	\$675
LCC	Legislative Coordinating Commission	Supports upkeep of LCC site with CWF project information. Required by law	\$8
<b>Administration Total – \$683</b>			

**TOTAL CLEAN WATER FUND RECOMMENDATIONS FY24-25 – \$315,300**

# POLICY RECOMMENDATIONS

The Council recognizes that CWF dollars alone will not meet the expectations of Minnesotans for clean water. The Council, through its Policy Committee, has revised its standing platform with several updates and new policies for FY24-25 on the following topics:

- **Advanced drinking water protection**
- **Minnesota underground utilities mapping project**
- **Pharmaceutical product stewardship**
- **PFAS**
- **Chloride reduction (de-icer)**
- **Chloride reduction (water softening)**

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## Advanced drinking water protection

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

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

for those five contaminants, with a particular focus on low-income households.

## Minnesota underground utilities mapping project

To create an accurate inventory of Minnesota’s underground utility infrastructure, the Council recommends that the State of Minnesota **develop an accurate map of all underground utilities installed in the state** and require Minnesota’s public and private sectors to support sharing of necessary data in a secure and confidential manner.

The underground utility infrastructure mapping project supports the Council’s efforts to reduce the risk to drinkable, fishable, and swimmable water.

## Pharmaceutical policy statement

The Council recommends that the State establish the following to reduce the discharge of pharmaceuticals into the waters of Minnesota:

1. Fund research on the pathways of pharmaceuticals into surface water and groundwater, identify priority pharmaceuticals that pose the greatest risk to human health and aquatic life, identify and support practicable solutions to reduce their entry into Minnesota waters, and recoup reasonable costs through an industry-funded safe medication return program.
2. Adopt a “Safe Medication Return Program”
  - This legislation should provide flexibility by:

- Utilizing the current collection infrastructure
- Requiring manufacturers to support public education and outreach activities; and to cover all administrative and support costs including, but not limited to: collection, compensation to authorized collectors, transportation, secure receptacles, and environmentally sound disposal of covered pharmaceuticals
- Allowing residents to take unused medications to drop-off locations or use a mailing envelope, both for free
- Providing drop-off locations that are “equitable and reasonably convenient.”

3. Require the words or symbols for “do not flush” be printed on all prescription pharmaceutical labels and remove any existing instructions to flush unused portions.

## PFAS

The Council recommends that the CWF be a partial source of funding to implement the Minnesota’s comprehensive PFAS Blueprint. Of the ten key issue areas prioritized in the Blueprint, there are three in which the CWF would fulfill both the Clean Water Legacy Act and the Blueprint:

- **Quantifying PFAS risk to human health**
- **Limiting PFAS exposure from drinking water**
- **Reducing PFAS exposure from fish and game consumption.**

# POLICY RECOMMENDATIONS

## Chloride reduction: de-icer

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

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

## Chloride reduction: water softener

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

- Provide financial support and technical assistance to municipalities to reduce chloride discharges and allow flexibility for how municipalities achieve these reductions. Request that the Legislature give the MPCA the **authority to charge a fee** for chloride training
- Update the state plumbing code to effectively prohibit the installation of new water softeners in Minnesota that use timers rather than on-demand regeneration systems
- Fund a program for activities, training, and grants that reduce chloride pollution. Grants should support upgrading, optimizing, or replacing water softener units management practices.



# HIGHLIGHTED PROGRAMS

## Drinking water

Protecting drinking water is one of the key objectives of the CWF and the Clean Water Legacy Act.

As described in a previous section, the state approach to protecting drinking water sources is to:

- Gather and share important information about groundwater resources and drinking water wells as well as surface water drinking water sources
- Learn more about the health risks from chemicals, pathogens, and naturally occurring elements in water
- Assist communities to protect their drinking water.

The primary contaminants of concern in private wells are nitrate, bacteria, arsenic, manganese, and lead. Nitrate in groundwater can come from several sources including septic tanks but a significant source is leaching from fertilizer or manure infiltrating below the crop root zone. Bacteria can reach wells mostly from leaking septic systems and animal waste. Arsenic and manganese already exist in the soil, while lead comes from lead drinking water pipes and on-premise plumbing.

While the MDH has the largest role, other agencies have active parts in drinking water source protection.

### Monitor, assess, and characterize

- **Nitrate and pesticide testing in private wells** – The MDA has offered free nitrate and pesticide testing to 90,000 well owners in priority townships where groundwater is particularly vulnerable to contamination. As of March 2020, the MDA tested

32,217 wells in 344 vulnerable townships across 50 counties.

- **Groundwater quality monitoring** – The MPCA monitors ambient groundwater quality in non-agricultural parts of the state using a network of 270 wells.
- **Aquifer monitoring for water supply planning** – The DNR uses a network of 1,093 water quantity monitoring wells statewide (with plans for 1,500) and provides planning and technical assistance for local government units.
- **County geologic atlas part A** – The Minnesota Geological Survey (MGS) at the University of Minnesota completes county-level geologic atlases.
- Funded under Root River Field to Stream Partnership (RRFSP) under the agency's **Technical Assistance program** is a unique water monitoring project located in southeast Minnesota. The RRFSP project uses both edge-of-field and in-stream monitoring to characterize water quality in three study areas within the Root River watershed. Through outreach activities and one-on-one meetings, the results are discussed with farmers, landowners, fertilizer dealers, water managers and community leaders to promote an advanced level of conservation planning and delivery.

### Protect

- **Source water protection** – The MDH carries out numerous activities to protect drinking water sources with the CWF.
  - Delineate Drinking Water Supply Management Areas (DWSMAs) around 500 vulnerable public water supplies and 420 non-vulnerable public water supplies

- Help public water suppliers develop a wellhead protection plan within the DWSMA
  - Provide planning and surveillance assistance to public water suppliers
  - Monitor possible threats from newly identified pathogens
  - Encourage water suppliers to engage their communities.
  - Send fliers to property owners in vulnerable DWSMAs on ways to protect the drinking water source
  - Share tips about source water protection, water use, and conservation on city websites
  - Host free nitrate testing clinics and loans nitrate testing equipment for free to support clinics by local partners
  - Distribute fliers for farmers and companies about underground tank management within the DWSMA.
- **Drinking water protection** – The MDH will develop a State Drinking Water Plan and carry out priorities in the Future of Drinking Water report.
  - **Private well protection** – The MDH studies well contaminants and provides outreach to 1.2 million private well users to test and address contaminants. For example, the MDH creates handouts and fliers for private well owners on well water safety, operation and maintenance, and sealing abandoned wells.
  - **Metropolitan Area Water Supply Sustainability Support Program** – The Met Council (provides technical support to communities and businesses to use groundwater more efficiently.

