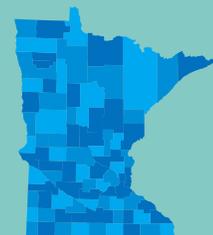


March 2023

Watershed Achievements Report Fiscal Year 2022

A description of the projects funded by Federal Clean Water Act Section 319 Grants and Clean Water Partnership Loans.



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Cover photo

Cover crop planting from the FFY 2016 Section
319 Minnesota River and Sand Creek
Improvement project final report

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List of acronyms

ACEP Agricultural Conservation Easement Program	lbs/yr pound per year
AgBMP Agricultural Best Management Practices Loan Program	LGU Local Government Unit
BMPs best management practices	MAWQCP Minnesota Agricultural Water Quality Certification Program
BOD biochemical oxygen demand	MDA Minnesota Department of Agriculture
BOD5 five-day biochemical oxygen demand	MDH Minnesota Department of Health
BWSR Minnesota Board of Water and Soil Resources	MPCA Minnesota Pollution Control Agency
CD County Ditch	MPN/yr most probably number per year
CLFLWD Comfort Lake – Forest Lake Watershed District	NPS nonpoint pollution sources
CRP Conservative Reserve Program	NRCS Natural Resources Conservation Service
CSP Conservation Stewardship Program	NWQI National Water Quality Initiative
CWA Clean Water Act	PPG Minnesota Water Performance Partnership Grant
CWF Clean Water Fund	PTMApp Prioritized, Target, and Measure Application
CWP Clean Water Partnership	SAM Scenario Application Manager
DNR Minnesota Department of Natural Resources	SRP soluble reactive phosphorus
EPA Environmental Protection Agency	SRWD Sauk River Watershed District
EQIP Environmental Quality Incentives Program	SSTS Subsurface Sewage Treatment System
FSA Farm Service Agency	SWCD Soil and Water Conservation District
GIS Geographic Information System	T/yr tons per year
HCWP Hawk Creek Watershed Project	TMDL total maximum daily load
HLWD Heron Lake Watershed District	TP total phosphorus
HSPF Hydrological Simulation Program FORTAN	TSS total suspended solids
HUC hydrologic unit code	WASCOB Water and Sediment Control Basin
IWM Intensive Watershed Monitoring	WRAPS Watershed Restoration and Protection Strategies
JD2 Judicial Ditch 2	WRP Wetlands Reserve Program

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Executive summary

The Minnesota Pollution Control Agency (MPCA) has two funding sources for local governments for implementation of best management practices (BMPs) to restore and protect Minnesota’s waters. They are the federal Clean Water Act Section 319 (Section 319) funds and the Clean Water Partnership (CWP) funds. The governing statute for the CWP is [Minn. Stat. 103F.700](#) and the rules governing the disbursement are in [Minn. R. ch. 7076](#). Further prioritization and Minnesota’s goals are described in the [Nonpoint Source Management Program Plan](#) (NSPMP).

The projects reported in the fiscal year (FFY) 2022 Watershed Achievement Report were awarded between 2016 and 2021. The state FFY 2022 began July 1, 2021, and ended June 30, 2022. This report will describe the projects completed, newly awarded, and underway and funded with Section 319 and CWP loans by river basin. Each of the projects will contribute to the reduction of pollution loading in an effort to improve Minnesota’s water quality. Section 319 projects awarded in federal fiscal year (FFY) 2022 (the FFY 2022 began October 1, 2021, and ended September 30, 2022) are not included due to the timing of this report.

The estimated reductions associated with Section 319 and CWP loan projects are summarized in Table 1 and are entered by grantees and borrowers into the eLINK system. It is important to note, no newly awarded projects or projects that are currently under way are included in this estimate. Some projects do not directly yield reductions but may include civic engagement or demonstration elements to help further the nonpoint pollution source (NPS) work in Minnesota.

Table 1. Summary of estimated reductions achieved with Section 319 Grant and CWP Loan projects completed in FFY 2022 (eLINK).

Basin	Total
Phosphorus (P) pounds per year (lbs/yr)	24,684
Total Suspended Solids (TSS) tons/year (t/yr)	18,910
Nitrogen (N) (lbs/yr)	61,474
Soil loss (t/yr)	12,376
Biochemical oxygen demand (BOD) (lbs/yr)	3.12E+04
E. coli most probably number per year (MPN/yr)	1.19E+132

Introduction

Minnesota's water resources are treasured by its citizens for the beneficial uses they provide including recreation, drinking water, aquatic life, industrial and agricultural uses. With more than 10,000 lakes, 100,000 river and stream miles, and extensive groundwater systems, water is a major part of Minnesota's culture, economy, and natural ecosystems.

Two programs provide local governments with resources to restore and protect surface water, with a special focus on NPS pollution. The MPCA relies on the Section 319 program to provide funding for efforts to reduce nonpoint sources of pollution. The second source, the CWP loan program provided no interest loans to local units of government for BMPs, which reduce nonpoint source water pollution in local areas. The Watershed Achievements Report is an annual report on the efforts supported by these funding resources and the state's progress for reducing NPS pollution. This report describes the newly awarded, active, and final nonpoint source projects for statewide and watershed-based projects.

Some watershed work by the agency and our state and local partners was delayed in 2020 and 2021 due to the challenges of the pandemic. Project monitoring work was curtailed, and the Intensive Watershed Monitoring (IWM) schedule was delayed. This report is for activities through June 30, 2022.

Clean Water Partnership and Section 319 Programs

The MPCA provides financial and technical assistance to local government and other water resource managers to address nonpoint-source water pollution through the state CWP and Section 319 Programs.

The Section 319 Grant Program is a federally funded program to address NPS pollution. Until 2020, the projects were awarded on a project-by-project, competitive basis. The grant award gave local governments the ability to work over four-years to complete the project. Each grantee is required to provide a match of at least 40 percent of the total project cost using state or local funds. In addition to providing pass through grant dollars, the U.S. Environmental Protection Agency (EPA) provides Minnesota with an equal amount of program dollars which fund program activities to address NPS pollution. These funds pay for staff to monitor, research, and develop products such as total maximum daily loads (TMDL) and Watershed Restoration and Protection Strategies (WRAPS). Beginning in FFY 2022, the Section 319 grants will be awarded to the prioritized watersheds in each group by sole-source awarding process.

The Section 319 grant program began the transition to the Section 319 Small Watershed Program in 2017. The EPA requirements changed in 2014 to include a more focused and detailed approach. The MPCA approaches watershed planning on a hydrological unit code (HUC) 8 scale. This allows the local governments to target their own priorities and develop implementation plans specific to their locality. The EPA requirements are a formalized version of this narrowing and focusing that is being done on the local level. The EPA requires that these plans are formalized with very detailed plans called nine key element (NKE) plans, which are described fully in the [Handbook for Developing Watershed Plans to Restore and Protect our Waters](#). The Small Watersheds were prioritized for funding in FFY 2020.

The Clean Water Partnership (CWP) program was originally a loan and grant program. In 2015, the Minnesota legislature stopped funding the grant program, but the loan program remained active. CWP funds were loaned to local units of government (LGU) at zero interest during fiscal year 2022. The LGUs can apply for funding at any point throughout the year and use the funding to implement projects, create a loan or grant program for their residents, purchase equipment or easements, or educate and engage the citizens in taking action to protect and improve water quality. The loan funds are initially

available for a three-year implementation period, with an optional extension to a fourth year. The CWP Loan funds are then paid back over a 10-year period. At no point do the funds accrue interest. Matching the funds is optional for borrowers. Although many entities do provide match activities for the loans, such as administration of their programs and outreach, not all organizations choose to report matching funds. It is important to note that whether or not reported, some match and investment occurs with all program participants.

Section 319 Grant Program Small Watershed Focus

The MPCA developed a [Section 319 Small Watersheds Focus Program](#) in partnership with local governments to support comprehensive nonpoint source implementation on small-scale watersheds. The EPA shifted their focus to highly detailed plans to meet water quality standards within 10 years. These plans meet the requirements of the [EPA Handbook for Developing Watershed Based Plans](#). These watershed-based plans called nine key element (NKE) plans build upon existing local water plans and state reports. The plans are focused on a smaller geographical scale to facilitate the level of detail needed to meet the NKEs.

Small Watersheds Program: The Clean Water Act Section 319 Program shift to focus on small watersheds was done in order to prioritize and target specific areas of the state to increase the benefits of implementation and affect measurable differences in water quality.

Focus Watersheds: Watersheds are selected to participate in the Section 319 Small Watersheds Focus Program and receive priority funding from the Section 319 grant Program. These watersheds will meet state and local priorities.

The MPCA passes through approximately \$2.8 million in Section 319 grants annually to local governments and organizations to implement BMPs and adopt strategies to mitigate NPS pollution. Funding for the selected Focus Watersheds will continue in subsequent years for implementation projects. The goal of the Small Watersheds Program is to achieve the water quality objectives in the selected watersheds.

Clean Water Partnership Loan Program

The [CWP Loan Program](#) helps restore water quality in lakes and streams across Minnesota. Administered by the MPCA, the zero-interest loans go to local partners and tribal nations for projects that reduce nonpoint source pollution from diffuse sources such as failing septic systems and cropland runoff.

Figure 1. Clean Water Partnership loans reducing water pollution, one project at a time.



Some examples:

- Improving on-site sewer systems in Mille Lacs County to reduce sources of bacteria.
- Removing water softeners – which are sources of chloride pollution – in the City of Lakefield.
- Reducing nitrogen risks to drinking water wells in Rock County.

Flexible loan options

First tier loans are provided for local governments to build projects. Second tier loans allow local entities to make loans to landowners and other stakeholders.

The funds can be used for any non-point BMPs, including wellhead protection, inflow and infiltration (residential laterals), green infrastructure, Subsurface Sewage Treatment System (SSTS) upgrade/replacements, wetland or stream restorations, and many more!

Celebrating successes

As of August 2022, 343 CWP loan projects have constructed \$87.5M of BMPs.

Watershed Program accomplishments – 2022

Clean Water accountability reporting

Minnesota's Clean Water Legacy Act requires that MPCA report actions taken in Minnesota's watersheds to meet water-quality goals and milestones (Minn. Stat. § 114D.26, subd. 2). This accountability reporting is required every two years, though updates to these reports will occur annually by July of each year. These reports can be found here: [Healthier watersheds: Tracking the actions taken](#). The reports contain information regarding:

- WRAPS approval status.
- TMDLs approved.
- Wastewater treatment plant pollution reduction progress.
- Nonpoint BMPs in all sub watersheds.
- Funding (Federal, State, local, point/nonpoint) by watershed.

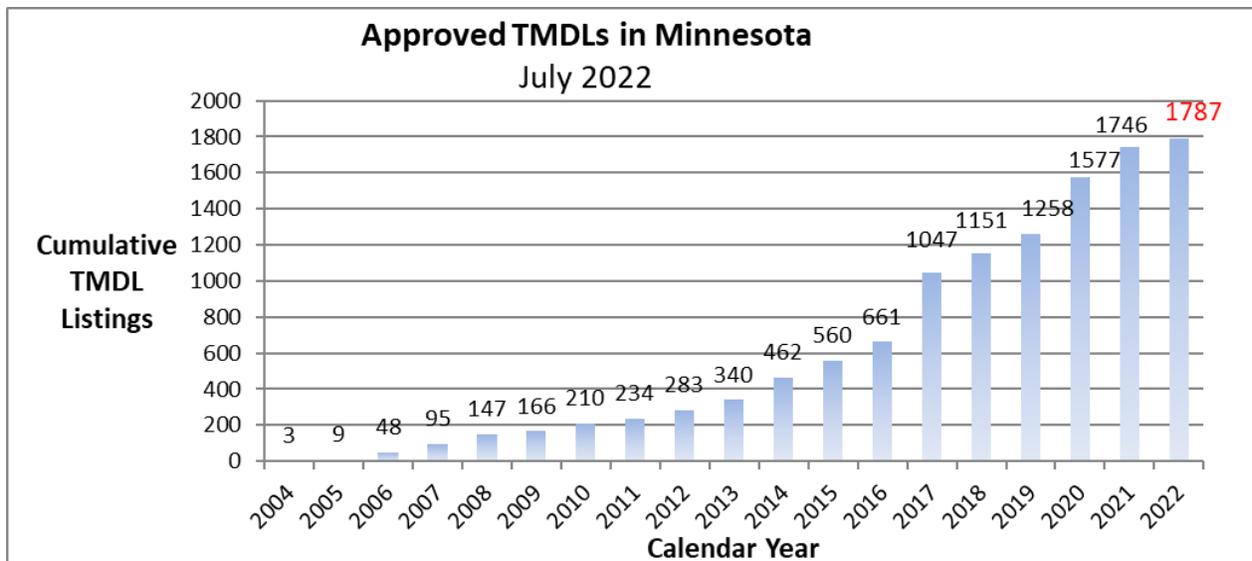
Minnesota's Watershed approach

All 80 watersheds in Minnesota have restoration and protection strategy projects underway. Strategy plans have been completed for 76 of the 80 watersheds (95 percent) and more are on track for completion this year. More information is on this webpage [MPCA watershed approach](#).

Approved TMDLs

Minnesota continues to make progress in completing Total Maximum Daily Load (TMDL) studies for impaired waters in the state as part of our watershed approach. Minnesota is meeting the priority goals for EPA's Long-term Vision process, with 98 percent of our TMDL priorities completed so far and the remaining impairments scheduled to be done in 2022. We are beginning discussions on TMDL priorities for EPA's Vision 2.0 and meeting with our state and local partners for their input.

Figure 2. Cumulative approved TMDL listings in Minnesota between years 2004-2022.



2022 Clean Water Fund performance report

Minnesota agencies released their sixth collaborative [report](#) in January 2022 to help Minnesotans clarify connections between Clean Water funds invested, actions taken, and outcomes achieved. Measures in the report provide a snapshot of how Clean Water Fund dollars are being spent and what progress has been made. The measures are organized into four categories: investment, surface water quality, drinking water and groundwater protection, and social measures and external drivers. Each measure has detailed status ranking and trend information.

Protecting and restoring Minnesota’s waters for generations to come

Investing in clean water is money well spent. Minnesota voters clearly delivered this message when they overwhelmingly passed the Clean Water, Land and Legacy Amendment in 2008. The amendment provides 25 years of dedicated funding to strengthen and enhance Minnesota’s response to water resource challenges and to protect high-quality waters. The Clean Water Fund creates opportunities for Minnesota to take innovative and collaborative approaches to improve water quality statewide. Between 2010 and 2021, Minnesota’s Clean Water Fund:

- Awarded more than 3,631 grants to protect and restore Minnesota’s water resources.
- Delisted 66 lakes and streams from Minnesota’s Impaired Waters list.
- Issued more than 2, 087 loans to prevent nonpoint source water pollution or solve existing water quality problems.
- Secured more than 778 easements that will permanently protect approximately 17,034 acres along riparian corridors and within wellhead protection areas.
- Repaired 788 imminent health threat subsurface sewage treatment systems.
- Upgraded 48 municipal wastewater treatment facilities, which reduced phosphorus discharges by over 268,000 pounds per year.
- Delineated Drinking Water Supply Management areas for all 500 vulnerable municipal water systems to protect their drinking water sources.
- Engaged over 6,500 visitors in the We Are Water MN exhibit, and of those surveyed, 94 percent indicated that they learned something new about our water resources.

Additional values applied to Watershed work: climate resiliency and environmental justice

[Climate resiliency](#) is an important consideration for our watershed work, along with promoting [environmental justice](#) and equity. Minnesota’s approach to climate change that spans all state agencies is found at <https://climate.state.mn.us/>. The MPCA is focusing on both resiliency and equity as part of the agency’s overall goals. We will include these considerations in the future as watershed projects are selected and funded.

Climate change impacts

Climate change is bringing major changes to Minnesota lakes. With warmer lake water and longer open water periods, Minnesotans can expect more algal blooms in more lakes, along with a greater potential for invasive species. Fish populations may shift, with warm-water species migrating north while cold-water species decline. Read the report: [Climate change impacting Minnesota lakes \(cc-wq2-1\)](#).

Planning Grants for stormwater, wastewater and community resilience

MPCA made \$870,000.00 available for [planning projects](#) to be awarded during FY22. This funding provides an opportunity for communities to assess vulnerabilities and begin planning for the effects of Minnesota’s changing climate in three areas:

1. How to increase resilience to stormwater and reduce localized flood risk.
2. How to improve the resilience of wastewater systems.
3. How to reduce human health effects and adapt community services, ordinances and public spaces to the changing climate.



The MPCA and environmental justice

The MPCA is committed to making sure that pollution does not have a disproportionate impact on any group of people — the principle of environmental justice. This means that all people — regardless of their race, color, national origin, or income — benefit from equal levels of environmental protection and have opportunities to participate in decisions that may affect their environment or health.

The [MPCA’s Environmental Justice Policy](#): The MPCA expects the fair treatment and meaningful involvement of communities of color, Indigenous communities, and low-income communities in agency actions and decisions that affect them. It is the policy of the MPCA that an outcome of its work, in addition to protecting and improving the environment and public health, must address environmental justice concerns. The MPCA Environmental Justice Advisory Group advises the MPCA Commissioner on implementation of the agency’s environmental justice framework, provides feedback on its effectiveness, and offer suggestions for future improvements.

Successes: A year in review

Reducing phosphorus in the Red River and Lake Winnipeg



A satellite image shows algae growth in Lake Winnipeg, fueled in part by phosphorus carried in by the Red River. Photo courtesy of NextGen Environmental Research

The MPCA recently issued new discharge permits to the wastewater treatment plants in Moorhead, Thief River Falls, Breckenridge, Warroad, and Roseau. The permits reflect an innovative approach, allowing for collaboration and flexibility with stakeholder groups in the Red River Basin that are striving to reduce phosphorus in the Red

River and in Lake Winnipeg in Canada. Phosphorous pollution carried to Lake Winnipeg via the Red River is fueling massive algae blooms in the lake — so large they can be seen from space.

Making meaningful reductions in phosphorous levels and achieving water quality goals in the Red River will require changes by regulated sources, such as wastewater treatment plants, and reductions from unregulated sources, such as runoff from farm fields. [The Red River Basin Commission \(RRBC\)](#), a not-for-profit organization, has a 40-year history of bringing cooperative approaches to water management within the basin and finding solutions to cross boundary issues.

The RRBC is leading development of a Red River Basin management plan to reduce phosphorous in the Red River using goal setting and collaboration among regulated and unregulated stakeholders. The aim is to create more meaningful impacts on water quality at less cost and with broader-based involvement. The recently issued wastewater permits provide the five cities with time and flexibility to partner in this effort, with the management plan informing how they will comply with their permit requirements. “All of our diverse stakeholders are concerned about water quality,” says Ted Preister, RRBC Executive Director. “But actions taken by individual stakeholder groups alone is not enough to meet our water quality challenges. Combined they can have a measurable impact.”

MPCA Commissioner Katrina Kessler said the agency supports this approach. “I commend these five Cities and the RRBC for stepping up and leading this collective effort to work beyond the normal regulated and unregulated implementation silos and seek out innovative and cost-effective solutions to achieving our water quality goals within the Red River Basin and for Lake Winnipeg in Manitoba. Their commitment to collaboration will be a model for future ag/urban partnerships.”

The Red River Basin management plan will identify regulated and unregulated sources of phosphorus, estimate, or calculate known phosphorus loads from each source, and then allocate reductions for each. The plan seeks to reduce phosphorus in the Red River from Minnesota sources by 700 metric tons, a goal set by the [International Red River Board](#). The management plan will also use existing information

from MPCA WRAPS and the One Watershed One Plan (1W1P) planning process by watershed districts and soil and water conservation districts.