# HIGHLIGHTED PROGRAMS

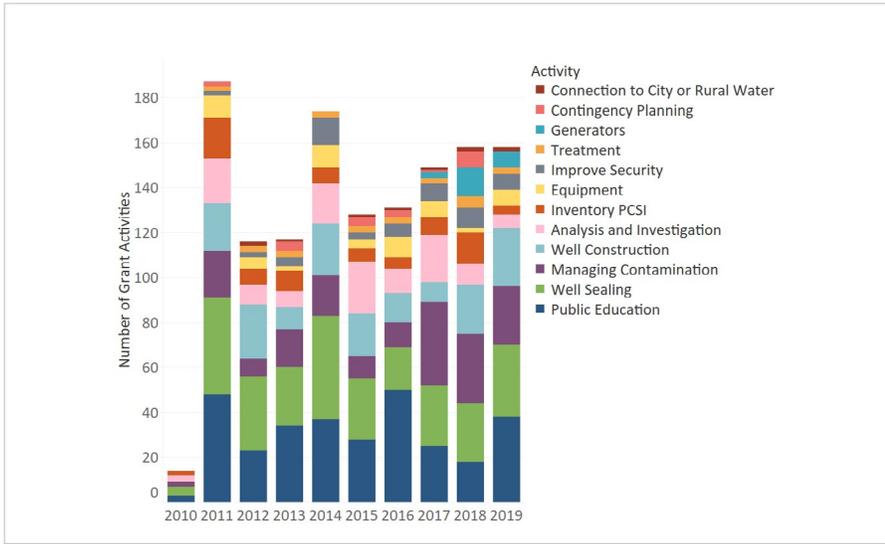


Figure 6: Source water protection grant activities 2010-2019

- Contaminants of emerging concern** – Since the federal government only regulates for about 100 contaminants, the MDH develops health-based guidance for drinking water for about five contaminants annually that either have been or could be expected to be detected in Minnesota’s groundwater. For example, the MDH has developed guidance for a number of PFAS chemicals that have no federal standards. That guidance is essential for determining what levels are safe to drink over a lifetime, how toxic mixtures are, and when treatment is needed.
- Easements** - The BWSR helps landowners take selected lands out of production through easement programs. These easements will reduce nitrate in groundwater from agricultural practices in high risk areas such as DWSMAs.
- Irrigation water quality protection** – The MDA supports a University extension specialist who educates farmers on best management

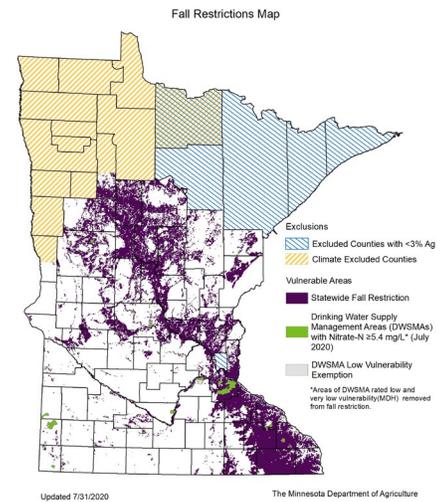
practices (BMPs) in nitrate application through irrigation.

- The MDA’s nitrate in groundwater program** funds applied nitrate research at Rosholt Farms in Pope County and other demonstration sites to help the University of Minnesota revise its widely-used nitrate application guidelines.

### Restore/mitigate

- Targeted wellhead/drinking water source protection** – The BWSR supports easements and grants to local units of government for priority wellhead protection areas.
- Nitrate in groundwater** – The MDA supports the new Groundwater Protection Rule as part of the state’s Nitrate Fertilizer Management Plan (NFMP). The rule restricts Fall application of nitrate fertilizer in areas vulnerable to contamination and outlines steps to reduce the severity of the problem in areas where nitrate in public water supply wells is already elevated. The CWF will

Figure 7: Vulnerable groundwater areas/Fall restrictions



support monitoring groundwater in vulnerable areas, university extension staff to educate landowners on nitrate BMPs and support their adoption. The CWF will also fund local advisory teams and seven BMP demonstration sites.

- Managing contamination** – Several agencies use the programs in this section to execute many different activities that eliminate or reduce contaminants in groundwater that is used for drinking water. These are several examples:
  - Planting native plant species in a stormwater basin
  - Establishing perennial crops in a DWSMA, such as introducing

# HIGHLIGHTED PROGRAMS

continuous living cover to landowners or renting land and planting Kernza® and cereal rye through the **Forever Green Initiative**

- Incentivizing nitrate best management practices near the municipal well
- Remediating a gravel pit site within a DWSMA
- Removing leaking underground storage tanks within a DWSMA
- Sealing old or abandoned wells and constructing new wells.
- **The MDA’s Minnesota Agricultural Water Quality Certification Program (MAWQCP)** engages farmers to employ best management practices for water quality. On average certified farms reduces nitrate loss by up to 49 percent. The most common new conservation practices implemented by MAWQCP certified producers include: cover crops, nutrient management, grassed waterways, irrigation water management, treating tile inlets, prescribed grazing, and water and sediment control basins.
- **Stormwater research and technology transfer program** – Minnesota’s Stormwater Research Council at the University of Minnesota provides competitive grants to research and evaluate stormwater BMPs, a portion of which have positive impacts on drinking water sources.
- **Grants to watersheds with approved comprehensive management plan (watershed-based implementation funding)** –

The BWSR makes non-competitive grants to implement projects and activities in approved comprehensive watershed management plans (One Watershed One Plan).

- **Surface and drinking water protection/restoration grants (projects and practices)** – The BWSR makes competitive grants for high priority conservation BMPs identified in local management plans. The BWSR requires that up to 20 percent of funding support drinking water protection.

## Enhanced compliance

Minn. Statute 114D.50 Subd. 3 (5) permits the use of the CWF for enhanced compliance and enforcement—meaning work that could not be done before the creation of the CWF.

There are several activities in the Council’s recommendations that enhance compliance and enforcement.

- The MPCA’s **Enhanced Subsurface Sewage Treatment System (SSTS) Compliance and Corrective Actions** program supports a higher level of inspection for septic systems. The program also provides some support for replacement of SSTS systems for qualified low-income property owners. The MDA’s **Agricultural Best Management Practices Loan** program provides low-interest loans to farmers to get their septic systems into compliance.
- The MPCA’s program for **Wastewater/Stormwater TMDL Implementation** assists local government in their efforts to comply with the state’s general permit for municipal separate storm sewer systems (MS4). The permit requires municipalities to eliminate or reduce the flow of contaminants into their storm sewer system. A new general state MS4 permit went into force in the fall of 2020 and it includes some new requirements, especially on the use and storage of chlorides

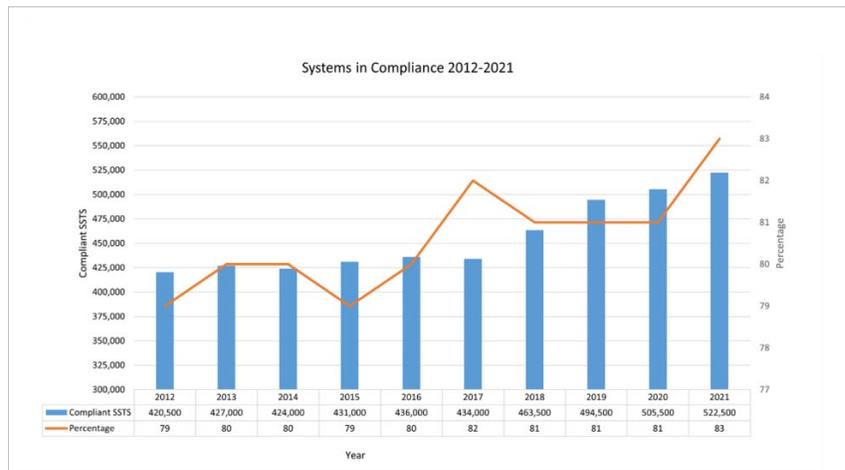


Figure 8: SSTS systems in compliance 2012-2021

## HIGHLIGHTED PROGRAMS

such as road de-icer. The CWF supports training and other assistance to permit holders to achieve compliance.

- The MPCA's **Chloride Reduction Program** helps wastewater discharge permit holders, such as municipalities, to achieve compliance with chloride limits. Excessive chloride in wastewater discharge is usually due to inefficient or unnecessary residential water softeners. The MPCA works with the permit holder to educate residents on how to reduce their chloride use and occasionally provide incentives to upgrade their softeners.
- The Public Facilities Authority (PFA)'s **Point Source Implementation Grant (PSIG)** supports selective upgrades to water treatment facilities so that they comply with permit requirements based on the Total Maximum Daily Load (TMDL) for the waterway that receives the discharge and other regulatory requirements to improve water quality.

### Technical assistance

A large proportion of CWF spending supports technical assistance. Minnesota's landowners and local government units often cannot accomplish our water quality goals without expert help.

Regulation has provided measurable benefits for water quality. Empowering the public and private sectors as well as individuals with technical assistance multiplies its effects and increases the likelihood of success. Assistance comes in the form of demonstration sites to show the targeted audiences

what is possible, interpretation of scientific data to guide projects, as well as training in best management practices.

### Municipalities/townships

- **Source water protection** – The MDH delineates Drinking Water Supply Management Areas (DWSMAs) with local units of government; supports public water systems with planning for protection activities; and coordinates source water monitoring.
- **Wastewater/stormwater TMDL implementation** – The MPCA helps cities comply with the state's general stormwater permit. This MPCA program maintains the Minnesota Stormwater Manual, a resource used by thousands of public and private sector professionals to ensure compliance and encourage innovation for stormwater management.
- **Groundwater Restoration and Protection Strategies (GRAPS)** – An interagency team led by the MDH identifies risks to groundwater quality and quantity in watersheds and recommends targeted strategies for local partners to protect and restore groundwater.

### Watershed districts/soil and water conservation districts/water management organizations

- **Non-point source restoration and implementation** – The DNR provides “cradle to grave” technical assistance for 85 projects annually that are prioritized in approved comprehensive watershed management plans. Assistance includes design help

on streambank stabilization, culverts, side inlets, fish passage, forestry BMPs, and stormwater BMPs; coaching of local project managers; planning assistance; on-site construction; and oversight.

- **Accelerated implementation** – The BWSR provides grants to build technical skills through Technical Service Areas (TSAs) and technical trainings. The program builds local government capacity to accelerate on-the-ground projects that improve or protect water quality and perform above and beyond existing standards.
- **Conservation drainage management and assistance** – The BWSR provides grants and technical assistance to SWCDs/drainage authorities for water quality benefits beyond what is required in drainage law.

### Farmers and other rural landowners

- **Irrigation water quality protection** – The MDA supports an irrigation specialist at the University of Minnesota-Extension who promotes best management practices (BMPs) that can reduce nitrate losses to groundwater from irrigated crops. This specialist provides direct support and education to irrigators, and collaborates with partners on applied research and demonstration.
- **Nitrate in groundwater** – The MDA supports the state's Nitrate Fertilizer Management Plan and Groundwater Protection Rule. The MDA is working with 38 local government partners on nitrate monitoring and reduction activities including: private well testing; groundwater monitoring; nitrate

## HIGHLIGHTED PROGRAMS

fertilizer BMP promotion and adoption; local advisory teams to work with farmers; technical support; and demonstration projects. The CWF also supports two university extension staff who educate landowners on adoption of best management practices (BMPs).

- **Technical assistance program** – Technical assistance activities are a primary way to work with farmers and the agricultural community to promote conservation practices and vegetative cover. The MDA maintains 25 edge-of-field water quality monitoring sites and 100 farm demonstration plots per year, and results are shared at field days, workshops and other educational events (~30 events annually).
- **AgBMP loan program** – The AgBMP loan program provides low or no interest loans to individuals for best management practices that restore or protect water resources. These loans can be used for practices that prevent, reduce or eliminate pollution. The program is administered by local governments, has very low transaction costs, and repayments fund additional projects.
- **Minnesota Agricultural Water Quality Certification Program (MAWQCP)**  
The MAWQCP is a whole-farm risk assessment that identifies the water quality risks anywhere on the farm and provides technical and financial assistance to mitigate all risks identified.
- **Enhancing soil health and landowner adoption of cover crops for drinking water and groundwater protection** – The BWSR supports the Office of

Soil Health and makes grants to SWCDs for cover crop and conservation tillage demonstration projects.