Planning and implementation work will include the various stakeholders. Phosphorus reduction work will be supported by the Clean Water Fund and could include conservation projects on farmland, water quality trading in permits, and wastewater treatment plant optimization or upgrades.

“This new approach involved coordination and development of a permit schedule across multiple cities and with the RRBC,” says Nicole Blasing, MPCA Municipal Division manager. “By working together and collectively identifying phosphorous load allocations for permitted facilities and best management practices for unregulated sources, we can begin to achieve our long-term goals of significantly reducing phosphorous loading to the Red River and, ultimately, make a real difference in the water quality in Lake Winnipeg.”

Reducing phosphorus is a key to helping Metro area lakes

Lakes in the Twin Cities are mostly surrounded by developed land and may receive runoff from surrounding storm sewers, which can harm water quality. High levels of phosphorus pollution fuel algae growth, which can make lakes less attractive for swimming and other recreation. It's not surprising that many metro-area lakes and rivers are on the state Impaired Waters List, a collection of water bodies

that don't meet water-quality standards. However, work is being done to bring about improvements.

Sustained efforts by cities and water management organizations have restored water quality in two Dakota County lakes. The MPCA is proposing to remove Sunfish and LeMay lakes from the Impaired Waters List this year — a decision that should inspire renewed water protection and restoration efforts.



An alum treatment in progress on Sunfish Lake, used to make less phosphorus available to fuel algae growth.

Sunfish Lake

In 2010, an MPCA review of water monitoring data revealed high levels of phosphorus in Sunfish Lake, at 49 parts per billion (ppb); the standard is 40 ppb for lakes of this depth. High levels of phosphorus fuel algae growth, which not only affects recreation but also has negative impacts on fish and other aquatic plants.

A 2012 study by the Lower Mississippi River Watershed Management Organization (LMRWMO) called for alum treatment to reduce phosphorus in the water. When applied to water, alum forms a fluffy aluminum hydroxide precipitate called a floc. As the floc settles to the bottom, it removes phosphorus and particulates (including algae). The floc settles on the lake-bottom sediment where it forms a layer that acts as barrier to phosphorus, which is then no longer available to fuel algae growth. The organization was able to secure a Clean Water Fund grant to implement the project and shore-owners provided the matching funds, which amounted to more than \$27,000.00. LMRWMO applied the alum treatment in the spring of 2017. In the following seasons, Sunfish Lake became clearer as algae growth dissipated. Water quality testing revealed the lake was meeting state water-quality standards at 17 ppb.

"The improvement was nearly immediate, and residents are very happy with the results," says Joe Barten, LMRWMO Administrator. "

It's a great example of the impact that thorough watershed planning can have on local lakes."

LeMay Lake

A 2013 MPCA review of water-quality data for LeMay Lake in Eagan showed phosphorus at 84 ppb; the standard for lakes of this type is 60 ppb. With funding from a three-year Clean Water Fund grant, the city identified significant phosphorus sources from stormwater runoff and lake sediment. The report also identified possible infrastructure projects to address the stormwater contamination.

The city applied alum in the fall of 2015 to target the phosphorus already in lake sediment. Addressing stormwater runoff was much more challenging and expensive. Though water quality in LeMay was already improving from the alum treatment, the city expanded a treatment basin and installed an iron-sand filtration system in 2019. It also installed a large underground stormwater infiltration system in 2021. The City of Eagan stepped up with funding from its stormwater utility. The efforts have been successful; phosphorus levels in the lake are at 27 ppb.

"The city established one of the first comprehensive stormwater/water quality plans in the state of Minnesota in 1990," says Eric Macbeth, Eagan's Water Resources Manager. "Around the same time, the city instituted a stormwater utility fee to pay for programs related to the plan."

Beyond just the LeMay Lake study and plan, Eagan's stormwater utility fee, implemented over 30 years ago, has supported many water-quality projects in the area. "Eagan has a strong cultural commitment to water quality and these kinds of improvements," Macbeth says. "Our city council has authorized projects to occur even though most of our lakes meet water quality standards because, to paraphrase one of our council members, it's the right thing to do."

A decade of work reduces pollution in St. Cloud's Lake George



Urban stormwater carries pesticides, oils, road salt, bacteria, litter, leaves, dirt and more down storm drains. St. Cloud's new filtration facility will filter out stormwater contaminants.

Lake George has long been a centerpiece and gathering place for many community events and recreation in St. Cloud. Elevated phosphorus levels, and subsequent low water clarity, resulted in Lake George being placed on Minnesota's Impaired Waters list in 2012. "Impaired" waters are those that don't meet water quality standards.

The City of St. Cloud conducted an analysis of the 125-acre sub-watershed surrounding Lake George to determine what was causing the water quality problems, find solutions, and implement restoration and protection strategies. With the analysis completed in 2017, the city and its partners started acting in 2018.

A stormwater treatment pond just south of Lake George, affectionately known as Little George, was constructed in 1998 to capture sediment and pollutants before they reach the lake. Little George was dredged for the first time in November 2018 to restore treatment capacity. More than 900 tons of sediment — about 50 semi-truck loads — were removed from the pond and disposed of at a landfill. The city also added iron filings to the pond as part of a partnership study project with the University of Minnesota, with assistance from the Minnesota Conservation Corps. The iron filings are intended to trap phosphorus and reduce its release from the pond, to keep it out of Lake George.

The lake also received four alum treatments in 2018. When applied to water, alum forms a fluffy aluminum hydroxide precipitate called a floc. As the floc settles to the bottom, it removes phosphorus and particulates (including algae). The floc settles on the lake-bottom sediment where it forms a layer that acts as barrier to phosphorus, which is then no longer available to fuel algae growth.

Further treatments were completed in 2019 and 2020, to reach water quality goals. For some lakes, alum treatments are a safe, relatively low-cost, effective, and long-term method for controlling phosphorus, minimizing algae growth, and improving water quality.

To address stormwater runoff before it enters Lake George, an underground stormwater retention and filtration treatment facility was installed in 2020, under the parking lot off the northwest corner of the lake. It uses settling chambers and a filtration system to capture sediment and remove phosphorus before it enters the lake. Each year, the system keeps estimated 29.7 pounds of phosphorus and 23,600 pounds of sediment out the lake. This project was funded with a \$697,000.00 Clean Water Land and Legacy Grant received in partnership with Stearns County Soil and Water Conservation District.

These projects, along with improved rain gardens and expanded shoreline restorations, have combined to help Lake George meet, and exceed, water quality standards; the MPCA has proposed removing the lake from Minnesota's Impaired Waters list in 2022. The state phosphorus standard for Lake George is 40 parts per billion (ppb). When the lake was added to the 2012 list, phosphorus levels were at 45 ppb. With all the work done by the City of St. Cloud and its partners, phosphorus levels in 2021 are holding at

18 ppb, and water clarity has increased from a depth of 5.8 feet in 2010 to nearly 10 feet currently. Learn more on the City of St. Cloud website: [Lake George water quality improvement project](#).

Branch of Buffalo River improves, thanks to local partners



Local organizations restored Lawndale Creek's naturally meandering channel to reduce erosion and improve habitat in the trout stream.

Many streams in the Red River Basin flow across a broad flat region that was once the bottom of ancient glacial Lake Agassiz. The rich soils and level topography of this landscape are a boon to agriculture but often a bane to water quality. The region has many streams that don't meet water quality standards due to excess sediment, soil, and other particles in the water that erode from streambanks and nearby fields. This condition can harm habitat for fish and aquatic insects.

But now one of those streams — the south branch of the Buffalo River near Barnesville — is clearing up, thanks to work of several organizations in the area. The Buffalo-Red River Watershed District

worked with the Wilkin and West Otter Tail County soil and water conservations districts, and the Minnesota Department of Natural Resources to implement a number of projects that reduced sediment in the stream and led to a recommendation that it be removed from the list of impaired waters (a list of Minnesota waters that don't meet water quality standards). These efforts included:

- Expanding buffer strips along the river.
- Working with landowners to enroll more than 1,900 acres in prairie/wetland conservation easement programs to help protect areas prone to erosion.
- Repairing/modifying ditches to reduce breakout flows from flooding and overland erosion.
- Restoring Lawndale Creek, a trout stream, while removing a ditch to improve conditions in a wildlife management area.
- Restoring storage capacity in Manston Slough to reduce sediment from flooding and erosion.

The MPCA supports these improvement projects with its water-quality monitoring and assessments efforts and restoration and protection recommendations. The agency:

- Identified problems in the watershed and strategies to restore impaired waters and protect those at risk of becoming impaired, in its total maximum daily load (TMDL) report.
- Provided grant funds to support monitoring of sediment concentrations in the water over time.

Several additional projects are in the works to reduce sediment even further. For example, Clean Water Fund dollars were granted in 2020 for sediment reduction best management practices near the river, which will be implemented in the coming months and years.

“The Buffalo-Red River Watershed District has been a strong partner in water quality efforts for many years, and we are proud to work with them,” says MPCA Watershed Division Director Glenn Skuta. “Their leadership and collaboration with the Wilkin and West Otter Tail Soil and Water Conservation District (SWCD), and with the Minnesota Department of Natural Resources (DNR), MPCA, and Board of

Water and Soil Resources are great examples of local governments and state agencies working together to restore Minnesota’s waters.”

Most Minnesota lakes in good shape

The Minnesota Pollution Control Agency (MPCA) released the results of an effort to gauge the health of the state’s major recreational lakes. In the first statewide study of its kind, 75 percent of Minnesota lakes met water quality standards for recreation such as swimming and wading.

While most lakes are good shape, 25 percent of those studied need lower levels of phosphorus and algae that can be harmful to some aquatic species and hinder recreation.



Swimmers in Lake Nokomis in Minneapolis.

“The good news is that many Minnesota lakes continue to be some of the highest quality lakes in the nation,” says Katrina Kessler, MPCA assistant commissioner for water policy and agriculture. “The bad news is that some of our lakes continue to suffer from several water quality problems.”

The statistics change by region: Lakes are generally healthy in the northeast, where forests and wetlands are more prevalent, with lake conditions getting worse moving to the south and west, where cropland and urban development are dominant.

For example, in the Rainy Lake Watershed in northern Minnesota, all the lakes studied met water quality standards, while in the Blue Earth River Watershed in southern Minnesota, none of the lakes did. Standards vary by region. In other words, scientists don’t expect lakes in the south to meet the same standards as in the north.

The Clean Water Fund has made a tremendous difference in determining the condition of Minnesota lakes. This ongoing study is funded by the Clean Water Fund, which is derived from the Legacy Amendment sales tax approved by voters in 2008.

"Thanks to the Clean Water Fund, we understand the water quality of lakes across the state," Kessler says. "More importantly, Clean Water Funds are being used to develop restoration and protection strategies to improve and maintain water quality to benefit Minnesotans today and into the future. In concert with local partners, the MPCA has completed strategy reports for 69 of our 80 watersheds, with the rest on track for wrapping up in 2022."



MPCA monitors aquatic life as a sign of water quality in some Minnesota lakes.

Since passage of the Clean Water Legacy Act, the MPCA has followed a [watershed approach](#) to studying water resources. The Clean Water Funds make it possible to monitor lakes (and river and streams) throughout an average of eight watersheds each year. The MPCA and partners follow these general steps:

- Monitor waters for levels of several pollutants such as nutrients, sediment, bacteria and chloride.
- Compare the monitoring data to standards to determine whether lakes support uses such as swimming and fishing. Lakes meeting standards warrant protection strategies to maintain their quality. Lakes not meeting standards go on the state's Impaired Waters list and require restoration strategies.
- Develop watershed restoration and protection strategies (WRAPS) with partners. These strategies inform implementation decisions by local partners, serving as a guide about where best to invest in water quality improvement.
- Return to each watershed every 10 years to see if strategies are working to maintain or improve lakes and streams.

"Minnesota is blessed with a tremendous number of lakes," Kessler says. "We could not begin to check the conditions of major lakes without our valued partners, particularly those at the local level like soil and water conservation districts, watershed management organizations, watershed districts, and lake associations.

"With their continued partnership and ongoing support from the Clean Water Fund, we are committed to monitoring the lakes that Minnesotans value for recreation. In coordination with the Minnesota Department of Natural Resources and the Board of Water and Soil Resources, we will keep working to restore impaired lakes and protect healthy ones."

State of lakes

By the regions:

- The Northern region of the lakes assessed, about 95 percent, fully support the standards for recreation; based on phosphorus and algae levels.
- The Central region is a transition area; 54 percent of lakes assessed fully support the standards.
- The Southern region, only 14 percent of the lakes assessed fully support the standards.

By the numbers:

- Minnesota has 12,740 lakes covering almost 3 million acres. The Department of Natural Resources (DNR) and other government units manage 2,862 public accesses on Minnesota lakes. Lakes open to the public for recreation are the priority for monitoring.
- Before the state's watershed approach funded by the Clean Water Fund, the MPCA and partners had monitored and assessed 759 lakes covering about 941,521 acres.
- After the watershed approach, that number jumped 350 percent to 2,670 lakes monitored and assessed. Those lakes cover about 1.9 million acres.

For more information about the state of Minnesota lakes, visit www.pca.state.mn.us/water/state-lakes.

On the assessment of individual lakes, go this webpage, type in the name of the lake and click the search button: <https://webapp.pca.state.mn.us/wqd/surface-water>.

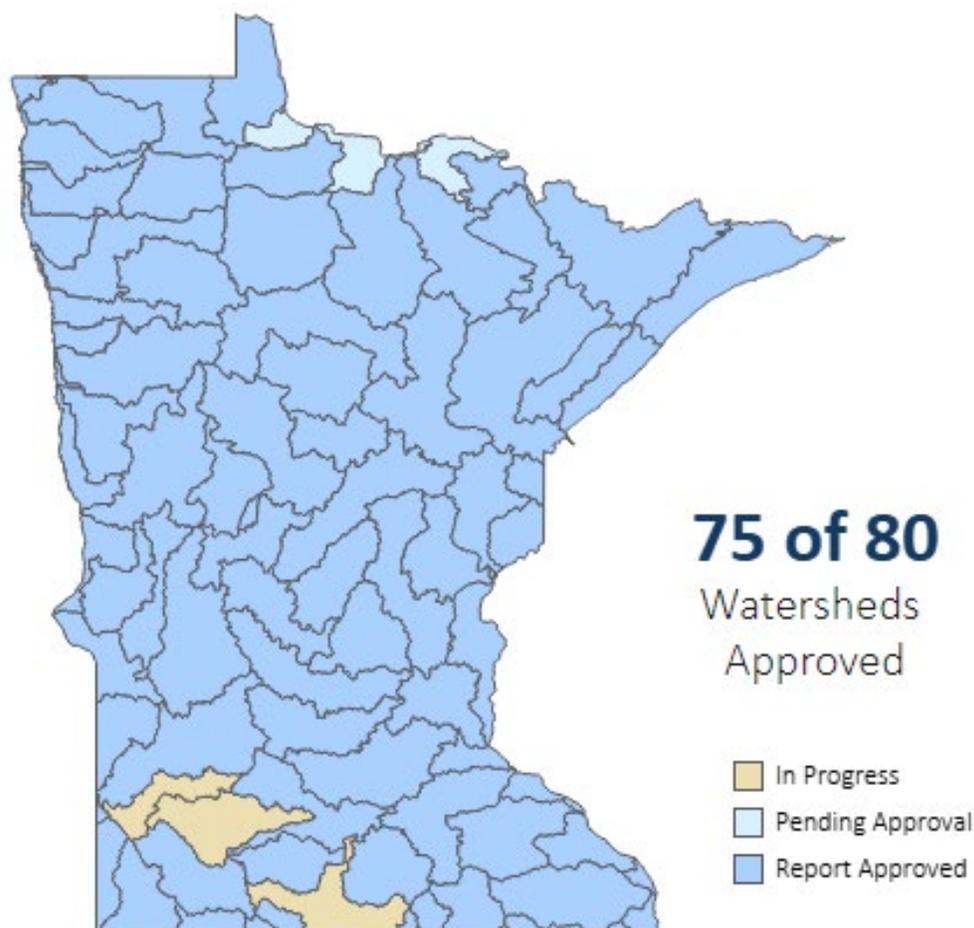
NPS pollutant reductions and BMPs

The healthier watersheds webpage ([Healthier watersheds: Tracking the actions taken | Minnesota Pollution Control Agency \(state.mn.us\)](#)) was developed to track the spending of Clean Water Funds in Minnesota. Not all of the information tracked has to do with NPS pollution; however, the WRAPS, TMDL status, and BMPs implemented by watershed are related to NPS work. Data for the BMPs is collected by self-reported reporting of implementation of those receiving NPS funds. This information is provided by various government agencies, including Natural Resources Conservation Service (NRCS), Environmental Quality Incentives Program (EQIP), (CSP), Agricultural Conservation Easement Program (ACEP), Wetlands Reserve Program (WRP) and Farm Service Agency (FSA) Conservative Reserve Program (CRP) at the federal level, and Minnesota Board of Water and Soil Resources (BWSR), easements and Clean Water Fund (CWF) grants, Minnesota Department of Agriculture (MDA), Agricultural Best Management Practices Loan Program (AgBMP), Minnesota Agricultural Water Quality Certification Program (MAWQCP), and MPCA Section 319, Clean Water Partnership (CWP), reporting state administered NPS programs.

Healthier Watersheds

Progress toward approving WRAPS (Figure 3) can be tracked at [WRAPS Status Public | Tableau Public](#).

Figure 3. Approval status of WRAPS by Watershed in Minnesota, updated June 28, 2022.



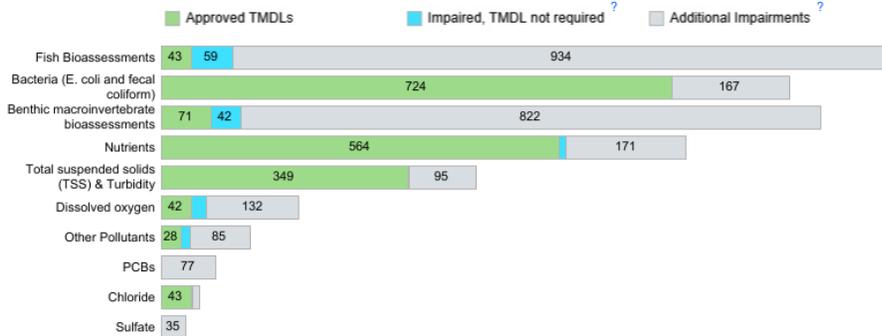
TMDL status (Figure 4) can be found at [CWAA - TMDL Status | Tableau Public](#).

Figure 4. TMDL status, taken June 21, 2022.

Showing data for: **All Minnesota watersheds**

Total Maximum Daily Load (TMDL) approval status

The information below tracks the MPCA's efforts to develop TMDLs on all impaired waterbodies on the draft 2022 Impaired Waters List. TMDLs are approved by the U.S. Environmental Protection Agency and set pollutant reduction goals that help target implementation strategies and actions to restore impaired lakes, rivers, and streams.