### Businesses

- **Chloride reduction** – The MPCA used the CWF to develop a Smart Salting Assessment Tool used by 1,000 salt de-icer consumers such as snow removal companies, commercial property owners, and public works departments. The tool complements the MPCA's Smart Salting training classes that have certified 40 entities. The tool and training help avoid additional chloride impairments in Minnesota's waters. The Mayo Clinic in Rochester used the assistance to reduce its salt use by 60 percent.
- **Metropolitan area water supply sustainability support program** – The Met Council supports businesses that seek to use groundwater more efficiently using university interns. This program meets the Council's Strategic Plan by reducing demand in the metro area by 150 million gallons a year.

### Grants

Much of the CWF is used for grants. They range from support for research to grants to local governments that accelerate the state's ability to protect and restore water quality.

- **Private well protection** – The MDH promotes well stewardship strategies for 1.2 million private well owners, including grants to local partners for testing for contaminants, protection actions, and treatment when needed.

- **Forever Green Initiative** – Through the MDA, the University of Minnesota's Forever Green Initiative makes grants available to researchers. The program supports the development and increased adoption of perennial and winter annual crops that can improve water quality and provide economic benefits for farmers.
- **Stormwater research and technology transfer program** – The University of Minnesota's Stormwater Research Council supports competitive grants to evaluate stormwater BMPs. Successful research on enhanced street sweeping is an example of how this program helps local governments improve water quality in new ways.
- **Source water protection** – The MDH provides public water supplier grants for municipalities. These are most often small grants that help a city reduce risks to their drinking water sources, wells, lakes, or rivers.
- **Contaminants of emerging concern** – Outreach and education grants foster innovative actions that help keep CECs out of Minnesota's waters. Grants funded drug take back programs, culturally relevant outreach to Latinx communities, media ads, outreach toolkits for safe disposal options, and local collaborations on decreasing the use of toxic chemicals and pharmaceuticals.
- **Enhanced county inspections/SSTS corrective actions** – The MPCA makes grants to counties so that counties can increase inspections of septic systems. This program has led to an 80 percent compliance rate statewide, a goal

## HIGHLIGHTED PROGRAMS

in the Council's Strategic Plan.

The program also allows counties to support replacement of SSTs for qualified low-income property owners.

- **Point Source Implementation Grants (PSIG)** – The Public Facilities Authority (PFA) uses the CWF to assist municipal water treatment facilities through the PSIG program. In contrast to other PFA grants and loans supported by other funds, PSIG supports selected treatment upgrades to comply with Total Maximum Daily Load (TMDL) requirements and other regulatory requirements to improve water quality.
- **Small community wastewater treatment program** – The PFA makes grants and loans to replace failing SSTs with community SSTs. These modest grants from the CWF allow these very small communities to get started on the planning process.
- **Water demand reduction efficiency grant program** – The Met Council makes grants to municipalities in the seven-county Twin Cities metro area that defray resident expenses in replacing inefficient residential fixtures and sprinkler control systems.
- **Watershed management transition (One Watershed One Plan)** – The BWSR provides support to approximately seven major watersheds a year (via a managing partner such as an SWCD or watershed district) to complete comprehensive watershed management plans. These plans use the data from the state's Watershed Restoration and Protection Strategies (WRAPs) and Groundwater Restoration and Protection Strategies (GRAPS) to prioritize which projects should be funded first to achieve water quality goals. Plans for all 80 major watersheds will have started by 2025.
- **Targeted wellhead/drinking water source protection** – The BWSR provides funding for local government units to set aside land in priority wellhead protection areas, including with easements.
- **Buffer law implementation** – The BWSR provides grants to SWCDs for implementation of the buffer law. Projects support SWCDs for design and landowner assistance. Despite a high compliance rate for the state's buffer law, some parcels out of the roughly 500,000 subject to the buffer law may fall out of compliance every year, requiring local government assistance.
- **Grants to soil and water conservation districts** – For several biennium, the Legislature has appropriated between \$18 and \$24 million in funding each biennium for SWCDs from the CWF. These grants, usually at or just above \$100,000 per district and distributed through the BWSR, support the capacity of SWCDs to provide increased technical and financial assistance to private landowners statewide.
- **Accelerated implementation** – The BWSR makes modest grants to local government units so that they can carry out more complex projects. Funding often supports equipment and analytical tools.
- **Surface and drinking water protection/restoration grants (projects and practices)** – The BWSR distributes competitive grants to local government units for high priority conservation and urban BMPs identified in local management plans. Up to twenty percent of grant funding must be for drinking water protection activities.
- **Grants to watersheds with approved comprehensive watershed plans (watershed-based implementation funding)** – The BWSR distributes non-competitive grants to major watershed partnerships to carry out priority projects agreed upon by state and local government in a comprehensive watershed management plans (One Watershed One Plan). These are non-competitive grants distributed on a rotating basis. As more plans are complete, this pool of funding will increase over time.
- **Watershed partners legacy grants** – At the request of the Council, the BWSR makes small grants to help non-governmental entities and tribal governments improve local water quality.
- **Enhancing soil health and landowner adoption of cover crops for drinking water and groundwater protection** – The BWSR grants funding to selected local governments to demonstrate cover crops for local farmers. According to the state's Nutrient Reduction Strategy (NRS) five-year progress report, "Since 2017, two programs supported by the CWF (MAWQCP and BWSR competitive grants) have provided the majority of non-federal cost-share funding that supports adoption of cover crops."
- **The MPCA's Chloride Reduction Program** mentioned previously occasionally provides incentives to upgrade water softeners to reduce chloride in wastewater.

## HIGHLIGHTED PROGRAMS

### Economic benefits

In the Clean Water Legacy Act, the Legislature in 2006 stated that “there is a close link between protecting, enhancing, and restoring the quality of Minnesota’s groundwater and surface waters and the ability to develop the state’s economy, enhance its quality of life, and protect its human and natural resources.”

In addition, the statutory requirement for this document (Minn. Stat. 114D.30 Subd. 7) requires that it report on “the impact on economic development of the implementation of efforts to protect and restore groundwater and the impaired waters program.”

Many activities supported by the CWF provide economic benefits.

### Accommodating economic growth

The CWF supports activities that help Minnesota de-couple economic growth and use of water. Examples include:

- The Metropolitan Area Water Supply Sustainability Support Program provides ongoing assistance supporting the Met Council’s efforts to reduce groundwater use in the Twin Cities by 150 million gallons a year to accommodate expected future population growth.
- The PFA’s PSIG program finances selective upgrades to wastewater treatment plants in Greater Minnesota when the plant might exceed permitted amounts of contaminants in wastewater effluent.

- A BWSR grant from the CWF supported a stormwater reuse/ rainwater harvesting system at Allianz Field in St. Paul to supply water to future nearby buildings.

### Enhancing tourism and other outdoor activities

- The CWF supports the staff who direct the St. Louis River Area of Concern (AOC) program and leverages millions of federal dollars that are restoring Duluth’s harbor and other outdoor activities.
- **Easements** and other land protection strategies can create additional habitat that also protects public drinking water sources.

### Financing

- The CWF provided \$14.3 million to the Agricultural Best Management Practices (AgBMP) Loan Program. This program provides low or no interest loans to farmers, rural landowners, water quality cooperatives and agricultural businesses to finance projects that help water quality such as drinking water improvements, septic system replacement, conservation tillage, agricultural waste management and erosion control measures. By recirculating the proceeds, the clean water portion of the program has financed 2,205 projects totaling \$31.2 million.

### Reduced economic risk and greater resilience

- Farm Business Management Program data shows that farms that are in the Minnesota Agricultural Water Quality Certification Program are more profitable than non-certified farms.



## HIGHLIGHTED PROGRAMS

- Certified farms have a higher net income, better term debt coverage and debt to asset ratios, and in most instances, higher yields.
- The average net farm income of certified farms is 36% higher than non-certified farms, or on average \$25,000 more income per year.
- The net worth of certified farms is on average 34% higher than non-certified.

### Monitoring and assessment

Up to 15 percent of the CWF is spent on monitoring and assessment.

After its passage in 2008, the CWF allowed the State of Minnesota to complete federal requirements to identify impaired waters. Waters are impaired when they exceed a water quality standard for certain contaminants.

The MPCA evaluates waters to see if they are impaired for the following uses: aquatic consumption; aquatic life; aquatic recreation; drinking water; and limited resource value. The MPCA tests for 31 specific impairments.

The State recently completed a ten-year cycle of testing all waters in all 80 major watersheds. Other agencies complete additional testing (also supported by the CWF) including a Fish Contamination Assessment; Lake Index of Biological Integrity; Stream Flow Monitoring; and Groundwater Monitoring.

These monitoring results are combined with other testing and inform the creation of a **Watershed Restoration and Protection Strategy (WRAPS)**. The WRAPS lists all impairments in the watershed and lists specific strategies for

how to meet water quality goals. Local stakeholders then produce a comprehensive watershed management plan (**One Watershed One Plan**) with the BWSR using CWFs. The plan prioritizes which strategies get funded first.

The MPCA has now started a second cycle that targets resources at specific issues and at reduced levels compared to the first ten-year cycle. The second cycle will be different from the first.

- The MPCA has reduced the total amount of testing sites by one-third while still maintaining the minimum required by the U.S. EPA.
- One-third of this monitoring is committed to the requests of local or state agency partners in the second cycle. These partners may be looking to measure the impacts of specific projects such as stream restoration or drinking water protection activities.
- The MPCA also maintains 197 long-term stream pollutant monitoring sites that allow the State to identify trends and looming threats. Contractors like SWCDs take water chemistry samples 30 times a year.

Why keep monitoring? Targeted investment and progress tracking requires a comprehensive monitoring strategy to identify which waters are healthy, which are declining, and which are improving. Monitoring data make it possible for state agencies and local partners to target CWF investments and other federal and state dollars to keep healthy waters healthy, stop declining trends, and make improvements where they would make the biggest impact. In addition, accurate TMDLs ensure that point source discharge sources

such as wastewater treatment plants spend only the financial resources they need to in order to comply with their permits.



### Combined efforts with other sources of funding

State statute allows and gives priority to clean water projects that can leverage other sources of funding.

*Money from the clean water fund may be used to leverage federal funds through execution of formal project partnership agreements with federal agencies consistent with respective federal agency partnership agreement requirements. – Minn. Stat. 114D.50 Subd. 4 (h)*

*The Clean Water Council shall give priority in its recommendations for restoration funding from the clean water fund to restoration projects that most effectively leverage other sources of restoration funding, including federal, state, local, and private sources of funds. – Minn. Stat. 114D.20 Subd. 6 (3):*

## HIGHLIGHTED PROGRAMS

The CWF is often the initial seed funding or is otherwise a partial source of funding for large and complex projects. The State has documented that every dollar from the CWF leverages another \$1.09 from other funding sources. Some other sources such as landowner contributions are not always documented, so the leverage is likely even higher.

Other funding sources leveraged by the CWF—either to assist a project or as direct payment to landowners—include the following:

### **Administered by the Natural Resources Conservation Service (NRCS), U.S. Department of Agriculture**

- Environmental Quality Incentives Program (EQIP)
- Conservation Stewardship Program (CSP)
- Regional Conservation Partnership Program (RCPP)

- Agricultural Conservation Easement Program (ACEP)
- Healthy Forests Reserve Program (HFRP)
- Conservation Innovation Grants (CIG)

### **Administered by the Farm Service Agency, U.S. Department of Agriculture**

- Conservation Reserve Enhancement Program (CREP)

### **Administered by the U.S. Environmental Protection Agency**

- Federal Clean Water Act Section 319 Grants
- Great Lakes Restoration Initiative/ Area of Concern (AOC)

### **Administered by the U.S. Fish and Wildlife Service**

- Fishers and farmers partnership grants

### **State funding sources**

- General obligation bonds
- Environment and natural resources trust fund
- Outdoor heritage fund

### **Local funding sources**

- Watershed districts
- Water management organizations
- Soil and water conservation districts
- Counties, municipalities, and townships
- Landowners and property owners
  - Our current estimate of leverage funds does not include landowner contributions. Most support for landowners, such as agricultural BMPs, require initial investment by the individual.



# HOW THE STATE MEASURES PROGRESS AND PROVIDES OVERSIGHT

## Statutory requirements

There are several statutory reporting requirements on the CWF that measure certain activities.