Filter by geography

Watershed

Subwatershed

County

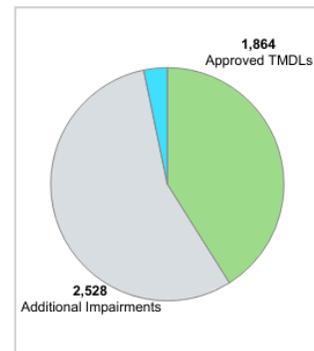
Legislative district (Senate, House)

Waterbody (ID or Name)

Include mercury TMDLs?
 Yes
 No

List of impaired waters and TMDL status

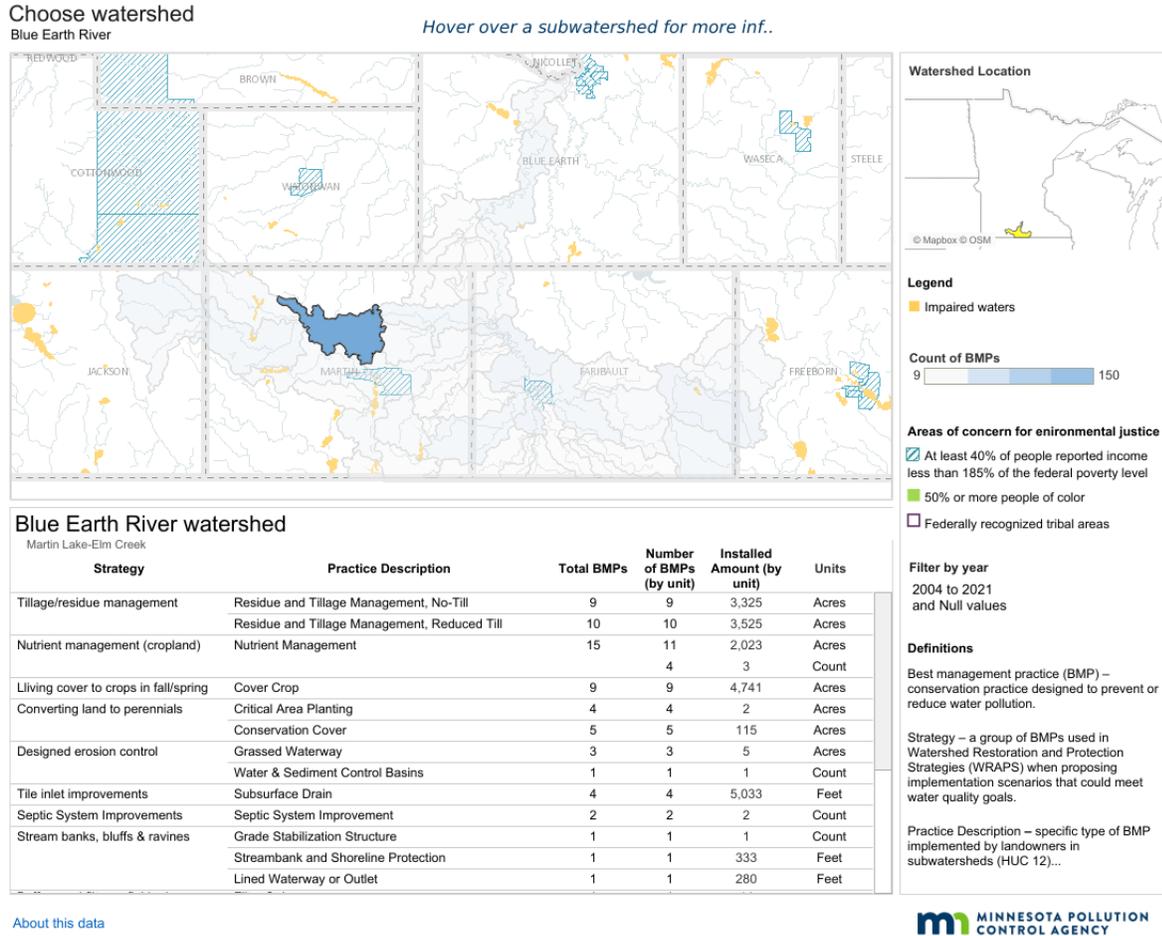
County	Waterbody ID	Waterbody	Pollutant/Stressor	First Listed	TMDL Status	View data
Aitkin	07030004-552	Bear Creek	Benthic macroinvertebrates bi..	2020	Planned	
			pH	2008	Planned	
	58-0138-00	Big Pine Lake	Nutrients	2020	TMDL Approved, 2021	View data
	01-0062-00	Big Sandy Lake	Nutrients	2002	TMDL Approved, 2011	View data
	01-0188-00	Blind Lake	Nutrients	2010	Planned, 2030	
	07010207-554	Borden Creek	Dissolved oxygen	2010	Planned, 2027	
	01-0123-00	Elm Island Lake	Fish bioassessments	2020	Planned, 2030	
			Nutrients	2010	TMDL Approved, 2020	View data
	01-0147-00	Esquagamah Lake	Nutrients	2010	Planned, 2030	
	01-0105-00	Fleming Lake	Nutrients	2010	TMDL Approved, 2020	View data
	01-0099-00	Gun Lake	Nutrients	2010	TMDL Approved, 2020	View data
	01-0034-00	Horseshoe Lake	Nutrients	2010	TMDL Approved, 2019	View data
	07010104-701	Little Willow River Old Cha..	Fish bioassessments	2020	Not Required	
	07010103-518	Minnewawa Creek	Benthic macroinvertebrates bi..	2018	Not Required	
			Fish bioassessments	2018	Not Required	
	07010103-519	Minnewawa Creek	Fish bioassessments	2018	Planned, 2029	
	01-0033-00	Minnewawa Lake	Nutrients	2002	TMDL Approved, 2011	View data
	07010103-708	Mississippi River	Total suspended solids (TSS)	2016	TMDL Approved, 2020	View data



[About this data](#)

Best management practices implemented by watershed (Figure 11) can be found [CWAA - Best management practices by watershed | Tableau Public](#).

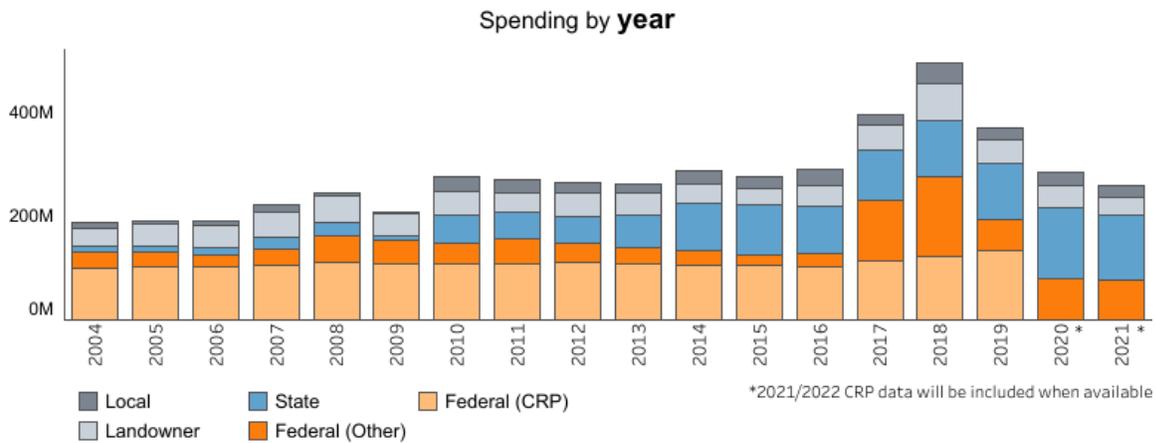
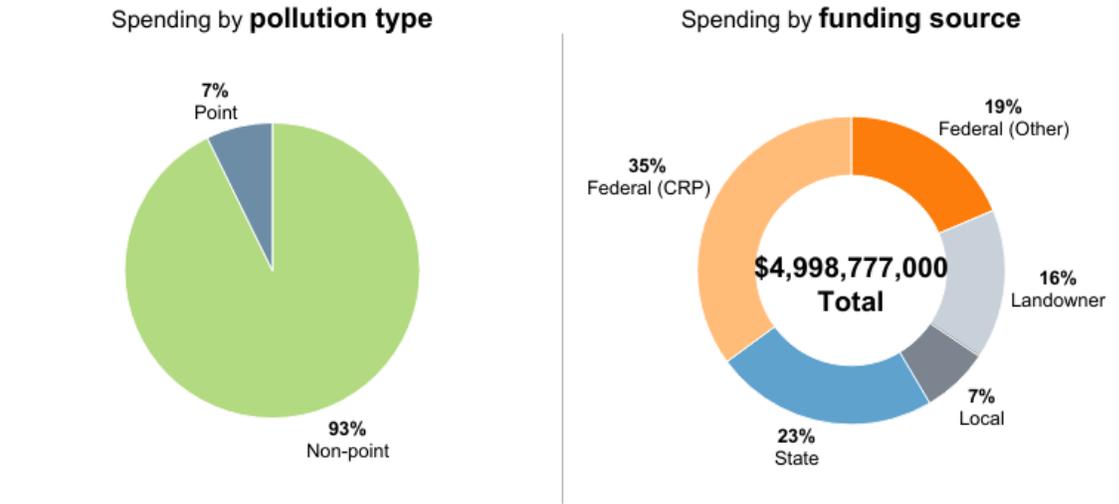
Figure 5. BMPs by Watershed, Blue Earth River (Martin Lake – Elm Creek) taken August 30, 2022.



Implementation spending for watershed implementation projects are described [CWA - Spending for implementation projects | Tableau Public](#). This describes spending related to state and federally funded programs. Does not include all government spending or private spending for stormwater and other clean water projects.

Figure 6. Spending in all Watersheds within all County's in Minnesota, taken on August 30, 2022.

All watersheds within all counties



[About this data](#) [View Data](#)



NPS pollution implementation funding at MPCA

Most of the implementation funding to address NPS pollution in Minnesota is administered by the Minnesota Board of Soil and Water (BWSR). A description of these grant programs can be found at: <http://bwsr.state.mn.us/grants>. Funds are awarded, based on program requirements, as competitive and noncompetitive grants, as well as watershed-based funding. Pollutant reductions and BMPs funded by the Section 319 Grant and CWP Loan programs are entered by participants into BWSR’s eLINK system.

Section 319 Program

Section 319 Small Watershed Focus Program

The MPCA developed the Section 319 Small Watersheds Focus Program, in partnership with small watersheds, to develop a long-term roadmap to support comprehensive nonpoint source implementation on a small-scale watershed. To date, 30 small watersheds selected for prioritized funding, 10 each for prioritization for funding in 2020, 2021, and 2022. In 2022, the small watersheds for Group D, to be prioritized for funding in 2023, were selected.

The selections are part of the transition in the federal Clean Water Act Section 319 Program from one-time grants to more reliable funding focused on small watersheds. The goal of the program is to help local governments make measurable changes toward water quality improvements. Based on input from many local governments, the program is designed to provide a reliable and longer-term funding source to address all pollutants in small watersheds.

Table 2. Focus Watersheds and the years they are prioritized for funding.

Prioritization group	Group A	Group B	Group C	Group D
Funding years	2020, 2024, 2028, 2032	2021, 2025, 2029, 2033	2022, 2026, 2030, 2034	2023, 2027, 2031, 2035
Prioritized Watersheds	Fairmont Chain of Lakes and Dutch Creek (Blue Earth River)	Big Sandy Chain of Lakes	Rat Root River (Rainy River)	Green Lake/Chisago Chain of Lakes (Lower St. Croix)
	Dobbins Creek (Cedar River)	Brown’s Creek (St. Croix River)	Cascade Creek (Zumbro River)	Necktie River (Upper Mississippi)
	Plum Creek (Redwood River)	Como Lake (Mississippi River Twin Cities)	Comfort Lake/Forest Lake Chain (St. Croix River)	Wells Creek (Lake Pepin – Lower Mississippi)
	Upper Hawk Creek and Wilmar Chain of Lakes (Minnesota Yellow Medicine)	Coon Creek (Mississippi River Twin Cities)	Amity Creek (St. Louis River)	Blackduck River (Red Lake)
	Sand Creek (Lower Minnesota)	Rice Creek (Le Sueur River)	Pelican Lake (Lake Superior)	Hay Creek Watershed (Roseau River)

Prioritization group	Group A	Group B	Group C	Group D
	Black River and Red Lake River, Thief River Falls to Crookston	Twelvemile Creek (North Fork Crow River)	Cook Soil and Water Conservation District – TBD	Green Lake (North Fork Crow River)
	Skunk Creek (Nemadji River)	Tamarack, Birch and Wilkinson Lakes (Vadnais Lake)	Campbell Creek (Otter Tail River)	
	Whiskey Creek (Red River of the North)	West Indian Creek (Zumbro River)	Tributary to the Redeye River	
	Green Lake (Rum River)	Whitefish Chain of Lakes (Pine River)	Rice Lake (North Fork Crow River)	
	Pipestone, Split Rock and Mound Creeks (Big Sioux and Rock Rivers)		Skunk Creek (Lake Superior)	

All LGUs that expressed interest in participating in the Small Watersheds Program were invited to take part in a phone interview. The MPCA conducted telephone interviews with all applicants each year. These candidates were narrowed down further, and three-hour interviews were conducted. The agency then chose ten watersheds for funding based on criteria such as state priorities and collaboration, along with input from the BWSR.

Environmental Performance Partnership Grant

The MPCA will request \$2,919,650.00 in technical (program) funds from the EPA for FFY 2022 as part of a larger grant agreement that funds multiple programs at the MPCA. Section 319 is the funding source for a portion of that agreement.

The MPCA has entered into an Environmental Performance Partnership Agreement (EnPPA) with the EPA Region 5. This is a multi-year agreement that specifies how the two agencies will jointly protect Minnesota’s environment. The EnPPA uses the Performance Partnership Grant (PPG) workplan template to detail tasks or work commitments from the states. On October 1, 2016, the MPCA and EPA Region 5 entered into a new four-year agreement. This agreement includes air quality permits, mining permits, and the Minnesota Watershed Approach and the Section 319 grants program. For the purposes of this report, only the Section 319 funding will be discussed.

The Performance Partnership Agreement (PPA) is an extension of the MPCA’s Strategic Plan and the EPA’s Regional Plan. In Minnesota, there are 80 HUC-8 watersheds. In a ten-year period, all 80 HUC-8 watersheds will be intensively monitored or sampled, assessed for impaired waters and waters in need of protection, modeled with U.S. Geological Service Hydrological Simulation Program-FORTRAN (HSPF) model, and investigated for biological stressors. Using this data, TMDLs are developed. This information is gathered in a WRAPS report that uses this collected data, along with water quality monitoring data, and a wide array of information specific to the watershed, and to create a table of strategies (generally BMPs) needed to achieve water quality standards in that major watershed. Input from not only local governmental units, but also citizens, is integral to the process of creating the WRAPS reports.

Ownership by the local stakeholders of the WRAPS report is the central tenet of the process: with that ownership, the right conservation practices are more likely to be implemented in the areas where they’re most effective.

Section 319 program funding currently funds 21.85 full-time equivalents (FTE) to support the NPS program work. These positions support the development, management, and administration of the program.

CWP Loans

The CWP program offers zero-interest loans to local units of government for implementing nonpoint source BMPs and other activities that target the restoration and protection of a water resource such as a lake, stream, or groundwater aquifer. Loans can be used for these activities:

- Urban green infrastructure.
- Buffers.
- Septic system upgrade or replacement.
- Technical assistance, outreach and education.
- Equipment (e.g., salt application, street sweeping).
- Any NPS BMPs.
- Feedlot upgrade or replacement.

There was \$3.6 million of CWP Loans awarded in FFY 2022. Individual loans are described in the following river basin sections.

Lower Mississippi River Basin

The Lower Mississippi River Basin covers approximately 6,300 square miles. Since 2016, there has been an investment of \$2,285,752.00 of Section 319 funds and CWP Loan funds for projects in the Lower Mississippi River Basin. Local partners have committed to investing an additional \$3,574,057.88 of state and local matching funds to these projects.

The Lower Mississippi Basin is located in the southeastern portion of Minnesota. Watersheds included in the Lower Mississippi River basin: [Upper Iowa River](#), [Mississippi River - Reno](#), [Root River](#), [Zumbro River](#), [Cannon River](#), [Mississippi River - Lake Pepin](#), [Mississippi River - Winona](#), [Mississippi River - La Crescent](#).

Regionally speaking, southeastern Minnesota has a number of opportunities for improvement. These include the reduction of nitrogen leaching to groundwater, which will more often than not emerge in surface water in this area partially dominated by karst geology. Likewise, the same opportunity is present for the reduction of bacteria leaching and runoff from feedlots as southeast Minnesota is home to four of the top 10 beef and dairy producing counties in the state ([MDA Dairy Industry Profile](#), [MDA Beef Industry Profile](#)). Other significant opportunities lie in the reduction of sediment and nutrient delivery to streams, in part to contribute to the [Nutrient Reduction Strategy for the Mississippi River](#) and to restore and protect the regions water resources.

Newly awarded projects in the Lower Mississippi River Basin

There was one project awarded in the Lower Mississippi River Basin in 2022, which is summarized in Table 3. The table describes the funding source and amount, the expected state and local match, the HUC-8 watershed, and the goal of the project. There are currently \$320,705.50 of Section 319 funds newly awarded in the Lower Mississippi River Basin, with a commitment of \$1,430,886.96 in local match.

Table 3. New projects in the Lower Mississippi River Basin.

Project name	West Indian Creek Watershed restoration and protection project phase 1
Sponsor	Wabasha Soil and Water Conservation District
FFY awarded	2021
Project timeframe	January 2022 – August 2025
Funding type	Section 319
Funding	\$320,705.50
Match	\$1,430,886.96
HUC Code	07040004
Watershed	Zumbro
Project goal	The project will be phase one implementation of goals and activities in the West Indian Creek Nine Key Element (NKE) Plan (the Plan) through social and technical activities. Project activities will focus on the critical areas described in the Plan. The critical areas include areas that export the highest amount of sediment, total phosphorus, and total nitrogen determined by Hydrological Simulation Program – FORTTRAN (HSPF) modelled pollutant loading.
BMPs planned	Increased soil health practices Water and Sediment Control Basin (WASCOB)

Project name	West Indian Creek Watershed restoration and protection project phase 1
	Grassed waterways Land retirement (pasture) Streambank restoration Buffers Grazing practices Forestry SSTS
Estimated reductions	Phosphorus: 11,270 pounds per year (lbs/yr) Sediment: 1,573 t/yr Soil loss: NA Nitrogen: 35,991 lbs/yr Five-day biochemical oxygen demand (BOD ₅): NA E. coli: 1.00E+10 most probably number per year (MPN/yr)

Completed projects in the Lower Mississippi River Basin

There were three projects completed in the Lower Mississippi River Basin are shown in Table 5. The final amount of Section 319 and CWP Loan funds invested were \$209,643.68 with \$476,010.89 of state and local match. The projects addressed nutrient and sediment loading in the basin, with estimated reductions summarized in Table 4. The BMPs installed included WASCObS, grassed waterway, retention structures, treated 422 acres of cropland and a terrace structure.

Table 4. Estimated reductions for completed projects in the Minnesota River Basin.

Pollutant	Reduction
Phosphorus	1,004 lbs/yr
Sediment (TSS)	1,116 t/yr
Soil Loss	1,380 t/yr
Nitrogen	NA
BOD ₅	NA
Bacteria	NA

Table 5. Completed projects in the Minnesota River Basin.