- **Performance report** – State agencies produce a biennial report on clean water outcomes in the biennial. This document includes roughly 20 key measures on surface water quality, drinking water, and groundwater. A summary of these measures is included in a four-page CWF Report Card. These measures do not necessarily make a direct connection between CWF spending and environmental outcomes that are measured on a statewide level.
- **Restoration evaluation** – The DNR and BWSR, as described in Minn. Stat. 114D.30 Subd. 6, perform a biennial restoration evaluation. This report evaluates restoration projects supported by dedicated sales tax revenue derived from the Legacy Amendment, including the CWF.
- **Clean Water Fund recommendations** – This document is required to be submitted by the Council every odd-numbered year on January 15th, according to Minn. Stat. 114D.30 Subd. 7.
- **Legacy web site** – Minn. Stat. 114D.50 Subd. 4(c) requires that agencies submit project information to the Legislative Coordinating Commission (LCC) for inclusion in a searchable database at <https://www.legacy.mn.gov/>. (The Council’s recommendations include partial support for web site maintenance.)
- **Measurable outcomes** – “A project receiving funding from the clean water fund shall include measurable outcomes, as defined in section [3.303, subdivision 10](#), and a plan for measuring and evaluating the results.” -Minn. Stat. 114D.50 Subd. 4(a)

Dozens of programs supported by the CWF operate simultaneously, making it challenging to track progress in one place. Generally speaking, the larger the scale (e.g., statewide perspective), the more difficult it is to see trends influenced by the CWF. Smaller scale evaluation on a sub-watershed scale is more likely to connect results to the Fund.

Protection strategies, such as reducing the risk of future water impairments by reducing potential sources of pollution, are an additional barrier to measuring progress. This is because when they are effective, successful protection strategies keep water quality at a high level and therefore show no “improvement.”

## Fishable, swimmable, drinkable standard

There are several statutory reporting requirements on the CWF that measure certain activities.

Among the broadest objectives of the CWF and State water policy are to have “fishable,” “swimmable,” and “drinkable” water. In 2014, Minnesota’s Clean Water Roadmap estimated goals that were realistic to meet by 2034.

- **Fishable** – The tool for measuring “fishability” of Minnesota lakes is the Fish-Based Index of Biological Integrity (IBI). The statewide goal was to increase the percentage of Minnesota’s rivers and streams with healthy fish communities, as measured by the IBI, from 60 percent in 2008 to 67 percent in 2034. Minnesota was at 61.6 percent in 2019.
- **Swimmable** – The indicator for “swimmability” is good water quality on the Trophic State Index (TSI). The statewide goal was to increase the percentage of lakes with a good quality on the TSI from 63 percent in 2008 to 70 percent in 2034. Minnesota was at 65 percent in 2020, the last year for which data is available.
- **Drinkable** – Drinkability is measured by water quality and water quantity indicators. The goal for water quality is twofold; to reduce the number of new wells with unsafe levels of arsenic by 50 percent and to reduce the number of wells with unsafe levels of nitrate by 50 percent in two regions of the state. The goal for water quantity is to have 90 percent of the monitoring sites have either a steady or increasing water level trend.



# HOW THE STATE MEASURES PROGRESS AND PROVIDES OVERSIGHT

## Strategic indicators

In order to give Minnesotans a better indication of the results achieved by the CWF, the Council established its first Strategic Plan in the spring of 2020. The Plan includes roughly 40 strategies for the State to complete by 2034 using the CWF. These strategies, when fulfilled, would result in protected or improved water quality, although the ability to show trends will take place over many years. Here is a key sampling of these strategies.

	<b>Drinking water is safe for everyone, everywhere in Minnesota</b>
	<b>Groundwater is clean and available</b>
	<b>Surface water is swimmable and fishable</b>
	<b>Minnesotans value water and take actions to sustain and protect it</b>



### Goal 1: Drinking water is safe for everyone, everywhere in Minnesota

#### ▪ Source water protection plans (MDH):

- Complete source water protection planning and implementation for 500 vulnerable community public water systems. Delineation of DWSMAs for these systems was **COMPLETED** in 2020. Existing CWF support satisfies half of annual implementation activities through SWP Grants.
- Complete first-generation source water protection plans for remaining 420 community public water systems by 2025. Progress on this activity was delayed by COVID – completion will be delayed by 2 years.
- Complete revised source water assessments for all 23 surface water systems by 2025. Progress on this activity was delayed by COVID – completion will be delayed by 2 years. The MDH plans to have eight assessments complete by 2023.
- Complete source water intake protection planning by 2027. Progress on this activity was delayed by COVID – completion will be delayed by 2 years. Five plans should be complete by mid-2023.
- Complete pilot source water protection planning for 10 non-community public water systems with at-risk populations by 2027. This program is **ON TRACK**. The MDH projects that three will be complete by mid-2024.

- Protection of public wellheads – Approximately 400,000 acres of land are within 500 vulnerable DWSMAs. The Council’s strategy is to protect these areas from threats to ensure safe drinking water no later than 2034. The MDH is **ON TRACK** to complete initial development of this measure in FY23.

- **Metro groundwater use reduction (Met Council)** – Metro population growth will require a reduction in groundwater use by 150 million gallons per year to ensure a sustainable water supply in the future. Due to two programs supported by the CWF, the Met Council is **ON TRACK** with this goal.
- **Nitrate reduction in groundwater** – The CWF supports the MDA’s implementation of the Groundwater Protection Rule, so that no additional existing municipal water supply wells exceed the drinking water standard for nitrate. The state has identified all DWSMAs where nitrate is above or at risk of exceeding the drinking water standard of 10 mg/L. Beginning in 2019 with the adoption of the Groundwater Protection Rule, the CWF supports the mitigation activities that will reduce nitrate levels to acceptable levels. The state is **ON TRACK** in applying the initial voluntary mitigation actions under the rule. This includes voluntary adoption of best management practices (BMPs) and other recommended practices (called alternative management tools), creation of local advisory teams that recommend uniform BMPs and AMTs, and conducting computer modeling of the water quality effects of current and recommended practices. As of January 15, 2023, there are: 8 level 1 DWSMAs; 21 at level 2; and 10 that need more information.

# HOW THE STATE MEASURES PROGRESS AND PROVIDES OVERSIGHT



## Goal 2: Groundwater is clean and available to all in Minnesota

- **Groundwater Restoration and Protection Strategies (GRAPS)** – The MDH completes a GRAPS for all major watersheds engaged in comprehensive watershed planning. This program is **ON TRACK** to be completed at the same time that One Watershed One Plans are complete by 2025.
- **Geologic atlases** – The Minnesota Geological Survey is **ON TRACK** to complete geologic atlases for all Minnesota counties within the next decade. These are Part A of the County Geologic Atlas series.
- **Groundwater atlases** – The DNR is **ON TRACK** to complete groundwater atlases for all Minnesota counties by 2029. These are Part B of the County Geologic Atlas series.
- **Groundwater monitoring wells** – The DNR has a goal of having 1,600 state-owned and managed long-term groundwater monitoring wells statewide by 2034. The CWF supports 50 new wells a year in addition to the 1,125 current wells and DNR is **ON TRACK** to meet its goal.
- **Subsurface sewage treatment systems (SSTS)** – The MPCA estimates that the CWF can help to 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. The compliance rate will vary annually since there are always new systems failing every year. In 2021, compliance was at 83 percent, which **EXCEEDS** the minimum goal.



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

- **Watershed Restoration and Protection Strategies (WRAPS)** – A WRAPS is like a blueprint for action in each of Minnesota’s 80 major watersheds. The MPCA compiles the science from other CWF activity to identify which actions are most likely to meet a watershed’s water quality goals. As of December 2022, 78 of 80 WRAPS have been completed. Statute requires them to be complete by 2023, and the MPCA is **ON TRACK** to complete them.
- **One Watershed One Plan (1W1P)** – The BWSR assembles local government units—such as watershed districts, soil and water conservation districts, water management organizations, counties, municipalities—to prioritize the projects identified in the WRAPS, GRAPS, and other local issues. This results in a comprehensive watershed management plan using the One Watershed One Plan program. With an approved plan, that watershed will receive a defined amount of funding for high priority projects for the lifetime of the CWF. The program is voluntary, but there likely will be approximately 60 plans completed due to combined efforts among watersheds. Thirty plans have been completed, and 90 percent are either complete or under development. Plans are **ON TRACK** to be underway by 2025.
- **Mississippi river headwaters** – The Council’s plan aligns with other public and private stakeholders seeking to protect 100,000 priority acres and restore 100,000 priority acres in the Upper Mississippi River headwaters basin by 2034 to ensure high water quality into the future. The Council is still working with stakeholders on the best way to measure this strategy.
- **Contaminants of emerging concern** – The MDH attempts to evaluate five contaminants annually. The MDH is **ON TRACK** to complete this goal.
- **Cover crops/continuous living cover** – Achieve a goal of five million acres of row crop agriculture that use cover crops or continuous living cover by 2034. The BWSR and the Minnesota Office of Soil Health (MOSH) are working on ways to best measure progress.

GOALS

# HOW THE STATE MEASURES PROGRESS AND PROVIDES OVERSIGHT

**Certified farms (cumulative benefits)** – The Council and MAWQCP estimates that 6,500,000 acres and 5,100 Minnesota farms will be enrolled in the program by 2030. This would constitute about one-third of cropland in Minnesota. MAWQCP is **ON TRACK** to meet this goal. As of November 2022, there are 936,014 certified acres in the program and 1,283 certified producers. MAWQCP documents water quality and climate benefits from certification, including how many **new** best management practices are employed. These are the cumulative benefits on an annual basis:

- Keeps 43,340 tons of sediment out of our waterways
- Avoids the loss of 127,408 tons of soil
- Reduces phosphorus loss by 54,631 pounds
- Reduces carbon emissions by 49,194 CO<sub>2</sub>-equivalent metric tons, or the amount emitted annually by 10,600+ passenger vehicles.

In addition, the program has awarded 307 endorsements for additional specialized-conservation practice implementation in the following categories:

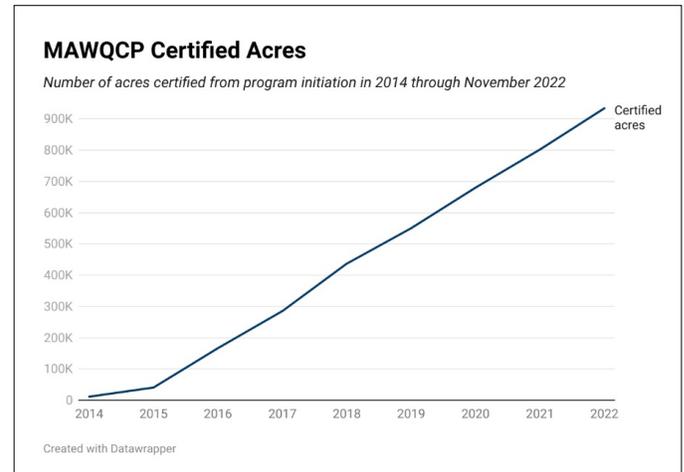
- 93 climate smart endorsements 90 soil health endorsements
- 69 integrated pest management endorsements
- 51 wildlife endorsements
- 4 irrigation water management endorsements (new in 2022; endorsement earned through annual course offering from U of M Extension).

**Certified farms (marginal benefits)** – On average, each new 400 acre Water Quality Certified farm provides the following **annual** benefits:

- Conserves 65 tons of soil and reduces sediment load into surface waters by 23 tons



**Figure 9: MAWQCP certified acres graph 2014-2022**



- Avoids 29 pounds of phosphorus (one pound of phosphorus can create 500 pounds of algae)
- Reduces carbon emissions by 23 metric tons of CO<sub>2</sub> equivalent (equal to energy use of 3 homes)
- Reduces nitrate loss by up to 49 percent (through Advanced Nutrient Management that exceeds best management practices set by the University of Minnesota).

**The BWSR competitive grants** – The Legislature in 2017 required the BWSR to submit a biennial report on its CWF recipients, and the amount of pollution reduced by their projects. According to the report, the “BWSR requires grant applicants to estimate anticipated outcomes for proposed projects during the application process. Applicants used pollution reduction calculators, such as the Revised Universal Soil Loss Equation (RUSLE2), and similar tools for estimating effectiveness of keeping water runoff on the land through infiltration, diversion, or collection. Based on projected outcomes, projects funded in FY 18-19 will remove 35,500 pounds of phosphorus and 51,000 tons of sediment from Minnesota waters.”

**The BWSR easements** – The BWSR carries out several easement programs to improve water quality. From 2010 to 2021, the CWF secured more than 778 easements that will permanently protect approximately 17,034 acres along riparian corridors and within wellhead protection areas. The CWF also enabled the BWSR to leverage additional funds to provide 5,473 additional acres of protection for a total of 22,507 acres.