Project name	Middle Fork Zumbro River Critical Source Area restoration	Mississippi River Lake Pepin Watershed WRAPS implementation	Whitewater Watershed Nitrogen Reduction project
Project sponsor	Dodge Soil and Water Conservation District	Goodhue Soil and Water Conservation District	Whitewater Joint Powers Board
FFY awarded	2016	2016	2016
Project timeframe	January 2018 – August 2020	January 2017 – August 2020	July 2021 – September 2021
Funding type	Section 319	Section 319	Section 319
Funding	\$16,455.96	\$146,281.50	\$46,906.22
Match	\$46,397.93	\$234,939.79	\$194,673.17
HUC code	7040004	7040001	7040003
Watershed	Zumbro	Mississippi River – Lake Pepin	Mississippi River – Winona
Project goal	Address the turbidity TMDL by installing sediment reducing practices in critical source areas to achieve sediment reduction of 200 – 246 t/yr.	Implement restoration and protection strategy practices from the Mississippi River/Lake Pepin WRAPS to improve stream habitat, increase upland storage and reduce sediment and nutrient loading.	Since this project was short-term, most funds were used to promote soil health and pollution reduction educational initiatives and benefits will continue after the end of the grant.
BMPs installed	6 WASCOBs 1 grassed waterway	45 retention structures Treated 422 acres of cropland	1 terrace structure
Estimated reductions achieved	Phosphorus: 54 lbs/yr Sediment 54 t/yr Soil loss: 262 t/yr Nitrogen: NA BODs: NA E. coli: NA	Phosphorus: 948 lbs/yr Sediment: 1,060 t/yr Soil loss: 1,118 t/yr Nitrogen: NA BODs: NA E. coli: NA	Phosphorus: 2 lbs/yr Sediment: 2 t/yr Soil Loss: NA Nitrogen: NA BODs: NA E. coli: NA
Project highlights	Staff at the Dodge Soil and Water Conservation District conducted outreach to those landowners within the identified critical source areas including sending out multiple letters informing the landowners about the special funding received to install sediment reducing projects on their land. There were 7 projects that were installed including 6 water and sediment control basins and one grass waterway.	Proper grant management of this Section 319 grant and the CWF grant was a success. By combining these two funding mechanisms, we were able to extend the life of the initiative and project additional cost-share dollars to the landowners who had resource concerns. The remainder of the project highlights are summarized below in the results section.	This project provided assistance to three SWCDs in their efforts to provide ongoing technical support to landowners and meaningful learning experiences. Highlights include purchase of lysimeter for a demonstration farm, elevation survey application survey (drone), manure spreader calibration scales and rentable roller crimper, purchase of video equipment for farmer interviews/soil health education equip, advertisement campaign billboards.
Partnership	Southeast Soil and Water Conservation District Technical Support Joint Powers Board Department of Natural Resources	Partnered with 26 different landowners in the MRLP watershed with this effort. Also partnered with the BWSR by administering funds from a CWF Grant. MPCA staff on administering these EPA Section 319 grant funds.	Olmstead Soil and Water Conservation District Wabasha Soil and Water Conservation District Winona Soil and Water Conservation District Winona County Feedlot Program

Active projects in the Lower Mississippi River Basin

There are three projects that are currently under way in the basin are described in Table 6. The table describes the funding source and amount, the expected state and local match, the HUC-8 watershed, and the goal of the project. There are \$1,568,825.00 of Section 319 funds, with \$1,692,833.00 of committed local and state matching funds.

Table 6. Active projects in the Lower Mississippi River Basin.

Project name	Reducing bacteria from Southeast Minnesota feedlots	Whitewater Watershed Nitrogen Reduction project	Fountain Lake Restoration project
Sponsor	Goodhue Soil and Water Conservation District	Whitewater Joint Powers Board	Shell Rock Water District
FFY awarded	2017	2017	2021
Project timeframe	March 2018 – August 2021	March 2018 – August 2021	April 2021 – April 2024
Funding type	Section 319	Section 319	CWP Loan
Funding	\$336,000.00	\$232,825.00	\$1,000,000.00
Match	\$275,000.00	\$179,845.00	\$1,237,987.92
HUC 8 Code	Multiple	7040003	07080202
Watershed	Cannon, Mississippi River - La Crescent, - Lake Pepin, - Reno, - Winona, Root, Upper Iowa, and Zumbro River Watersheds	Mississippi River – Winona	Shell Rock
Project goal	Provide targeted technical and financial assistance to critical loading Southeast Minnesota open feedlots under 500 AU's and eliminate fecal coliform bacteria runoff from 30 feedlots.	The project addresses nitrate pollution to surface waters within critical source areas by increasing implementation of nitrogen BMPs and cover crops.	The goal of the Fountain Lake Restoration project is to improve water quality by removing 290,000 cubic yards of sediment to reduce internal loading of nutrients, reduce harmful algal blooms and improve water clarity within Fountain Lake.

The Minnesota River Basin

The Minnesota River Basin covers approximately 15,000 square miles within the State of Minnesota.

Since 2016, there has been an investment of \$15,185,443.00 of Section 319 funds and Clean Water Partnership Loan funds. Local partners have invested an additional \$5,713,306.00 of state and local match dollars to these projects. The projects funded by Section 319 and CWP Loan funds address sediment and nutrient loading, improving soil health, addressing altered hydrology, in-lake contributions, and upgrading and replacing SSTS.

This could be a pivotal year for the Minnesota River and its tributaries (Figure 13). Recent watershed assessment studies emphasize the need for widespread changes to the Minnesota River Basin, which covers 10 million acres in southern Minnesota.

Figure 7. The Minnesota River Basin.



Sediment pollution (also called total suspended solids) is clouding the water in the major portion of the Minnesota River. TMDL and sediment reduction studies call for decreasing sediment in the river by 50 percent. The Minnesota River Basin has erodible soils and is naturally vulnerable to sediment pollution. The incised zone of many watersheds compounds this but some practices, such as artificial drainage, worsen the situation by bringing too much water, too quickly, into the system. Increasing flows are a major threat to water quality in the basin, accelerating riverbank erosion and threatening infrastructure. In the past 80 years, flow amounts have doubled in the Minnesota River.

The increased flow isn't just due to increased rainfall; the river carries more water per inch of rain than in previous decades. Increased artificial drainage, fewer wetlands to store water, lack of perennial vegetation and agricultural and urban land use practices all contribute to higher flows and erosion of fields and streambanks.

The muddy water then makes it hard for fish and other aquatic species to breathe, find food, and reproduce. The sediment is also filling in the Lower Minnesota River and Lake Pepin downstream at a much faster rate than before European settlement and intensive farming of the basin.

The Minnesota River Basin contains the following HUC-8 watersheds: [Minnesota River – Headwaters](#), [Pomme de Terre River](#), [Lac qui Parle River](#), [Minnesota River –Yellow Medicine](#), [Chippewa River](#), [Redwood River](#), [Minnesota River - Mankato](#), [Cottonwood River](#), [Blue Earth River](#), [Watowan River](#), [LeSueur River](#), and [Lower Minnesota River](#).

Newly awarded projects in the Minnesota River Basin

There were four projects awarded in the Minnesota River Basin in 2022, which are summarized in Table 7. The table describes the funding source and amount, the expected state and local match, the HUC-8 watershed, and the goal of the project. There are currently \$920,706.00 of CWP loan and Section 319 Funds for newly awarded in the Minnesota River Basin, with a commitment of \$213,804.00 in local match.

Table 7. Newly awarded projects in the Minnesota River Basin.

Project name	Rice Creek Watershed NKE P1	Chippewa County Septic System Upgrades II project	Swift County SSTS Upgrades II
Sponsor	Faribault County Soil and Water Conservation District	Chippewa County	Swift County
FFY awarded	2022	2022	2022
Project timeframe	March 2022 – December 2025	June 2021 – June 2024t	June 2022 – June 2025
Funding type	Section 319	CWP Loan	CWP Loan
Funding	\$320,705.50	\$250,000.00	\$350,000.00
Match	\$213,804.00	\$0.00	\$0.00
HUC Code	070200110401, 070200110402, 070200110403	07020005, 07020004, 07020002	07020001, 07020005, 07020002
Watershed	Rice Creek Watershed	Chippewa River, Hawk Creek and Upper Minnesota River	Minnesota River Headwaters, Chippewa River and Pomme de Terre
Project goal	The primary goals of this plan are to restore and to protect the water quality of the impaired waterbodies in the watershed (Rice Creek and Lura Lake). Implementation of the plan will result in the attainment of the water quality standards for Rice Creek and Lura Lake. Implementation work will be prioritized to critical areas, with a focus on the impaired waters. Protection for waters trending toward impairments will be considered high priority areas of concern.	SSTS systems to be upgraded/replaced to reduce nutrient and bacteria loading and to protect human health.	This project will allow Swift County to offer CWP low interest Loan funds for SSTS upgrades where systems are currently failing or are an imminent threat to public health and safety.
BMPs planned	1,000 acres of cover crops 1,500 acres of strip till 2,000 acres of reduced tillage 1,512 acres of no till 22 rock intakes 2 waterways 12 grade stabilization structures 5 water and sediment control basins 1 community rain garden 5 rain gardens Shoreline restoration Lura Lake fish barrier	25 SSTS upgrades	Upgrade 30 failing SSTS
Estimated reductions	Phosphorus: 113,312 lbs/yr Sediment: 88,793 t/yr Soil loss: 283,372 t/yr Nitrogen: NA BOD ₅ : NA E. coli: NA	Phosphorus: 66 lbs/yr Sediment: TSS 943 t/yr Soil loss: NA Nitrogen: 155 lbs/yr E. coli: 4.64E+14 MPN	Phosphorus: 154 lbs/yr Sediment: 1,750 t/yr Soil loss: NA Nitrogen: 364 lbs/yr BOD ₅ : 3,164 lbs/yr E. coli: 107.8E+130 MPN

Completed projects in the Minnesota River Basin

There were eight projects completed in the Minnesota River Basin are shown in Table 9. The final amount of Section 319 and CWP Loan funds invested were \$2,745,189.00 with \$2,861,247.00 of state and local match. The projects addressed nutrient and sediment loading in the basin, with estimated reductions summarized in Table 8. Best management practices (BMPs) installed included both structural practices and education/outreach activities. BMPs installed included:

Table 8. Estimated reductions for completed projects in the Minnesota River Basin.

Pollutant	Reduction (unit)
Phosphorus	18,543 lbs/yr
Sediment (TSS)	16,486 t/yr
Soil loss	11,415 t/yr
Nitrogen	59,585 lbs/yr
BOD ₅	3,502 lbs/yr
Bacteria	1.19E+132 MPN/yr

Table 9. Completed projects in the Minnesota River Basin

Project name	Greater Blue Earth River Basin TMDL Implementation	Le Sueur River WRAPS Implementation Endeavor	Pomme de Terre WRAPS SMP Implementation project	Minnesota River and Sand Creek Improvement project
Sponsor	Greater Blue Earth River Basin Alliance	Faribault Soil and Water Conservation District	Pomme de Terre River Association	Scott County and Scott Watershed Management Organization
FFY awarded	2016	2016	2016	2016
Project timeframe	December 2016 – August 2021	January 2017 – August 2021	December 2016 – August 2021	November 2016 – August 2021
Funding type	Section 319	Section 319	Section 319	Section 319
Funding	\$395,559.00	\$300,367.00	\$285,000.00	\$565,000.00
Match	\$376,033.00	\$385,183.00	\$190,000.00	\$982,691.00
HUC Code	0702009, 07020011, 07020010	07020011	07020002	07020012
Watershed	Blue Earth River, Le Sueur River, Watonwan River	Le Sueur River	Pomme de Terre	Lower Minnesota River
Project goal	Two specific agricultural BMPs will be implemented through this project: alternative tile intakes and cover crops.	Provide cost-share assistance to landowners within targeted Watersheds of the Le Sueur River Watershed to implement NPS reduction BMPs.	The Pomme de Terre WRAPS BMP Implementation project intends to continue implementation of restorative BMPs to reduce nutrient and sediment loading and to help improve habitat and biological diversity. Additionally, to engage citizens of all ages throughout the Watershed through a multipronged effort.	The following goals are based on the TSS load duration curves prepared for the Sand Creek Watershed Impaired Waters Resource Investigation completed in 2010.
BMPs installed	9,337 acres of cover crops. 10 alternative tile intakes (gravel). 64 alternative side inlets (grade stabilization).	Soil Health BMP Projects Strip till Contracts 4 contracts covering 304 acres. Cover Crop Contracts 41 contracts covering 3,401 acres. Urban Stormwater Projects Vondracek contract was approved for Permeable Pavement. Easton contract was approved for Filtration Basin. General BMP Projects 1 grade stabilization structure was implemented on County Ditch (CD) 64.	2 Ag. Waste Pit closures. 3 cover crop contracts. 5 rain gardens. 32 water and sediment control basins.	Over 1,000 acres of cover crops were planted, and a total of 5 CIPs were constructed.
Estimated reductions achieved	Phosphorus: 4,364 lbs/yr Sediment: 2,640 t/yr Soil loss: 9,400 t/yr Nitrogen: 59,177 lbs/yr BOD ₅ : NA E.coli: NA	Phosphorus: 1,421 lbs/yr Sediment: 7,185 t/yr Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: NA	Phosphorus: 6,379 lbs/yr Sediment: 3,038 t/yr Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: NA	Phosphorus: 1,832 lbs/yr Sediment: 1,687 t/yr Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: NA
Project highlights	The highlights are the projects and practices listed above, along with the strengthened partnerships between staff and elected officials in the watershed. Local Drainage/Conservation Staff implementing the alternative side inlets and cover crop contracts have numerous reports of positive landowner interactions regarding the placement and design of the BMP. The practice allows for better field operations for the landowner and a water quality benefit for the public. The consistent funding from this grant was critical to achieving the high number of landowners completing	During the five-year parameter of this grant agricultural and urban BMPs were completed throughout the Le Sueur River Watershed in Faribault County. BMPs completed in Ag settings focused on sediment, while urban BMPs focused on volume reduction along with phosphates as these were the issues identified by previous studies. The results of the activities completed with this grant will go well beyond the timeline of this grant. Faribault SWCD Staff is hopeful that out of 26 producers, who used this cost-share for applying soil	The Pomme de Terre River Association has had tremendous success in engaging students and watershed residents on the importance of water quality and protecting our land. The project coordinator has set up a network of teachers that utilize the association’s knowledge in classroom activities and this funding is intended to broaden that network and continue to foster those relationships. Best Management Practices were implemented throughout the Pomme de Terre Watershed with support from the Technical Advisory Committee (TAC).	A number of Capital Improvement Projects were accomplished with this grant along with a Targeted Watershed Grant through BWSR. Cover crop plantings have increased significantly in the watershed since the grant started. Momentum continues for ongoing BMP installation of conservation practices.

Project name	Greater Blue Earth River Basin TMDL Implementation	Le Sueur River WRAPS Implementation Endeavor	Pomme de Terre WRAPS SMP Implementation project	Minnesota River and Sand Creek Improvement project
	cover crop and intake replacement projects. Also, county Soil Health Teams are now starting up around the watershed offering promise for a prolonged cover crop effort.	health practices to their fields, 13 will use the practices into the future without funding.		
Partnership	County Soil and Water Conservation District Greater Blue Earth River Basin Alliance Blue Earth County Brown County Cottonwood County Faribault County Freeborn County Jackson County Le Sueur County Martin County Waseca County Watonwan County	Faribault County Faribault County Drainage Department Bolton & Menk The City of Easton Faribault County Soil Health Team	Pomme de Terre River Association (West Otter Tail, Douglas, Grant, Stevens, Swift and Big Stone) Local schools Lake associations Other organizations	Cedar Lake Improvement District Le Sueur County Le Sueur Soil and Water Conservation District Rice County Rice Soil and Water Conservation District Scott Soil and Water Conservation District Scott County Parks Sportsman’s Club Farm Service Agency Natural Resource Conservation District Metropolitan Council Minnesota Board of Water and Soil resources Minnesota Department of Natural Resources Minnesota Pollution Control Agency Inter-Fluve BARR Engineering

Table. 9 Continued completed projects in the Minnesota River Basin.

Project name	Hawk Creek Watershed Improvement project	Mankato Watershed – Renville Co FY17 Improvement project	Internal Loading BMPs in Spring Lake and Prior Lake	North Branch Yellow Medicine River Protection project	Swift County SSTS Upgrades
Sponsor	Hawk Creek Watershed project	Hawk Creek Watershed project	Prior Lake – Spring Lake Watershed District	Lincoln Soil and Water Conservation District	Swift County
FFY awarded	2017	2017	2018	2019	2018
Project timeframe	January 2018 – August 2021	February 2019 – August 2021	February 2019 – December 2021	January 2020 – August 2023	April 2018 – April 2021
Funding type	Section 319	Section 319	Section 319	Section 319	CWP Loan
Funding	\$319,000.00	\$297,000.00	\$80,300.00	\$106,000.00	\$318,962.00
Match	\$264,900.00	\$199,000.00	\$392,689.00	\$70,750.00	\$0.00
HUC Code	7020007	7020004	07020004	7020011	7020005, 07020002
Watershed	Minnesota River – Mankato	Yellow Medicine	Minnesota River – Yellow Medicine	Le Sueur	Chippewa River Watershed, Pomme de Terre Watershed
Project goal	Carry out BMP implementation in critical areas to progress the Lower Minnesota River Dissolved Oxygen TMDL Implementation Plan: alternative intakes, side inlets, streambank /grade stabilizations, cover crops, and WASCOBs. This project also includes education and outreach to promote BMP implementation and general watershed knowledge.	The goal of this project is to improve the water quality of Spring and Upper Prior Lakes by decreasing total phosphorus concentrations through the use of integrated pest management to effectively manage the common carp populations and through the encouragement of native aquatic plant establishment.	Reduce sediment from entering the North Branch and Upper Branch water bodies. As a secondary benefit, phosphorus is reduced naturally by keeping the sediment on the upland. By doing so, impairments such as turbidity and Nutrient Eutrophication will be reduced.	Provide cost-share assistance to landowners within targeted watersheds of the Le Sueur River Watershed to implement nonpoint source reduction best management practices.	The problem of SSTS is ongoing. Swift County upgrades on average 22 systems per year with approximately 32 percent applying for low interest loans annually.
BMPs installed	1,190 acres of cover crops. 1 grade stabilization. 1 rip rap chute. 1 water and sediment control basin.	Carp Biomass Removal. -19,154 lbs from Spring Lake. -39,367 lbs from Prior Lake.	17 water and sediment control basins. 4 waterways.	Soil Health BMP Projects Strip till Contracts 4 contracts covering 304 acres. Cover Crop Contracts 41 contracts covering 3401 acres. Urban Stormwater Projects Vondracek contract was approved for Permeable Pavement. Easton contract was approved for Filtration Basin. General BMP Projects 1 grade stabilization structure was implemented on CD64.	34 SSTS upgrades.
Estimated reductions achieved	Phosphorus: 225 lbs/yr Sediment: 123 t/yr Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: NA	Phosphorus: 697 lbs/yr Sediment: NA Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: NA	Phosphorus: 59 lbs/yr Sediment: 55 t/yr Soil loss: 111 t/yr Nitrogen: NA BOD ₅ : NA E.coli: NA	Phosphorus: 1,421 lbs/yr Sediment: 7,185 t/yr Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: NA	Phosphorus: 170 lbs/yr Sediment: NA Soil loss: 1,904 t/yr Nitrogen: 408 lbs/yr BOD ₅ : 3,502 lbs/yr E.coli: 119E+130 MPN
Project highlights	This project implemented 21 BMPs with 21 landowners and resulted in an estimated annual reduction of 225 lbs of phosphorus and 123 tons of sediment. Hawk Creek Watershed Project (HCWP) staff produced	To address the problem of excess nutrients /eutrophication, the district implemented a holistic carp management project that was guided by integrated pest management (IPM) principles. These principles include	Installed 17 water and sediment control basins and 4 waterways for sediment and phosphorus reduction. Basins also add short term water retention to help address altered hydrology. Many more projects were completed and are	During the five-year parameter of this grant agricultural and urban BMPs were completed throughout the Le Sueur River Watershed in Faribault County. BMPs completed in Ag settings focused on sediment, while urban BMPs focused on	Swift County was able to complete a total of 34 upgraded SSTS upgrades with a final loan fund distribution of \$318,961.98. This project implemented 34 SSTS upgrades which resulted in an estimated reduction of 170 lbs/yr of

Project name	Hawk Creek Watershed Improvement project	Mankato Watershed – Renville Co FY17 Improvement project	Internal Loading BMPs in Spring Lake and Prior Lake	North Branch Yellow Medicine River Protection project	Swift County SSTS Upgrades
	and mailed six newsletters, nine postcards, and one flyer to watershed residents during this grant period. HCWP staff also held 34 meetings, four field days, and several educational and outreach activities (see Attachment C) in which Minnesota River-Mankato Watershed residents participated in. The HCWP website was also active to provide information on current HCWP happenings, cost-share funding, and education and outreach.	data collection, physical removal, barriers, predator introduction, and movement tracking. In addition to carp management, alum treatments were completed on both Spring and Upper Prior Lakes in 2020, and likely influenced improvements in water quality.	planned with federal EQIP and state One Watershed One Plan dollars to help address the issues of impairment.	volume reduction along with phosphates as these were the issues identified by previous studies. The results of the activities completed with this grant will go well beyond the timeline of this grant. Faribault SWCD Staff is hopeful that out of 26 producers, who used this cost-share for applying soil health practices to their fields, 13 will use the practices into the future without funding.	phosphorus; 408 lbs/yr of nitrogen; 3,502 lbs/yr of BOD; 1,904 t/yr of TSS; and 119E+130 MPN. Public education and outreach was another major focus of this loan project to promote SSTS upgrades.
Partnership	<p>Hawk Creek Watershed project</p> <p>Hawk Creek Watershed project Board of Directors</p> <p>Hawk Creek Watershed project Citizen Advisory Committee</p> <p>Hawk Creek Watershed project Local Work Group</p> <p>Landowners</p> <p>Local Media</p> <p>Minnesota Department of Natural Resources</p> <p>Minnesota Pollution Control Agency</p> <p>Natural Resources Conservation Service</p> <p>Renville County</p> <p>Renville Soil and Water Conservation District</p> <p>U.S. Fish and Wildlife Service</p>	<p>Shakopee Mdewakanton Sioux Community</p> <p>Spring Lake Association</p> <p>Prior Lake Association</p> <p>City of Prior Lake</p> <p>Private residents</p>	<p>Lincoln Soil and Water Conservation District</p> <p>Southwest Prairie Technical Service Area</p> <p>Natural Resources Conservation Service</p> <p>Yellow Medicine River Watershed District</p>	<p>Faribault County</p> <p>Faribault County Drainage Department</p> <p>Bolton & Menk</p> <p>The City of Easton</p> <p>Faribault County Soil Health Team</p>	<p>Swift County</p> <p>Chippewa River Watershed Association</p> <p>Pomme de Terre River Association</p> <p>Landowners</p> <p>Minnesota Pollution Control Agency</p>

Active projects in the Minnesota River Basin

There are 13 projects that are currently under way in the basin are described in Table 10. The table describes the funding source and amount, the expected state and local match, the HUC-8 watershed, and the goal of the project. There is currently \$8,210,584.00 of Section 319 and CWP loan funds invested in the Minnesota River Basin. Those funds are leveraged by a commitment of \$2,277,938.00 in local and state matching funds.

Table 10. Active projects in the Minnesota River Basin.

Project name	Seven Mile Creek Assessment and Implementation	Hawk Creek Watershed FFY 2018 Implementation	Lac Qui Parle-Yellow Bank SSTS Loans Phase II	Brush Creek and Blue Earth River Sediment	Improving Chetomba, Sacred Heart and Wood Lake Creek	Pomme de Terre Watershed BMP Implementation
Sponsor	Gustavus College	Hawk Creek Watershed project	Lac Qui Parle-Yellow Bank Watershed District	Faribault Soil and Water Conservation District	Hawk Creek Watershed project	Pomme de Terre River Association
FFY awarded	2017	2018	2019	2019	2019	2019
Project timeframe	June 2018 – August 2021	March 2019 – August 2022	August 2018 August 2021	January 2020 – August 2023	January 2020 – August 2023	January 2020 – August 2023
Funding type	Section 319	Section 319	CWP Loan	Section 319	Section 319	Section 319
Funding	\$475,524.00	\$477,000.00	\$900,000.00	\$387,000.00	\$499,860.00	\$304,100.00
Match	\$328,096.00	\$318,000.00	\$0.00	\$302,000.00	\$334,000.00	\$205,000.00
HUC Code	7020007	7020004	07020003, 07020001, 07020004	07020009	07020004	07020002
Watershed	Minnesota River – Mankato	Minnesota River – Yellow Medicine	Lac Qui Parle, Minnesota River Headwaters, Yellow Medicine	Blue Earth	Minnesota River – Yellow Medicine	Pomme de Terre
Project goal	Gather watershed data necessary to evaluate the effectiveness of BMP implementation in a typical agricultural watershed in southern Minnesota.	Carry out BMP implementation in critical areas to work towards the goals of the Hawk Creek Watershed TMDL, Hawk Creek Watershed WRAPS, and Lower Minnesota River Dissolved Oxygen TMDL Implementation Plan. BMPs will include alternative/side intakes, grade stabilization, WASCOP, lakeshore restoration, ag waste project, cover crops, and no till/strip tillage.	Provide low interest funds for homeowners to bring non-conforming septic systems into compliance of the Minnesota Rules Chapter 7080. Upgrades for 70 to 80 SSTS in Lac qui Parle County.	Implementation of BMPs focusing on sediment reduction, nutrient transport, and increased infiltration in the Blue Earth Watershed.	Implement prioritized BMPs and increase civic engagement in critical areas to reduce nonpoint sources of E. coli, sediment (TSS), and nutrient eutrophication in order to achieve the impairment and water quality goals for the Hawk Creek Watershed.	Implement BMPs effective in abating nonpoint source phosphorous and sediment runoff to impaired waterbodies within the Pomme de Terre watershed.

Table 10. Continued Active projects in the Minnesota River Basin.

Project name	Whetstone River Restoration	Renville County Buffer Implementation Loan program	Yellow Medicine County Non-conforming SSTS Abatement project	Farimont Lakes Plan Implementation Phase 1	Upper Hawk Creek Watershed Restoration Phase 1	Plum Creek Watershed Phase 1	Sand Creek Phase 1: The Daikini
Sponsor	Upper Minnesota River Watershed District	Renville County	Yellow Medicine County	Martin Soil and Water Conservation District	Hawk Creek Project	Redwood County Soil and Water Conservation District	Scott Watershed Management Organization
FFY awarded	2020	2021	2021	2021	2021	2021	2020
Project timeframe	March 2020 – March 2021	August 2020 – July 2023	March 2021 – March 2024	November 2020 – August 2024	December 2020 – August 2024	October 2020 – August 2024	December 2020 – August 2024
Funding type	CWP Loan	CWP Loan	CWP Loan	Section 319	Section 319 Section 319	Section 319	Section 319
Funding	\$430,000.00	\$3,000,000.00	\$600,00.00	\$284,275.00	\$284,275.00	\$284,275.00	\$284,275.00
Match	\$0.00	\$0.00	\$0.00	\$190,000.00	\$190,000.00	\$189,517.00	\$221,325.00
HUC Code	70200001	07020012, 07020007, 07020004, 07010205	07020004, 07020003, 07020006	07020009	07020004	07020008	07020012
Watershed	Minnesota River Headwaters	Minnesota River: Lower, Middle (Mankato), Yellow Medicine,	Yellow Medicine River, Lac Qui Parle River, Redwood River	Blue Earth	Minnesota River – Yellow Medicine	Cottonwood River Watershed	Lower Minnesota River Major

Project name	Whetstone River Restoration	Renville County Buffer Implementation Loan program	Yellow Medicine County Non-conforming SSTS Abatement project	Fairmont Lakes Plan Implementation Phase 1	Upper Hawk Creek Watershed Restoration Phase 1	Plum Creek Watershed Phase 1	Sand Creek Phase 1: The Daikini
		Hawk Creek, Mississippi: South Fork Crow					
Project goal	Engineering Design Report, funding for flowage easements and land purchases between the levees. The completed project moves beyond operations and controls by moving toward a permanent solution to Big Stone Lake water quality and restoration of the lower Whetstone and Minnesota Rivers.	Provide loan funding to purchase easements and establish approximately 800 acres of vegetative buffers along nearly 230 miles of open drainage ditches located in portions of the Hawk Creek, High Island, Crow River, and Middle Minnesota watersheds.	Offer loans to approximately 45 landowners to replace non-conforming septic systems. Priority will be given to those systems in Floodplain, Shoreland, and areas with completed TMDLs or identified in the Yellow Medicine River One Watershed One Plan.	Reduce TSS, E. coli, and nutrient loading to the Fairmont Chain of Lakes.	The goal is to address existing watershed impairments and to decrease pollutant loading to downstream waterbodies.	Implementation of BMPs that are effective at abating non-point source sediment runoff and E. coli to impaired waterbodies within the Plum Creek Watershed.	Implementation practices will address the MA needs as well as having additional benefits in downstream MAs.

Des Moines and Missouri River Basins

The Minnesota portion of the Des Moines River, Missouri – Big Sioux, Missouri – Little Sioux cover approximately 3,300 square miles. Since 2016, there has been an investment of \$2,862,157 of Section 319 funds and CWP Loan funds. Local partners have invested an additional \$317,867 of state and local match dollars to these projects. These projects span a period of three to four years.

The Des Moines River watershed is located in southwestern Minnesota, including parts of Lyon, Pipestone, Murray, Cottonwood, Nobles, Jackson, and Martin counties. There are two HUC-8 watersheds in Minnesota, [Des Moines River –Headwaters](#) and [East Fork Des Moines River](#). It has five subwatersheds: Lake Shetek, Beaver Creek, Heron Lake, Lime Creek, and the West Fork Des Moines River Main Stem. The river joins the East Fork Des Moines River in Iowa, and eventually enters the Mississippi River at Keokuk, Iowa. It is located in the Western Cornbelt Plains ecoregion of southwestern Minnesota and northern Iowa.

The river is used for recreational activities such as fishing, tubing, snowmobiling, and canoeing. It is also a valuable fisheries resource with the following species of fish prevalent throughout the watershed: northern pike, buffalo, carp, walleye, channel catfish, crappie, and bullhead. Land use is primarily agricultural. Okamanpeedan, Bright and Pierce Lakes in the eastern part of the watershed in Minnesota are used for recreation such as fishing and hunting. Several shallow waterfowl lakes are also located in the southern part of the watershed.

The Missouri River Basin has three HUC-8 watersheds in Minnesota, the [Upper Big Sioux River](#), [Lower Big Sioux River](#), and [Rock River](#).

Newly awarded projects in the Des Moines and Missouri River Basins

There was one project awarded in the Des Moines and Missouri River Basins in 2022, which is summarized in Table 11. The table describes the funding source and amount, the expected state and local match, the HUC-8 watershed, and the goal of the project. There are currently \$1,000,000 of CWP loan funds newly awarded in the Des Moines River Basin.

Table 11. Newly awarded projects in the Des Moines and Missouri River Basins.

Project name	Pipestone Sanitary Improvement project
Sponsor	The City of Pipestone
FFY awarded	2022
Project timeframe	July 2021 – July 2024
Funding type	CWP Loan
Funding	\$1,000,000.00
Match	\$0.00
HUC Code	10170203
Watershed	Lower Big Sioux
Project goal	Replace or rehabilitate 200 private sanitary sewer service lines.
BMPs planned	Objective 1: public education about the project. Objective 2: select contractors to implement the project.

Project name	Pipestone Sanitary Improvement project
	Objective 3: televise and repair or rehabilitate sanitary sewer service of properties that sign up for the project.
Estimated reductions	Phosphorus: 58 lbs/yr Sediment: 0.5 t/yr Soil loss: NA Nitrogen: 417 lbs/yr BOD ₅ : NA E.coli: NA

Complete projects in the Des Moines and Missouri River Basins

There was one project complete in the Des Moines and Missouri River Basins. It is shown below in Table 12.

Table 12. Completed projects in the Minnesota River Basin.

Project name	South Heron Lake TMDL Implementation project
Sponsor	Heron Lake Watershed District
FFY awarded	2018
Project timeframe	April 2019 – August 2022
Funding type	Section 319
Funding	\$13,605.00
Match	\$16,293.00
HUC code	7100001
Watershed	Des Moines Headwaters, Heron Lake
Project goal	Landowner meetings held and webpage created. Effectiveness monitoring planned, but no construction.
BMPs installed	0
Estimated reductions achieved	NA
Project highlights	NA
Partnership	NA

Active projects in the Des Moines and Missouri River Basins

There are four projects that are currently under way in the basin are described in Table 13. The table describes the funding source and amount, the expected state and local match, the HUC-8 watershed, and the goal of the project. There is currently \$1,497,485 of Section 319 and CWP loan funds invested in the Des Moines and Missouri River Basin. Those funds are leveraged by a commitment of \$191,617 in local and state matching funds.

Table 13. Active projects in the Des Moines and Missouri River Basins.

Project name	Complete Water Softener Removal	Wellhead Nitrogen Reduction project	Heron Lake Phosphorus Reductions III	Pipestone, Split Rock and Mound Creeks Phase 1
Sponsor	The City of Lakefield	Rock County Rural Water	Heron Lake Watershed District	Pipestone Soil and Water Conservation District
FFY awarded	2020	2020	2020	2020
Project timeframe	October 2019	June 2020 – June 2023	March 2020 – March 2023	December 2020 – August 2024
Funding type	CWP Loan	CWP Loan	CWP loan	Section 319
Funding	\$483,210.00	\$300,000.00	\$430,000.00	\$284,275.00
Match	\$2,100.00	\$300,000.00	\$0.00	\$189,517.00
HUC code	7100001	10170204	07100001, 07100002	1070203, 1017204
Watershed	Des Moines Headwaters, Heron Lake	Rock River	Des Moines Headwaters, Lower Des Moines	Lower Big Sioux, Rock River
Project goal	The program will remove chlorides being discharged into the Heron Lake Watershed. Chlorides are toxic to aquatic life.	They are purchasing land directly in the flow path of groundwater to the Rock County Rural wells. The land acquisition will have a large positive.	Through the low interest loan project, the Heron Lake Watershed District (HLWD) proposes to replace 30 Subsurface Sewage Treatment System (SSTS) over the three-year period.	Restore water quality to standards, which provide for ultimate public recreational opportunities, while increasing agricultural production, profitability, and sustainability.

Lake Superior Basin

Minnesota's portion of the Lake Superior Basin (HUC-4) encompasses approximately 6,000 square miles and is located within Carlton, Cook, Lake, Pine and St. Louis counties in northeastern Minnesota. The Lake Superior Basin is remarkably diverse in natural features including the rugged coastline of Lake Superior, with bedrock outcrops, cascading waterfalls and cold-water streams draining to Lake Superior. The Lake Superior Basin is split into two HUC-8s watersheds, the [Lake Superior - North](#) and [Lake Superior – South](#) watersheds. The interior area, comprised of the [St. Louis River](#) and [Cloquet River](#) watersheds, includes a diverse mix of lakes and streams, along with significant areas of wetlands and peatlands. The southern portion includes the [Nemadji River](#) watershed, a stream-dominated drainage developed on a glacial lake plain. Many of the streams in the basin support coldwater and sensitive species, including wild rice. Overall, the Lake Superior Basin is sparsely populated, with people concentrated mainly in Duluth & surrounding communities in the south, the Iron Range communities in the northwest, in small towns dotting Lake Superior's North Shore, and other small communities distributed throughout. Two tribal governments and reservations, Fond du Lac Band of Lake Superior Chippewa, near Cloquet, and Grand Portage Band of Lake Superior Chippewa, at Grand Portage, are located in the Basin, along with the 1854 Treaty Area. A large percentage of lands are publicly owned, including portions of the Boundary Waters Canoe Area Wilderness, the Superior National Forest, and State & County managed forested lands. Lands are managed for forestry/forest management, small agricultural operations in the south & western basin, iron mining on the northwest edge, and aggregate mining throughout. Tourism and recreational outdoor activities, such as hiking, canoeing, fishing and hunting are popular in this region. The undeveloped nature for much of the basin is undoubtedly key to the high water quality of most lakes and streams. Minnesota's efforts to restore, protect and maintain water quality on those tributary lakes and streams are a primary focus for protecting Lake Superior and the Lake Superior Basin.

Despite its immense size, Lake Superior is surprisingly vulnerable. The year-round cold temperatures of Lake Superior and small amount of nutrients entering the lake result in a simple and fragile food chain. Because Lake Superior is nourished by forests and watered by streams, changes on the land become changes in the lake. We find algae blooms in Lake Superior bays, decreasing clarity in the western arm of the lake, contaminated sediment in the Duluth-Superior harbor and toxic contaminants building up in the food chain.

Unlike waters such as the Mississippi and Minnesota Rivers, most of Lake Superior has never suffered the extreme degradation that once characterized these rivers. Slowly, carefully, and with considerable effort and expense, those waters are being reclaimed. The challenge with Lake Superior is to keep it as clean as it is now and to clean up the problems that have been found.

Newly awarded projects in the Lake Superior Basin

There were no new projects in the Lake Superior Basin in 2022.

Completed projects in the Lake Superior Basin

There were no completed projects in the Lake Superior Basin in 2022.

Active projects in the Lake Superior Basin

There is one project that is currently under way in the basin are described in Table 14. The table describes the funding source and amount, the expected state and local match, the HUC-8 watershed, and the goal of the project. There are currently \$284,275 of Section 319 funds newly awarded in the Lake Superior Basin, with a commitment of \$350,000 in local match.

Table 14. Active projects in the Lake Superior Basins.

Project name	Skunk Creek Watershed Restoration and Protection project Phase 1
Sponsor	Carlton Soil and Water Conservation District
FFY awarded	2020
Project timeframe	November 2020 – August 2024
Funding type	Section 319
Funding	\$284,275.00
Match	\$350,000.00
HUC code	4010301
Watershed	Nemadji River
Project goal	Improve aquatic habitat by removing the aquatic organism barrier on Elim Creek, reduce TSS loading from road erosion on Skunk and Elim Creeks and work towards future watershed restoration projects.

Rainy River Basin

The Rainy River Basin encompasses a total area of 27,114 square miles, of which 11,244 square miles (41 percent) are in Minnesota and 15,870 square miles (59 percent) are in Ontario. The primary focus of the Rainy River Basin Information Document is on the Minnesota portion of the Basin. The Minnesota portion of the Basin is bounded on the north by the Province of Ontario, the east by the Lake Superior Basin, the south by the Upper Mississippi Basin and the west by the Red River Basin.

The Rainy River Basin is home to some of Minnesota's finest forest and water resources. Voyageurs National Park and the Boundary Waters Canoe Area Wilderness (BWCA) are located within the Rainy River Basin, as are several of the state's most famous walleye fisheries and many top-notch trout streams.

The Basin includes portions of eight Minnesota counties, including substantial portions of Cook, Itasca, Lake, Lake of the Woods, Koochiching, and St. Louis Counties with relatively minor portions of Beltrami and Roseau Counties.

The headwaters of the Basin are located in Cook, Lake, Itasca and St. Louis Counties. The eastern headwaters portion of the Basin includes an extensive area of irregularly shaped lakes on Canadian Shield topography. This area includes the BWCA. The southern headwaters portion includes the Vermilion Iron Range, part of the Mesabi Iron Range, and, in Itasca County, numerous northern lakes situated in glacial till.

The central, or large lakes, portion of the Basin is characterized by relatively large lakes on Canadian Shield topography. This area includes Voyageurs National Park. Lakes include Crane, Kabetogama, Namakan, Rainy and Vermilion.

The Lake of the Woods portion of the Basin is characterized by extensive wetlands located on the old Glacial Lake Agassiz lake bed and, of course, Lake of the Woods.

The Basin is made up of eight watersheds partially or wholly within the United States. These watersheds are: [Rainy River Headwaters](#), [Vermilion River](#), [Rainy River/Rainy Lake](#), [Lower Rainy River](#), [Little Fork River](#), [Big Fork River](#), [Rapid River](#), and [Lake of the Woods](#).