# COOPERATION WITH TRIBAL GOVERNMENTS ON CWF PROGRAMS

Minnesota is home to 12 federally recognized Tribal Nations:

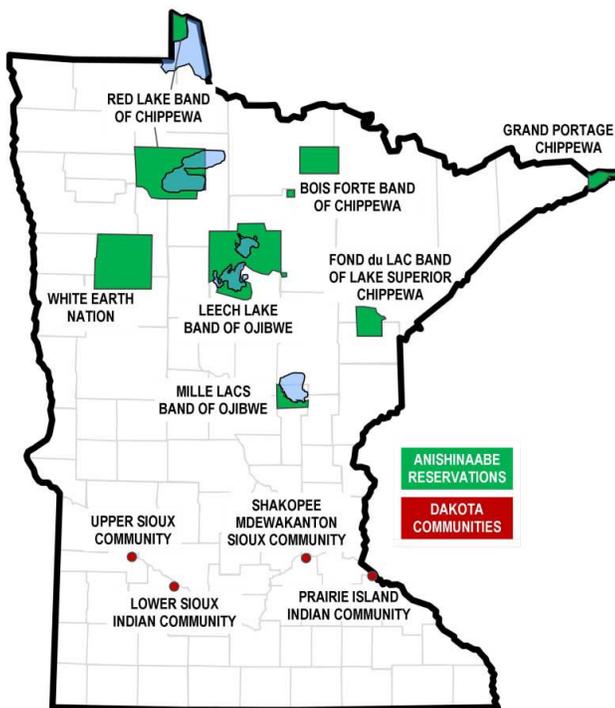
- Seven Anishinabe (Chippewa, Ojibwe) reservations
- Four Dakota (Sioux) communities
- The Minnesota Chippewa Tribe, composed of the Bois Forte, Fond du Lac, Grand Portage, Leech Lake, Mille Lacs and White Earth reservations.

Each is a separate sovereign nation with its own government and is distinct from all other federally recognized tribes.

State agencies that use the CWF engage with many Tribal Nations to protect and restore Minnesota waters.

## Red Lake Nation

- **Upper/Lower Red Lake Watershed Total Maximum Daily Load (TMDL) and Watershed Restoration and Protection Strategies (WRAPS)** – Partnership between the MPCA and the Red Lake Nation through the Red Lake Department of Natural Resources (RLDNR).



- **Monitoring assistance on Lake of the Woods** – Collaboration to collect water quality samples in 2019-2021 among the RLDNR, the Science Museum of Minnesota (SMM), and the MPCA on the Lake of the Woods (LOW).
- **Surface Water Assessment Grant** – Stream monitoring in 2014-2016 by the RLDNR for the Upper/Lower Red Lake Watershed monitoring and assessment report.

## Fond du Lac Band of Lake Superior Chippewa and the 1854 Treaty Authority

- **Cloquet River WRAPS** – Participation in the MPCA’s Core Team by the Fond du Lac Band of Lake Superior Chippewa and 1854 Treaty Authority.
- **Nemadji River Watershed Cycle 2 WRAPS Update** – Participation in Core Team by the Fond du Lac Band of Lake Superior Chippewa and the 1854 Treaty Authority, with a focus on wetland health and wild rice protection strategies.

## Bois Forte Band

- **Little Fork Watershed Sediment Project Team:** Ongoing discussions on largest sediment contributor to the Rainy River and Lake of the Woods. Tribal members and staff have allowed the MPCA access to tribal property and have conversations about what and why the MPCA is doing their work. In turn, local MPCA staff have been supportive of tribal issues regarding water quantity and quality, specifically regarding the rebuild of the Nett River Dam and re-meandering of the Nett River project.

## Leech Lake Band of Ojibwe

- **Big Fork River Watershed Cycle 2 WRAPS** – Member of Core Team with the MPCA. The Band and MPCA staff recently completed a MN DNR Culvert Assessment. They also discussed wild rice protection strategies and the Band’s studies of impaired lakes wholly within the reservation.
- **Leech Lake River (LLR) WRAPS** – Formal cooperative agreement with the MPCA for the Intensive Watershed Monitoring (IWM) within the boundaries of the Leech Lake Reservation. The LLR WRAPS was one of the first protection WRAPS developed in the state of Minnesota.
- **Leech Lake River Cycle 2 WRAPS Update (2021 - 2022)** – The LLBO provided valuable input in the State and Local Needs (SLN) process in helping the MPCA/ watershed group plan for Cycle 2 of the IWM process.

# COOPERATION WITH TRIBAL GOVERNMENTS ON CWF PROGRAMS

- **Mississippi River Headwaters (MRH) WRAPS/TMDL** – Formal cooperative agreement with the MPCA for the Intensive Watershed Monitoring (IWM) within the boundaries of the Leech Lake Reservation. The MRH WRAPS/TMDL was successfully completed in 2018.
- **Report review and comment** –The MPCA review/comment on various LLBO Natural Resource Management/Environmental Protection Strategy documents during public comment periods.
- **Surface Water Assessment Grant (2020)** – The MPCA grant to assess six Leech Lake Reservation lakes within the Big Fork Watershed.

## Prairie Island Indian Community

- The MPCA’s Rochester office has worked closely with the Prairie Island Indian Community on engagement activities and meetings to address their concerns with the Impaired Waters List. MPCA staff has also been working with Prairie Island staff to discuss the Zumbro River Watershed’s State and Local Needs monitoring approach, and to bring in a native speaker to participate in the opening of “We Are Water” in Lake City.

## Fond du Lac Band of Lake Superior Chippewa

- **St. Louis River One Watershed One Plan:** A partner in the development of the comprehensive watershed management plan.
- **Mercury TMDL in St. Louis River:** Partial funding for determining mercury reductions needed in for lakes and rivers in the St. Louis River Watershed.
- **St. Louis River Area of Concern:** Partner in the restoration of the St. Louis River estuary from legacy pollutants.

## Grand Portage Band of Lake Superior Chippewa and the 1854 Treaty Authority

- **Contaminants of emerging concern in inland lakes:** Partner and lead researcher with the MPCA and University of Minnesota in detecting unregulated contaminants in surface waters, with a focus on protecting subsistence fishing.

## Multiple tribes

**Indigenous water knowledge inclusion in WRAPS report:** Recently, a new project has developed in an indigenous knowledge section of the MPCA’s anticipated revised WRAPS report for the Little Fork River Watershed and map of local water resources, which will span and be included in four to five major watersheds. This project will include Red Lake Band, Bois Forte Band, 1854 Treaty Authority, Treaty 3 Nations of Canada (including but not limited to Lac La Croix First Nations, Rainy River First Nations, Seine River, and Coochiching First Nations).

## Clean Water Council opportunities

- The CWF recommendations for FY22-23 and FY24-25 included \$1 million each biennium for the Water Partners Legacy (WPL) program. The WPL RFP for FY22-23 includes \$500,000 in grant funding for tribal governments for water quality projects.
- Minn Stat. 114D.30 requires that a Tribal Nation representative be appointed to the Council.
- The Council maintains contact with agency tribal liaisons and the Minnesota Indian Affairs Council. Minnesota state agencies funded by the CWF are required to engage in formal consultation with Tribal Nations.