The Red Lake Band of Chippewa (Miskwaagamiiwi-zaaga'igan) own many acres in the Rainy Basin which are spread out from the Northwest Angle to southern Koochiching County. Bois Forte Band of Chippewa own three sectors, Nett Lake (*Asabiikone-zaaga'igan*), Vermilion (*Onamani-zaaga'igan*), and Deer Creek (*Waawaashkeshi-ziiibiins*). Both are independent tribal nations located in the Rainy Basin. Both Bands have active water quality programming and work with the US Environmental Protection Agency and the Minnesota Pollution Control Agency in water quality matters.

In addition, other Bands not located in the Basin, have hunting, fishing, and gathering rights on off-reservation lands located within the Rainy Basin.

For more information about their water quality program, please contact the Bands at:

Bois Forte Band of Chippewa, Ecological Resources Program, (218)-757-3261 Extension 1305 or cholm@boisforte-nsn.gov.

Red Lake Band of Chippewa, Red Lake DNR, (218)-679-3959, or rldnr@redlakenation.org.

Newly awarded projects in the Rainy River Basin

There are no newly awarded projects in the Rainy River Basin in 2022.

Completed projects in the Rainy River Basin

There were no completed projects in the Rainy River Basin in 2022.

Active projects in the Rainy River Basin

There is one project that is currently under way in the basin are described in Table 15. The table describes the funding source and amount, the expected state and local match, the HUC-8 watershed, and the goal of the project. There is currently \$1,110,500.00 of CWP loan funds invested in the Rainy River Basin.

Table 15. Active projects in the Rainy River Basin.

Project name	CLWSD Management and Expansion program
Sponsor	Crane Lake Water and Sanitary District
FFY awarded	2020
Project timeframe	March 2020 – March 2023
Funding type	CWP Loan
Funding	\$1,110,500.00
Match	\$0.00
HUC code	9030003
Watershed	Rainy Lake of the Woods
Project goal	Providing an alternative, reasonable source of funding to assist CLWSD property owners with replacement or upgrade of septic systems.

Red River Basin

The Red River of the North Basin encompasses a total area of 45,000 square miles, of which 41 percent of the total drainage area is in Minnesota. The remaining portion of the basin occupies substantial portions of North Dakota, southern Manitoba and a small portion of northeastern South Dakota to the north and west. The Minnesota portion of the basin is bound by the Minnesota River Basin to the south, and the Rainy and Upper Mississippi River Basins to the east. The Red River flows to the north, feeding into Lake Winnipeg in Manitoba and ultimately to the Hudson Bay.

The Red River Valley is one of the most productive agricultural areas of the world. While extensive human created and modified drainage systems have resulted in extremely rich agricultural areas, portions of the basin still support the ecologically abundant prairie-pothole region. Five National Wildlife Refuges, eight state parks, and many acres of federal and state wildlife management areas are located within the Basin. The Upper and Lower Red Lakes, two of the largest lakes in Minnesota, are located in the upper reaches of the Red River Basin. Flooding is a major concern for residents in the basin because frequent floods in the relatively wide and flat Red River Valley impact urban and rural infrastructure and agricultural production.

The Minnesota portion of the Red River Basin covers the entirety of 9 Minnesota counties and portions of 12 additional counties. Several moderate to small urban centers are located along the Red River main stem and tributaries in Minnesota, including Crookston, Thief River Falls, Detroit Lakes, Roseau, and Fergus Falls, as well as the North Dakota and Minnesota border communities of Wahpeton-Breckenridge, Fargo-Moorhead and Grand Forks-East Grand Forks.

The headwaters of the Red River of the North is the confluence of the Bois de Sioux and Otter Tail rivers within the city of Breckenridge, along the North Dakota – South Dakota boarder. The Minnesota portion of the Red River Valley is approximately 16,500 square miles, incredibly flat, and characterized by poorly drained, fine silt and clay left behind by Glacial Lake Agassiz. The beach ridges to the east of the valley are the remnants of the Glacial Lake Agassiz shoreline and are characterized by sandy, coarse-textured deposits and disconnected aquifers. The beach ridges are where the northern Minnesota Glacial Lakes area is located and includes lakes from around Fergus Falls up through Detroit Lakes and to Upper and Lower Red Lakes.

The Basin is made up of 17 watersheds partially or wholly within the United States. These watersheds are: [Upper Red River of the North](#), [Bois de Sioux River](#), [Mustinka River](#), [Otter Tail River](#), [Buffalo River](#), [Red River of the North - Marsh River](#), [Wild Rice River](#), [Clearwater River](#), [Red River of the North - Sand Hill River](#), [Upper and Lower Red Lakes](#), [Thief River](#), [Red Lake River](#), [Red River of the North - Grand Marais Creek](#), [Snake River – Red River Basin](#), [Lower Red River of the North - Tamarac River](#), [Two Rivers](#), and [Roseau River](#). Assessment of 16 of these watersheds is complete with the one remaining in progress.

Common water quality issues found during these assessments include: cloudy water caused by too much sediment and very fine, natural local soils; unsafe swimming conditions due to algae blooms in lakes caused by excessive nutrients and due to high bacteria levels in streams caused by humans, livestock, and wildlife; and low dissolved oxygen and degraded fish and macroinvertebrate communities caused by degraded natural habitat, lack of connectivity, and low flow issues in modified drainage systems.

The Red Lake Band of Chippewa Ojibwe and White Earth Band of Ojibwe are independent tribal nations located in the Red River Basin. Both Bands have tribal lands in the Basin that is outside of their reservation boundaries.

Red Lake Band of Chippewa Ojibwe, Red Lake DNR, (218)-679-3959, or rldnr@redlakenation.org.

White Earth Band of Ojibwe, White Earth Natural Resources Division, (218)-935-2488, or monica.headstrom@whiteearth-nsn.gov.

Newly awarded projects in the Red River Basin

There were no new projects in the Red River Basin in 2022.

Completed projects in the Red River Basin

There were no completed projects in the Red River Basin in 2022.

Active projects in the Red River Basin

There are three projects that is currently under way in the basin are described in Table 16. The table describes the funding source and amount, the expected state and local match, the HUC-8 watershed, and the goal of the project. There is currently \$1,182,458.00 in Section 319 funds invested, with a commitment of \$793,515.00 of local and state match.

Table 16. Active projects in the Red River Basin.

Project name	Upper Buffalo River Sediment Reduction	Red Lake River Targeted Watershed Grant Phase 1	Whiskey Creek Watershed restoration
Sponsor	Buffalo – Red River Watershed District	Red Lake Watershed District	Buffalo – Red River Watershed District
FFY awarded	2018	2020	2020
Project timeframe	March 2019 – September 2022	December 2020 – August 2024	December 2020 – August 2024
Funding type	Section 319	Section 319	Section 319
Funding	\$613,908.00	\$284,275.00	\$284,275.00
Match	\$412,087.00	\$189,289.00	\$192,139.00
HUC code	09020106	9020303	9020104
Watershed	Buffalo River	Red Lake	Buffalo River and Red River
Project goal	Provide civic engagement (outreach and education) to landowners in the upper Buffalo River watershed resulting in BMP project implementation.	Restore impaired waters within priority management areas through focused reduction of sediment and E. coli loading from critical loading areas.	To improve habitat within the Whiskey Creek watershed by completing 16 miles of stream restoration via the construction of a two-stage ditch. In addition, to reduce sediment and phosphorus loading to Whiskey Creek.

Saint Croix River Basin

The Saint Croix River Basin extends between both Minnesota and Wisconsin (Figure 14). The Minnesota side of the Saint Croix River Basin covers approximately 3,500 square miles. The 9 projects currently awarded and underway in the Saint Croix Basin represents a total of \$4,041,632 of Section 319 and CWP Loan funds invested in the basin and \$1,184,840 of committed local and state matching funds.

The St. Croix River offers good water quality, excellent fisheries, and a thriving mussel population. But there are some problems, including phosphorus levels and resulting algae in two sections of the river, with more threats to water quality on the horizon. One of the first rivers in the United States to be designated as wild and scenic, with special protections, the St. Croix River now needs protective measures more than ever.

Figure 8. Saint Croix River Basin – Minnesota and Wisconsin



The St. Croix River is indeed a treasure, with good water quality, excellent fisheries, and a thriving mussel population. This river has a healthy ecosystem, in large part because of relatively little disturbance to its wetlands, floodplains and other features. This condition helps makes the basin more resilient to climate change. Located near major metropolitan areas, the St. Croix offers exceptional recreation for hundreds of thousands of people every year. But that attraction also poses threats. Development—for housing, recreation and agriculture—means more runoff, and more runoff means more pollutants. One of the first rivers in the United States designated and protected under the

Wild and Scenic Rivers Act, the St. Croix now needs protective measures more than ever.

- Protection crucial: This river faces threats from changes in land use, both different agriculture practices and expanding urban development, so protection is crucial. Climate change is also a threat.
- Popular: The Saint Croix River is extremely popular because of its high water quality, exceptional recreation and ease of public access.

- Nutrient diet prescribed: Many partners are working to reduce phosphorus in Lake Saint Croix to prevent algal blooms. The stretch of the river coming into the lake also needs reductions in nutrients.
- Healthy biology: The fish and bugs are in good to excellent condition. This river is one of the few of its size in the United States with a thriving native mussel population (MPCA, 2020).

The following HUC-8 watersheds are contained on the Minnesota side of the Saint Croix River Basin: [Kettle River](#), [Lower St. Croix River](#), [Snake River-St. Croix Basin](#), and [Upper St. Croix River](#).

Newly awarded projects in the Saint Croix River Basin

There is one newly awarded project in the Saint Croix River Basin is shown in Table 17. Newly awarded projects in Saint Croix River Basin.. The table describes the funding source and amount, the expected state and local match, the HUC-8 Watershed, and the goal of the project. There are currently \$1,000,000.00 of CWP loan Funds for newly awarded in the Saint Croix Basin, with a commitment of \$200,000.00 in local match.

Table 17. Newly awarded projects in Saint Croix River Basin.

Project name	Comfort Lake – Forest Lake Watershed District (CLFLWD) Adaptive Management projects, Phase B1
Sponsor	Comfort Lake – Forest Lake Watershed District
FFY awarded	2020
Project timeframe	January 2022 – December 2024
Funding type	CWP Loan
Funding	\$1,000,000.00
Match	\$200,00.00
HUC code	7030005
Watershed	Lower Saint Croix
Project goal	CLFLWD proposes to make progress toward each of its resource-specific measurable goals in its 2022-2031 Watershed Management Plan (floodplain, lakes, streams, wetlands, upland habitat, groundwater).
BMPs installed	Agricultural BMPs (structural and nonstructural), urban BMPs, shoreline restorations, wetland restorations, non-structural practices such as street sweeping and alum treatment.
Estimated reductions achieved	Phosphorus: 1,679 lbs/yr Sediment: NA Soil loss: NA Nitrogen: NA BODs: NA E.coli: NA

Completed projects in the Saint Croix River Basin

There were six projects completed in the Saint Croix River Basin is shown in Table 18. Estimated reductions for completed projects in the Saint Croix River Basin. The final amount of Section 319 funds invested were \$2,196,690 .00 with \$1,738,411.00 of state and local match. This project addressed nutrient loading in the basin, with estimated reductions summarized in Table 19. Best management practice (BMP) installed included alum treatment, water level control structure, wetland restoration, grade stabilizations, grassed waterways, filtration basin, Sediment basin, gully stabilizations and bioretention basins.

Table 18. Estimated reductions for completed projects in the Saint Croix River Basin

Pollutant	Reduction (unit)
Phosphorus	1,652 lbs/yr
Sediment (TSS)	122 t/yr
Nitrogen	NA
BOD ₅	NA
E.coli	NA

Table 19. Completed projects in Saint Croix River Basin.

Project name	Moody Lake Wetland Rehabilitation project	Lower Saint Croix Targeted Phosphorus Reduction project	Carnelian Marine Stormwater Phase 2	Chisago Lakes Gully Restoration Green Lake	Marine on Saint Croix Stormwater Phase 3	Comfort Lake Forest Lake Adaptive Management project Implementation
Sponsor	Comfort Lake – Forest Lake Watershed District	Washington Conservation District	Carnelian – Marine Saint Croix Watershed District	Chisago Soil and Water Conservation District	Carnelian – Marine Saint Croix Watershed District	Comfort Lake – Forest Lake Watershed
FFY awarded	2016	2017	2017	2018	2018	2018
Project timeframe	January 2017 – August 2020	March 2018 – August 2021	March 2018 – August 2021	April 2019 – September 2021	April 2019 – December 2021	June 2018 – June 2022
Funding type	Section 319	Section 319	Section 319	Section 319	Section 319	CWP Loan
Funding	\$91,690.00	\$300,000.00	\$92,500.00	\$50,000.00	\$162,500.00	\$1,500,000.00
Match	\$115,454.00	\$238,516.00	\$165,867.00	\$85,000.00	\$133,574.00	\$1,000,000.00
HUC code	7030005	7030005	7030005	7030005	7030005	7030005
Watershed	Lower Saint Croix River	Lower Saint Croix River	Lower Saint Croix River	Lower Saint Croix River	Lower Saint Croix River	Lower Saint Croix River
Project goal	Reduce phosphorus from three degraded wetlands in the Moody Lake Watershed by removing phosphorus rich sediment in the wetlands, restoring wetland hydrology and managing livestock in the area.	Design and install up to 16 stormwater quality improvement practices within the Lower St. Croix Watershed to reduce phosphorus loading by at least 160 lbs/year.	Reduce phosphorus loading and sedimentation to the St. Croix River and downstream to Lake St. Croix. Stabilize an area of active ravine erosion on the headwaters of Marine Landing Creek.	Stabilize the large gully on the Parmly Campus in Chisago City, Minnesota. Improves will benefit Green Lake, the Sunrise River, and Lake St. Croix by controlling sediment and phosphorus from erosion.	Reduce phosphorus loading and sedimentation to the St. Croix River, and Lake St. Croix, Design and implement two biofiltration basins and up to 10 raingardens for stormwater within the City of Marine on St. Croix.	Bring target waterbodies back to pre-development conditions, which in some cases means exceeding state water quality standards.
BMPs installed	Moody Lake Wetland A/B Alum Treatment Moody Lake Wetland C Water Level Control Structure Bone Lake DCB Wetland Restoration	2 grade stabilization 2 grassed waterways 1 ravine stabilization 1 grassed waterway and filtration basin 1 grassed waterway and sediment basin	Ravine stabilization	400 feet of gully stabilization	3 bioretention basins	2 alum treatments 2 wetland restorations stormwater harvest and irrigation reuse vegetation establishment
Estimated reductions achieved	Phosphorus: 421 lbs/yr Sediment: NA Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: NA	Phosphorus: 207 lbs/yr Sediment: NA Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: NA	Phosphorus: 17 lbs/yr Sediment: NA Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: NA	Phosphorus: 112 lbs/yr Sediment: 112 t/yr Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: NA	Phosphorus: 17 lbs/yr Sediment: NA Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: NA	Phosphorus: 879 lbs/yr Sediment: NA Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: NA
Project highlights	Major BMPs completed using grant funds: Moody Lake Wetland A/B Alum Treatment, Moody Lake Wetland C Water Level Control Structure and Bone Lake DCB Wetland Restoration. Major partners: Private landowners, Chisago Lake Township, City of Scandia, Washington Conservation District. Wetland C water level control structure was completed January 2020. DCB Wetland	The goal was to install up to 16 best management practices that would remove at least 160 lbs/P from entering Lake St Croix annually to address the Lake St Croix TMDL. A total of seven projects were installed that removed an estimated 207 lbs/P annually from entering Lake St Croix. These projects include two grassed waterways, three grade stabilizations, and two grassed	Starting in 2018, the CMSCWD worked closely with the Pine Tree Trail Association, City of Marine, and MnDOT to develop plans to stabilize the ravine, restore the spring seep headwaters of Marine Landing Creek. Restoration of native woodland perennial plants, shrubs, and trees was completed in partnership with the Washington Conservation District. The project grading was substantially complete	A very large, unstable, gully was discovered on the Parmly on the Lake Campus in Chisago City Minnesota in 2014. This gully was unstable from stormwater pipe outlets, bare soil, and complete shade cover. Completing this project will provide ample native vegetation to stabilize the hillsides, slopes, and channel bottom. This gully is now stabilized, and native plants are growing. Stabilizing this	Starting in 2019, the CMSCWD worked closely with residents of Marine on St. Croix, the City of Marine on St. Croix, and MnDOT to develop plans to redirect stormwater into bioretention basins and stabilize an eroding channel. All the basin locations capture and treat stormwater from the highest density of impervious surfaces within, and flowing to, this section of the St. Croix River.	Landowner outreach and project design for wetland restorations and agricultural BMPs were completed. Alum treatment was completed. Phosphorus Source Assessment Plans and Implementation: Continued landowner outreach and project design. Outreach activities included continued social media and email updates, coordination with local lake associations on outreach/in lake management

Project name	Moody Lake Wetland Rehabilitation project	Lower Saint Croix Targeted Phosphorus Reduction project	Carnelian Marine Stormwater Phase 2	Chisago Lakes Gully Restoration Green Lake	Marine on Saint Croix Stormwater Phase 3	Comfort Lake Forest Lake Adaptive Management project Implementation
	Restoration was completed February 2021. These projects were implemented in the context of a larger watershed management plan and strategic set of projects in order to bring Moody and Bone Lakes to long-term water quality goals and state standards.	waterways in combination with filtration basins.	in the spring of 2021 with volunteer and restoration plantings installed in the summer and fall of 2021.	gully will keep 112 tons of sediment and 112 pounds of phosphorus out of the vulnerable Green Lake every year (BWSR Calculator).	Restoration of native perennial plants was completed in partnership with the Washington Conservation District and volunteers.	activities and implemented wetland dumping signage campaign.
Partnerships	Private landowners Chisago Lake Township The City of Scandia Washington Conservation District	South Washington Watershed District Carnelian Marine Saint Croix Watershed District Valley Branch Watershed District Saint Croix River Association Natural Resource Conservation Service Landowners BWSR Minnesota Department of Natural Resources	Emmons and Oliver Resources Washington Conservation District Marine on Saint Croix Minnesota Department of Transportation East Metro Water Resources Education Program	Landowners Shoreline Landscaping – Contractor Minnesota Pollution Control Agency BWSR Chisago Soil and Water Conservation District	Emmons and Oliver Resources Washington Conservation District Marine on Saint Croix Minnesota Department of Transportation East Metro Water Resources Education Program	Landowners The City of Forest Lake Local Lake Associations

Active projects in the Saint Croix River Basin

There are four projects that are currently under way in the basin are described in Table 20. The table describes the funding source and amount, the expected state and local match, the HUC-8 watershed, and the goal of the project. There are currently \$772,635 of Section 319 and CWP loan funds invested in the Saint Croix River Basin, with a commitment to \$240,340 of local and state match.

Table 20. Active projects in the Saint Croix River Basin.

Project name	Carnelian Marine Saint Croix Bridging Funds Loan	Marine on Saint Croix Stormwater, Phase 4	Snake River Watershed Resource Protection project
Sponsor	Carnelian – Marine Saint Croix Watershed	Carnelian – Marine Saint Croix Watershed	Snake River Watershed Management Board
FFY awarded	2020	2019	2016
Project timeframe	November 2019 – November 2022	January 2020 – August 2023	July 2016 – July 2020
Funding type	CWP Loan	Section 319	CWP Loan
Funding	\$317,000.00	\$55,365.00	\$400,000.00
Match	\$200,000.00	\$40,340.00	\$0.00
HUC code	7030005	7030005	7030004
Watershed	Lower Saint Croix	Lower Saint Croix	Snake River
Project goal	These CWP loan funds will assist in bridging the gap between expenditures and grant reimbursements associated with three Section 319 grant project that have been awarded.	The goal of this project is to reduce phosphorus loading and sedimentation to the St. Croix River and downstream to Lake St. Croix.	This project would replace approximately 33 subsurface sewage treatment systems (SSTs) in the three-year grant period.

Upper Mississippi River Basin

The Upper Mississippi River Basin (UMRB) within Minnesota stretches from the headwaters of the Mississippi River at Lake Itasca to Lock and Dam #2 near Hastings. It is the largest of Minnesota's 10 major river basins and is the only major drainage basin with all of its watersheds contained entirely within Minnesota's borders. The watershed drains 20,105 square miles and 510 miles of river corridor are located within the basin. There are dramatic changes in the river as it flows downstream from the headwaters to the metro area. The Northern part of the River and Basin is dominated by lakes and forests and the Southern part of the River and Basin is dominated by more agricultural and urban areas. These differences in land use dictate the type of water quality issues found across the basin, as well as the specific strategies that are needed to protect or restore the river.

Watersheds that comprise all the land that drains water towards the Upper Mississippi River are [Mississippi River – Headwaters](#), [Leech Lake River](#), [Crow Wing River](#), [Pine River](#), [Long Prairie River](#), [Mississippi River – Brainerd](#), [Mississippi River – Grand Rapids](#), [Redeye River](#), [Mississippi River- Sartell](#), [Mississippi River – St. Cloud](#), [Rum River](#), [Sauk River](#), [North Fork Crow River](#), [South Fork Crow River](#), and [Mississippi River – Twin Cities](#).

Newly awarded projects in the Upper Mississippi River Basin

There were seven projects awarded in the Upper Mississippi River Basin in 2022, which are summarized in Table 21. The table describes the funding source and amount, the expected state and local match, the HUC-8 watershed, and the goal of the project. These projects represent a total of \$1,999,743.00 of Section 319 grant and CWP loan investment, with a further commitment of \$1,394,095.00 in state and local matching funds.

Table 21. Newly awarded projects in the Upper Mississippi River Basin.

Project name	Horseshoe, Island and Minnewawa Lakes and Tamarack River NKE P1	Implementation of the Como Lake Management Plan and Nine Key Elements Plan Phase 1	Coon and Sand Creek Watershed NKE P1	Twelve Mile Creek Watershed NKE P1	Whitefish Lake HUC 10 NKE P1	Coon and Sand Creeks Special Project Pet Waste	Wilkinson, Birch and Tamarack Lakes NKE P1
Sponsor	Aikin County	Capital Region Watershed	Coon Creek Watershed	Wright Soil and Water Conservation District	Crow Wing Soil and Waste Conservation District	Coon Creek Watershed	Vadnais Lakes Area Watershed Management Organization
FFY awarded	2022	2022	2022	2022	2022	2022	2022
Project timeframe	October 2021 – August 2025	October 2021 – August 2025	June 2022 – August 2025	December 2021 – August 2025	August 2022 – August 2025	January 2022 – August 2025	February 2022 – August 2025
Funding type	Section 319	Section 319	Section 319	Section 319	Section 319	Section 319	Section 319
Funding	\$320,705.50	\$354,456.00	\$320,705.50	\$320,705.50	\$320,705.50	\$41,759.00	\$320,705.50
Match	\$220,246.88	\$290,240.00	\$213,804.50	\$214,000.00	\$214,000.00	\$28,000.00	\$213,804.00
HUC code	0701010305, 0701010306	070102060802	070102060203, 070102060201, 070102060202	070102040605	070101050401, 070101050402, 070101050403, 070101050404, 070101050405	070102060203, 070102060201, 070102060202	07010206
Watershed	Mississippi River – Grand Rapids	Mississippi River Twin Cities Watershed	Mississippi River Twin Cities Watershed	North Fork Crow River	Mississippi River – Brainerd	Mississippi River Twin Cities Watershed	Mississippi River Twin Cities Watershed
Project goal	This project is the first implementation project from the Tamarack River, Horseshoe, Island, and Minnewawa Lakes Subwatershed Nine Element Plan and includes the Tamarack River, Horseshoe, Island, and Minnewawa Lakes subwatersheds and their five impaired lakes (nutrients) and one impaired stream (bacteria): (Eagle - 09-0057-00, Lower Island - 09-0060-02, Upper Island - 09-0060-01, Lake Minnewawa - 01-0033-00, Horseshoe Lake - 01-0034-00 and the Tamarack River - 07010103-758). This project works towards removing these impairments by reducing phosphorous and bacteria, focusing on three project areas: stormwater, lakeshore, farm and forestry best management practices (BMPs). Cost-share programs will be used to install BMPs that will result in a reduction of 49 lbs of phosphorous and 3,852 billion most probable number (MPN)/org/year.	The CLMP defines five overarching goals with measurable objectives, each of which developed using input from both the community and agency staff. Management goals set a vision for Como Lake, and associated objectives provide a mechanism to measure progress towards meeting those goals. The five overarching management goals for Como Lake and its watershed include: Goal 1: Como Lake will be managed as an ecologically healthy, shallow lake. Goal 2: Maintain healthy shoreline areas that can support a variety of wildlife and contribute to the ecological health of Como Lake. Goal 3: Maintain a variety of year-round recreational opportunities that are appropriate for a shallow urban lake. Goal 4: Achieve strong sustained community engagement and stewardship to improve and protect Como Lake. Goal 5: Utilize the best science,	Address the primary stressors contributing to aquatic life impairments in Sand and Coon Creeks by improving stream habitat connectivity and reducing sediment and phosphorus loading attributable to streambank erosion.	The project is Phase 1 in the implementation of the Twelve Mile Creek Watershed Nine Key Element Plan (Plan) to restore and protect the water quality of the lakes and streams in the watershed. Project activities will focus on the critical areas described in the Plan. The critical areas include areas that export the highest amount of sediment and total phosphorus as modeled by the Prioritize, Target and Measure Application (PTMApp). Anticipated water quality benefits include reducing phosphorus, total suspended solids, and E. coli loadings.	Protect and enhance forest cover, priority protection lakes, and surficial sand aquifers by promoting 75 percent land protection in the Whitefish Lake minor watershed, which has been determined to be a minor priority watershed in the 1W1P.	The CCWD will install and operate 18 dog waste disposal stations located along trail corridors adjacent to public waterways in the Sand Creek Subwatershed in Anoka County, Minnesota to reduce E. coli and total phosphorus (TP) loading by an estimated 126,918 billion organisms and 122 pounds per year, respectively.	Restore water quality as part of Phase I of the Wilkinson Lake Stormwater Spine, as identified in the Wilkinson, Birch, and Tamarack Lakes Nine Key Element document.

Project name	Horseshoe, Island and Minnewawa Lakes and Tamarack River NKE P1	Implementation of the Como Lake Management Plan and Nine Key Elements Plan Phase 1	Coon and Sand Creek Watershed NKE P1	Twelve Mile Creek Watershed NKE P1	Whitefish Lake HUC 10 NKE P1	Coon and Sand Creeks Special Project Pet Waste	Wilkinson, Birch and Tamarack Lakes NKE P1
		partnerships, and resources to ensure successful implementation of the CLMP over the life of the plan (20 years).					
BMPs planned	4 comprehensive nutrient management plans 2 livestock/agriculture BMPs 23 shoreland management projects 15 rain gardens 10 rain barrels Prepare 30 forest stewardship plans	Rain garden (approximately 760 square feet) Rock channel (approximately 40 feet) 2 education signs Rain garden (approximately 320 square feet) 1 educational sign Stabilization of up to 845 feet of shoreline (10 percent) Up to 17,000 square feet of vegetation enhanced	Implement aquatic organism passage (AOP) and streambank BMPs. Enhance AOP and stabilize active erosion.	200 acres of source reduction (e.g., cover crops, reduced tillage, nutrient management, etc.) 1 wetland restoration 1 bioreactor 5 grassed waterways 6 grade stabilization structures 22 water and sediment control basins	5,000 cubic feet of rain gardens 1,470 linear feet of shoreline/streambank restoration projects 8 forest BMPs for 10 acres Implement soil health practices on 550 acres	18 pet waste stations	Engineering design Wilkinson Lake stormwater spine Phase 1 Construction of Wilkinson Lake stormwater spine Phase 1 BMP effectiveness monitoring
Estimated reductions	Phosphorus: 49 lbs/yr Sediment: NA Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: 3.85E+09 MPN/yr	Phosphorus: 7 lbs/yr Sediment: NA Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: NA	Phosphorus: 11 lbs/yr Sediment: 13 t/yr Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: NA	Phosphorus: 80 lbs/yr Sediment: 7,000 t/yr Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: NA	Phosphorus: 30 lbs/yr Sediment: 3 t/yr Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: NA	Phosphorus: 122 lbs/yr Sediment: NA Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: 1.27E+11 MPN/yr	Phosphorus: 42 lbs/yr Sediment: NA Soil loss: NA Nitrogen: NA BOD ₅ : NA E.coli: NA

Completed projects in the Upper Mississippi River Basin

There were six projects completed in the Minnesota River Basin are shown in Table 23. The final amount of Section 319 and CWP Loan funds invested were \$1,393,703.00 with \$976,278.00 of state and local match. The projects addressed nutrient, sediment, and *E. coli* loading in the basin, with estimated reductions summarized in Table 23. Best management practices (BMPs) installed included both structural practices and education/outreach activities. BMPs installed included manure storage structure, streambank stabilization, vegetated buffers, limestone filters, and sediment dredging.

Table 22. Estimated reductions for completed projects in the Upper Mississippi River Basin.

Pollutant	Reduction (unit)
Phosphorus	2,539 lbs/yr
Sediment (TSS)	1,191 t/yr
Soil loss	1,485 t/yr
Nitrogen	189 lbs/yr
BOD ₅	238 lbs/yr
E.coli	3.50E+14 MPN/yr

Table 23. Completed projects in the Upper Mississippi River Basin.

Project name	Lake Osakis Minor Watershed Nutrient Reduction	Middle Sand Creek Corridor Restoration	Long Prairie River Streambank Restoration	Middle Sauk River Field Runoff Reduction	Shingle Creek Watershed Soluble Reactive Phosphorus (SRP) Reduction	Judicial Ditch 2 (JD2) Sediment Pond Dredging project
Sponsor	Todd County Soil and Water Conservation District	Coon Creek Watershed District	Todd County Soil and Water Conservation District	Sauk River Watershed District	Shingle Creek Water Management Commission	Sauk River Watershed District
FFY awarded	2017	2018	2018	2018	2018	2019
Project timeframe	March 2018 – August 2021	April 2019 – August 2022	March 2019 – August 2022	April 2019 – August 2022	March 2019 – August 2022	November 2018 – November 2021
Funding type	Section 319	Section 319	Section 319	Section 319	Section 319	CWP Loan
Funding	\$174,768.00	\$312,230.00	\$156,450.00	\$103,094.00	\$72,162.00	\$575,000.00
Match	\$134,578.00	\$603,608.00	\$116,871.00	\$68,715.00	\$52,507.00	\$0.00
HUC code	7010202	7010206	7010108	7010202	7010206	7010202
Watershed	Sauk River Watershed	Mississippi River Twin Cities Watershed	Long Prairie River	Sauk River Watershed	Mississippi River Twin Cities Watershed	Sauk River Watershed
Project goal	Reduce total phosphorus contributions from animal agriculture within the OLM using financial and technical assistance for engineering plans and installing BMPs on feedlots.	Provide long-term channel stability, reduce non-point source sediment and nutrient loading, and to enhance aquatic and riparian habitat along a 2/3-mile reach of Middle Sand Creek. Address aquatic life impairments and TMDL loads for TSS and TP in Sand Creek and Coon Creek.	Improve water quality through reduction of phosphorus, sediment, and BOD contributions to the Long Prairie River. The lower reaches of this river have been listed as impaired for dissolved oxygen (DO) level during low flow periods.	Install cover crops to prevent field erosion using NRCS FOTG recommendations to prevent sediment from reaching the Sauk River. In addition, a farmer-led council made up of local producers will be consulted to expand public outreach efforts.	Reduce SRP loading in outflow from disturbed wetlands by field evaluating the effectiveness of three types of filter media and permanently installing filters using the best-performing media at the outlets of two high SRP concentration wetlands that discharge to impaired waterbodies.	Currently the JD2 sedimentation ponds are not functioning as designed due to the sediment build up in the ponds. Cleanout for the primary and secondary ponds.
BMPs installed	1 liquid manure storage structure 1 manure stacking slab	1,850 linear foot streambank stabilization 625 feet stream re-meandering 2,300 feet of vegetable buffers 5 acres of buckthorn control	390 feet of toe wood bench 13 cedar revetments 5 stream barbs 400 feet of native buffer (native grasses, shrubs and live stakes) 450 feet of rock armor was installed stabilizing the bank	NA	2 weirs with limestone rock filters	Dredge the JD2 sediment ponds (primary and secondary) to remove captured sediment and nutrients
Estimated reductions achieved	Phosphorus: NA Sediment: NA Soil loss: NA Nitrogen: 189 lbs/yr BODs: 238 lbs/yr E.coli: 3.5E14 MPN/yr	Phosphorus: 120 lbs/yr Sediment: 141 t/yr Soil loss: NA Nitrogen: NA BODs: NA E.coli: NA	Phosphorus: 1,262 lbs/yr Sediment: NA Soil loss: 1,485 t/yr Nitrogen: NA BODs: NA E.coli: NA	Phosphorus: NA Sediment: NA Soil loss: NA Nitrogen: NA BODs: NA E.coli: NA	Phosphorus: 100 lbs/yr Sediment: NA Soil loss: NA Nitrogen: NA BODs: NA E.coli: NA	Phosphorus: 1,057 lbs/yr Sediment: 1,050 t/yr Soil loss: NA Nitrogen: NA BODs: NA E.coli: NA
Project highlight	Reductions meet 78 percent of the annual goal of 120 lbs. as outlined in the 2104 TMDL study. Before Covid-19 hit, farmers, townships officials, and local citizens were educated on the impacts of land disturbance and land use practices on the quality of Lake Osakis. 10,000 citizens received four annual newsletters with	This 2019-21 project stabilized 1850 LF of actively eroding banks along a 2/3-mile reach of Middle Sand Creek via toe wood with soil encapsulated lifts, root wads, log toe, re-grading w/ blanket and seed, and vegetated riprap. This project also added 625 ft of additional channel length via remeandering the formerly	Partners including the Motley Cemetery, the Veterans' Administration, Villard Township, Sourcewell, and Todd SWCD, began work towards this project in 2017 with successful completion in 2020. Immediately following, wildlife returned to these sections of the river (particularly turtles and several	Numerous landowner site visits were conducted to engage in one-on-one conversations about the resource concerns within the Getchell Creek subwatershed, along with potential solutions. These conversations were instrumental in building trust between the Sauk River Watershed District (SRWD) and the landowners in	The Alcan and IES filters removed, on average, 84 percent and 46 percent of the concentration of TP from the wetland inflow over the two-year monitoring period. The Alcan and IES filters were even more effective in removing TDP over the same period (91 percent and 73 percent, respectively). The Phosphorus	Ponds were cleaned out in Regular inspections were completed throughout the entire process. The outlet pipe was replaced, fish gates were installed, and vegetation was established.

Project name	Lake Osakis Minor Watershed Nutrient Reduction	Middle Sand Creek Corridor Restoration	Long Prairie River Streambank Restoration	Middle Sauk River Field Runoff Reduction	Shingle Creek Watershed Soluble Reactive Phosphorus (SRP) Reduction	Judicial Ditch 2 (JD2) Sediment Pond Dredging project
	<p>positive feedback received, 120 informational postcards were sent out, and brochures were handed out at fairs, on-site meetings, and other local outreach events for an additional 370 targeted audience members. Seven additional engineer design plans were developed for feedlot sites with installs deferred due to the economic impacts of Covid-19 and severe weather: record breaking precipitation in 2019 and drought in 2021.</p>	<p>straightened channel. Furthermore, the floodplain was lowered and reconnected to the channel and vegetative buffers were established along 2300 ft of the project reach. Lastly, in addition to incorporating woody debris into bank stabilization practices, in-channel habitat was improved via installation of 3 J-hooks, 9 boulder vanes, and 6 engineered rock riffles. Riparian habitat was enhanced via 5 acres of buckthorn control, native seeding, and planting of 3850 dogwood live stakes, 1500 plant bands, 2200 perennial pollinator plugs, and 42 trees.</p>	<p>species of fish in pools created by the stream barbs). A June 2021 project tour attended by the Board of Soil and Water Resources, NRCS, county commissioners, and members of the public <i>shared</i> the project story. The Long Prairie River is no longer indicating impairment for dissolved oxygen.</p>	<p>a contentious area. The landowner feedback that was received during site visits was incorporated into the focused evaluation and assessment process.</p>	<p>Sponge filter was less effective in P removal, releasing more TP that it adsorbed in 2020. The Alcan filter media was most effective in removing P. Alcan is more costly than IES, with a total cost per pound of TP removed of \$417 while IES is \$207.</p>	
Partnership	<p>Farmers and landowners Todd County Soil and Water Conservation District Douglas County Soil and Water Conservation District Todd County West Central Technical Service Area Sauk River Watershed District Minnesota Pollution Control Agency</p>	<p>Coon Creek Watershed District The City of Coon Rapids Minnesota Department of Natural Resources Stantec Anoka Ramsey Community College</p>	<p>Motley Cemetery and the City of Motley Todd County Veterans Service/Sourcewell Villard Township Todd County Soil and Water Conservation District West Central Technical Service Area Mid-Minnesota Excavation Minnesota Pollution Control Agency</p>	<p>Stearns County Soil and Water Conservation District Houston Engineering, Inc.</p>	<p>Shingle Creek Watershed Management Commission The City of Crystal Minnesota Pollution Control Agency</p>	<p>Dorsey Whitney, LLC Rachel Contracting, Inc. Wenck and Associates Minnesota Pollution Control Agency</p>

Active projects in the Upper Mississippi River Basin

There are 20 projects that are currently under way in the basin are described in Table 24. The table describes the funding source and amount, the expected state and local match, the HUC-8 watershed, and the goal of the project. There are currently \$9,718,627.00 of Section 319 and CWP loan funds invested in the Upper Mississippi River Basin, with a commitment to \$2,069,160.00 of local and state match.

Table 24. Active projects in the Upper Mississippi River Basin.

Project name	Meeker County SSTS Program	H2O (HOPP) Water Preservation project	Todd County SSTS project	Vadnais Lakes Area WMO Bacteria, Sediment and Nutrient Reduction project	VLAWMO Bacteria, Sediment and Nutrient Reduction project	Crystal Lake Management Plan	Sweeney Lake WQ Improvement project	Lake Carlos Watershed Improvement project	Partridge River E.coli Reduction, Phase II	Partridge River E.coli Reduction
				These two projects are paired projects and are cooperative.						
Sponsor	Meeker County	The City of Mounds View	Todd County	Vadnais Area Lakes Water Management Organization	Vadnais Area Lakes Water Management Organization	Shingle Creek Water Management Commission	Basset Creek Watershed Management Commission	Douglas County Soil and Water Conservation District	Todd County Soil and Water Conservation District	Todd County Soil and Water Conservation District
FFY awarded	2020	2020	2020	2019	2019	2019	2019	2019	2019	2018
Project timeframe	October 2019 – October 2022	January 2020 – January 2023	March 2020 – March 2023	September 2019 – September 2022	November 2019 – August 2023	January 2020 – August 2023	December 2019 – August 2023	January 2020 – August 2023	March 2020 – August 2023	March 2019 – August 2022
Funding type	CWP Loan	CWP Loan	CWP Loan	CWP Loan	Section 319	Section 319	Section 319	Section 319	Section 319	Section 319
Funding	\$275,000.00	\$2,000,000.00	\$450,000.00	\$400,000.00	\$302,679.00	\$216,066.00	\$330,000.00	\$300,000.00	\$221,610.00	\$79,722.00
Match	\$.	\$.	\$.	\$302,679.00	\$601,447.00	\$154,440.00	\$238,080.00	\$200,000.00	\$148,740.00	\$53,182.00
HUC code	07010204, 07010205	7010206	07010107, 07010106, 07010108, 07010202, 07010104, 07010201	7010206	07010206	07010206	07010206	07010108	07010106	07010106
Watershed	North Fork Crow and South Fork Crow	Mississippi River Twin Cities Watershed	Redeye, Crow Wing, Long Prairie, Sauk, Miss Brainerd, Miss Sartel	Mississippi River Twin Cities Watershed	Mississippi River Twin Cities Watershed	Mississippi River Twin Cities Watershed	Mississippi River Twin Cities Watershed	Long Prairie River Watershed	Crow Wing River	Crow Wing River
Project goal	Replace/upgrade approximately 30 SSTS.	Elimination of sanitary sewer discharge to groundwater via lateral pipe repair. Reduction in chloride discharge to sanitary and/or storm water system via replacement of residential water softeners.	Replace/upgrade approximately 55 SSTS.	Companion to the VLAWMO Bacteria, Sediment, & Nutrient Reduction Project.	Install suite of BMPs to address bacteria impairment, provide increased stormwater storage, and capture sediment in the Lambert Lake area of Lambert Creek.	Improve the water quality of Crystal Lake through the reduction of phosphorus levels, removal of carp and possible treatment for aquatic invasive species.	Reduce total phosphorus concentrations in Sweeney Lake to meet water quality standards.	Implement BMPs on actively eroding project areas of the Long Prairie River Watershed to address nutrient rich sediment to surface waters through field erosion, feedlot runoff, storm water, and stream erosion.	Restore water quality in the Partridge River, Egly Creek, and its associated tributaries to the EPA safety standard of 126 org/100ml through high - medium flow regimes to protect the recreational value of the Crow Wing River.	Address water quality concerns in lakes and streams in the Crow Wing River Watershed. Livestock BMPs and other practices.

Table 24. Continued. Active projects in the Upper Mississippi River Basin.

Project name	Lake Monongalia Stormwater projects Importance	Osakis Lake Basin Restoration – Phase 2 Implementation	Wright County Septic System Low Interest Loan project	Mille Lacs County SSTS Upgrades	Green Lake NKE Implementation Phase 1	Lake Allie ESSD Wastewater Collection System project
Sponsor	Middle Fork Crow River Watershed	Sauk River Watershed	Wright County	Mille Lacs County	Isanti Soil and Water Conservation District	Renville County
FFY awarded	2019	2018	2021	2020	2020	2021
Project timeframe	October 2018 – October 2021	November 2017 – November 2020	August 2020 – August 2023	July 2020 – July 2023	October 2020 – August 2024	November 2020 – November 2023
Funding type	CWP Loan	CWP Loan	CWP Loan	CWP Loan	Section 319	CWP Loan
Funding	\$275,000.00	\$1,500,000.00	\$500,000.00	\$200,000.00	\$284,275.00	\$700,000.00
Match	\$0.00	\$0.00	\$0.00	\$0.00	\$185,296.00	\$0.00
HUC code	7010204	7010202	07010204, 07010203	07010207, 07030003	07010207	7010205
Watershed	North Fork Crow	Sauk River Watershed	North Fork Crow River and Mississippi River Saint Cloud	Rum River, Snake River	Rum River	South Fork Crow River
Project goal	Installation of these projects will result in a cost-effective pollutant reduction from City of New London runoff to various nearby water resources, and downstream drinking water supply of Minneapolis and St. Paul.	CWP loan for nonpoint BMP implementation activities in the Sauk River Major Watershed.	Replace/upgrade failing or noncompliant SSTS in Wright County.	Upgrade/replace approximately 15 SSTS.	Implement prioritized and targeted Best Management Practices (BMPs) and strategic outreach in critical areas to reduce nonpoint sources of phosphorus to Green Lake.	The goal of the Lake Allie ESSD Wastewater Collection System Loan Project is to ensure continued surface and ground water quality protection by replacing an aging centralized sewage treatment system.

Cedar River Basin

The Cedar River Basin lies in the western portion of Southeast Minnesota. Approximately 1,000 square miles cover Minnesota, but most of this Basin is in Iowa. In Minnesota, the Basin includes the following HUC-8 watersheds: [Cedar River](#), [Upper Wapsipinicon River](#), [Shell Rock River](#) and [Winnebago River](#). Agriculture dominates the land use of the Cedar River Basin. Row crop and livestock production play a large role in the watershed. Many of the water quality projects implemented in this Basin work to reduce impacts from agriculture, including sediment, nitrogen and *E. coli* reduction efforts.

Newly awarded projects in the Cedar River Basin

There were no newly awarded projects in the Cedar River Basin in 2022.

Completed projects in the Cedar River Basin

There were no completed projects in the Cedar River Basin in 2022.

Active projects in the Cedar River Basin

There is one project that are currently under way described in Table 25. The table describes the funding source and amount, the expected state and local match, the HUC-8 watershed, and the goal of the project. There are currently \$284,275.00 of Section 319 funds invested, with a commitment of \$297,780.00 of local and state match.

Table 25. Active projects in the Cedar River Basin.

Project name	Dobbins Creek Watershed project Phase 1
Sponsor	Cedar River Watershed District
FFY awarded	2020
Project timeframe	December 2020 – August 2024
Funding type	Section 319
Funding	\$284,275.00
Match	\$297,780.00
HUC code	7080201
Watershed	Cedar River
Project goal	The goal is to implement best management practices in the upper watershed, capital improvement projects, accelerate bacteria treatment through SSTS improvements, implement 184 acres of Soil Health Practices, track performance and inventory land use management and soil health BMPs, establish modeling estimate of N, P, Q, and sediment reduction benefits of priority project sites.

Projects spanning multiple basins

In many cases, political boundaries do not follow the natural watershed boundaries. In cases like these, often a political entity, such as a county, will develop a project within their political borders that span multiple basins. In other cases, there are projects that have a statewide impact and will benefit the entire state. Since 2016, there has been an investment of \$9,136,875.00 of Section 319 funds and Clean Water Partnership Loan funds. Local partners have invested an additional \$30,000.00 of state and local match dollars to these projects.

Newly awarded projects in multiple basins

There was one project awarded in the Multiple Basin in 2022, which are summarized in Table 26. The table describes the funding source and amount, the expected state and local match, the HUC-8 watersheds, and the goal of the project. These projects represent a total of \$1,000,000.00 of CWP loan investment.

Table 26. Newly awarded projects in multiple basins.

Project name	Kandiyohi County SSTS Upgrades
Sponsor	Kandiyohi County
FFY awarded	2022
Project timeframe	June 2022 – June 2025
Funding type	CWP Loan
Funding	\$1,000,000.00
Match	\$0.00
HUC code	07010204, 07010205, 07020005, 07020004
Watershed	North Fork Crow River, South Fork Crow River, Chippewa River, Minnesota River (Yellow Medicine River)
Project goal	Upgrading substandard sewage treatment systems with loan dollars enables citizens within the community to have an active role in water quality improvement in their neighborhood. For each nonconforming or failing system that is replaced, untreated or poorly treated septic effluent is removed from the receiving environment, leading to actual and tangible public health and environmental health benefits. Every major watershed in Kandiyohi County has lakes and stretches of river that are impaired for fecal coliform bacteria or nutrients. Removing contributors to these degradations throughout each watershed will lead to overall water quality improvements.
BMPs planned	Upgrade an estimated 100 systems.
Estimated reductions	Phosphorus: 550 lbs/yr Sediment: NA Soil loss: 5,750 lbs/yr Nitrogen: 1,700 lbs/yr BOD ₅ : 10,350 lbs/yr E.coli: NA

Completed projects in multiple basins

There was one project completed in the Multiple Basin shown in Table 27. The final amount of CWP Loan funds invested was \$1,682,524.00. The projects addressed nutrient and sediment loading.

Table 27. Completed projects spanning multiple basins.

Project name	Kandiyohi County SSTS Upgrades
Sponsor	Kandiyohi County
FFY awarded	2018
Project timeframe	June 2018 – June 2022
Funding type	CWP Loan
Funding amount	\$1,682,524.00
Match	\$.
HUC code	07010204, 07010205, 07020005, 07020004
Watershed	North Fork Crow, South Fork Crow, Chippewa River, Redwood River
Project goal	Achieve water quality protection and restoration through SSTS upgrades.
BMPs installed	143 SSTS upgrades
Estimated reductions achieved	Phosphorus: 946 lbs/yr Sediment: 5 t/yr Soil loss: NA Nitrogen: 1,700 lbs/yr BODs: 27,428 lbs/yr E.coli: NA
Project highlights	Kandiyohi County engaged in a systematic effort to improve water quality by upgrading of outdated, failing, and noncompliant individual sewage treatment systems. Installed sewage treatment systems help improve both groundwater and surface water quality.
Partnerships	Landowners

Active projects in multiple basins

There are seven projects that are currently under way described in Table 28. The table describes the funding source and amount, the expected state and local match, the HUC-8 watershed, and the goal of the project. There are currently \$5,900,000.00 of CWP loan funds invested, with a commitment of \$30,000.00 of local and state match.

Table 28. Active projects spanning multiple basins.

Project name	McLeod County SSTS Restoration	Lincoln County SSTS project	Itasca County SSTS Loan Program	Otter Tail County SSTS Loan	Pine County SSTS Upgrades	Renville County SSTS Loan Program	Cottonwood County SSTS Low Interest Loan project
Sponsor	McLeod County	Lincoln County	Itasca County	Otter Tail County	Pine County	Renville County	Cottonwood County
FFY awarded	2019	2019	2020	2020	2020	2020	2019
Funding type	CWP Loan	CWP Loan	CWP Loan	CWP Loan	CWP Loan	CWP Loan	CWP Loan
Funding	\$1,200,000.00	\$500,000.00	\$500,000.00	\$1,000,000.00	\$900,000.00	\$900,000.00	\$900,000.00
Match	\$0.00	\$30,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
HUC code	07010205, 07010204, 070200012	07020003, 10170202, 10170203, 07020004, 07020006	07010101, 07010103, 09030006, 09030005, 09020302, 04010201	09020103, 07010107	07030001, 07030005, 07030004, 07030003, 04010301	07020012, 07020007, 07020004, 07010205	07100001, 07020010, 07020008, 07020007, 07020009
Watershed	South Fork Crow, North Fork Crow, Lower Minnesota	Lac Qui Parle, Minnesota – Yellow Medicine, Redwood, Upper Big Sioux, Lower Big Sioux	Mississippi – Headwaters, Mississippi – Grand Rapids, Saint Louis, Little Fork, Big Fork, Upper and Lower Red Lake	Otter Tail, Redeye	Upper and Lower Saint Croix, Snake, Kettle, Nemadji	Lower Minnesota, Minnesota Mankato, Minnesota – Yellow Medicine, South Fork Crow	Mississippi River Twin Cities Watershed
Project goal	Improve water quality and environmental degradation through financial assistance in replacing failing septic systems in McLeod County. Environmental benefits include proper treatment and disposal of septage that include phosphorus, sediment and nitrogen that have a negative impact on both ground and surface water.	Provide loan funds to upgrade subsurface sewage treatment systems (SSTS) to reduce multiple pollutants, including bacteria, from reaching groundwater and the identified waterbodies. Installation of conforming sewage treatment systems will assist greatly in protection of unimpaired waterbodies while restoring multiple reaches already impaired for bacteria.	Protect, enhance, and restore water quality in Itasca County by establishing a loan fund, which will encourage a faster rate of septic system replacement on properties throughout the county.	Provide loans to homeowners and commercial operators to replace noncompliant septic systems. The letters that require replacement of SSTS will promote the use of this loan program to homeowners and commercial property owners.	Replacement of noncompliant septic systems in Pine County to protect and improve public health and the water quality of the County’s five major watersheds.	To achieve water quality protection and restoration by providing financial assistance for property owners to upgrade noncompliant sewage treatment systems.	Replace 72 septic systems throughout Cottonwood County over the next three years.

Appendix A. Goals, milestones and strategies

Minnesota has long tradition of addressing water quality issues within the state. Throughout this time many plans, initiatives and strategies were developed to address concerns throughout the state. In 2006 the Minnesota Legislature determined 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; and achieving the state's water quality goals will require long-term commitment and cooperation by all state and local agencies, and other public and private organizations and individuals, with responsibility and authority for water management, planning, and protection.”

Based on this information the Minnesota Legislature passed the Clean Water Legacy Act legislatively mandating a common effort to address water quality concerns in Minnesota. From this directive several high level efforts, such as the Minnesota Water Quality Framework and the Clean Water Roadmap were completed to guide water quality improvement efforts in Minnesota. These documents along with other statewide planning and strategy documents (such as the state Nutrient Reduction Strategy and the state water plan led by the Environmental Quality Board) provide the overall goals, strategies and milestones for this plan and are outlined below.

Guiding principle

The guiding principles of this plan follow the Minnesota Water Quality Framework principles:

- Protect, maintain, and restore the biological, chemical, and physical health of the state’s water resources.
- Provide resiliency to our ecosystems, our communities, and our economies.
- Increase our understanding of our state water balance and the processes and stressors affecting it to provide for improved decision making.
- Improve our capacity for water management that can adapt to new knowledge, changing biogeochemical systems, and long-term challenges.
- Encourage sustainable, conservation-minded land use practices.
- Recognize and honor our many uses of water, including recreational, cultural, and spiritual values.
- Preserve our water-rich heritage and ensure our future legacy as national and international water stewards.
- Provide for a lasting foundation to achieve and maintain sustainable water management.

Short term, long term and overall goals

The Minnesota Clean Water Council has worked with stakeholders to develop overall goals for water quality in Minnesota. The overall goals listed below are applicable to this plan:

- Drinking water is safe for everyone, everywhere in Minnesota.
- Protect public water supplies.
- Ensure private well users have safe water.
- Groundwater is clean and available.
- Improve and protect groundwater quality.
- Ensure sustainable long-term trends in aquifer levels.
- Avoid adverse impacts to surface water features due to groundwater use.
- Surface waters are swimmable and fishable.

- Prevent and reduce pollution of surface waters.
- Maintain and improve the health of aquatic ecosystems.
- Protect and restore hydrologic systems.
- Minnesotans value water and take actions to sustain and protect it.
- Build capacity of local communities to protect and sustain water resources.
- Encourage systems and approaches that support, protect, and improve water.
- Provide education and outreach to inform Minnesotans’ water choices.
- Encourage citizen and community engagement on water issues.

Minnesota’s Clean Water Roadmap establishes several long-term goals that are applicable for this plan:

- Increase the percentage of Minnesota lakes with good water quality, as measured by acceptable Trophic State Index, from 62 percent to 70 percent.
- Increase the percentage of Minnesota’s rivers and streams with healthy fish communities, as measured by the Index of Biotic Integrity, from 60 percent to 67 percent.
- Reduce nitrate levels in groundwater by 20 percent, which will decrease the percentage of wells exceeding the drinking water standard by 50 percent (in two vulnerable areas of the state).

The 2014 Minnesota Nutrient Reduction Strategy set short and long-term goals to assist in tracking Minnesota’s statewide nutrient reduction progress and are applicable to this plan. Each major basin has numeric reduction goal for phosphorus and nitrogen.

[Five-year progress report | Minnesota Pollution Control Agency \(state.mn.us\)](https://state.mn.us/pca/five-year-progress-report).

Table 29. Major basin-wide nutrient reduction goals.

Major basin	Short term goal 2014 – 2025	Long term goal 2025 - 2040
Mississippi River (also includes Cedar, Des Moines and Missouri Rivers)	12 percent reduction in phosphorus (33 percent reduced prior to 2014). 20 percent reduction in nitrogen.	Achieve 45 percent total reduction from 1980 – 1996 baseline and meet in-state lake and river water quality standards. Achieve 45 percent total reduction from 1980 – 1996 baseline.
Red River (Lake Winnipeg Basin)	10 percent reduction in phosphorus. 13 percent reduction in nitrogen.	Achieve final reductions identified through joint efforts with Manitoba (about 50 percent from 1998 – 2001).
Lake Superior	Maintain protection goals, no net increase from 1970.	
Groundwater/Source water	Meet the goals of the 1989 Groundwater Protection Act.	

Overall priorities

Three high-level state priorities that are identified for the use of nonpoint implementation money include:

- Restore those impaired waters that are closest to meeting state water quality standards.
- Impaired waters that are within 10 percent of meeting water quality standards should be considered a priority for implementation.
- Protect those high-quality unimpaired waters at greatest risk of becoming impaired.
- High-quality unimpaired waters that are within 10 percent of becoming impaired and have a declining water quality trend should be considered a priority for implementation.

- Restore and protect water resources for public use and public health, including drinking water.

These priorities of barely impaired, nearly impaired, and those that are a significant public use and public health, especially drinking water sources, are prioritized for funding, as described in the [Section 319 Small Watersheds Focus Programs Funding Priorities and Selection Criteria](#).

Strategies

High-level strategies are identified in the Minnesota Non-Point Funding Plan (NPPF) for the successful use of available funds in achieving the state’s clean water goals. These same strategies are adopted in this plan, as the Minnesota NPPF was developed to provide state agencies with a coordinated, transparent and adaptive method to ensure that Clean Water Funds and other implementation funds are targeted to cost-effective actions with measurable results. The Minnesota NPPF does not include a single scoring system with weighted criteria. Instead, it allows state agencies the flexibility to apply the NPPF priorities and criteria in ways that meet their strategic, legislative and funding source goals. Included with these strategies are this plan’s milestone activities on how these strategies will be implemented for this plan.

Accelerate Watershed-scale implementation

Watershed Scale Implementation will be most effective when allocation of monies for the highest-priority actions follows local government adoption of watershed-based local water plans.

- Milestone 1a – each year, up to ten small watersheds will be selected to participate in the Section 319 Small Watershed Focus Program. Up to 40 watersheds will be selected to participate in the program.
- Measure – number of watersheds selected to participate in the Small Watershed Focus Program.
 - Group A: 10
 - Group B: 9
 - Group C: 10
 - Group D: 6
- Milestone 1b – provide assistance to each of the selected Small Watershed Focus Program recipients in the development of an EPA NKE watershed-based plan.
- Measure – all selected watersheds have an EPA approved NKE watershed-based plan.
 - Group A: 10
 - Group B: 9
 - Group C: 2 complete, 8 in progress
 - Group D: 6 in progress
- Milestone 1c – provide administrative oversight of the Minnesota Section 319 Small Watershed Focus Program.
- Measure – satisfactory review of administrative oversight.
 - Yes
- Milestone 1d – develop or update a Watershed Management Plan (in the seven-county metro area) or a Comprehensive Watershed Management Plans also known as One Watershed, One Plan (1W1P).
- Measure – number of completed and approved plans, or subsequently developed updated plans.
 - Metro:

- Approved Plans: 33 out of 33
- <https://www.pca.state.mn.us/water/twin-cities-metropolitan-area-tcma-watersheds>
- [Metro Watershed Management Plan | MN Board of Water, Soil Resources \(state.mn.us\)](#)
- Greater Minnesota
- Approved Plans: 28 out of 80
- Planning: 26
- [One Watershed, One Plan Participating Watersheds | MN Board of Water, Soil Resources \(state.mn.us\)](#)

Prioritize and target at the Watershed scale

Models and tools are useful for watershed prioritization and for identifying potential impacts to surface and groundwater. They are often capable of targeting which actions, locations, and management practices are most effective at addressing water quality goals and project objectives. Models and tools are used to project outcomes of specific actions, locations, and management practices to forecast measurable results. Using these models and tools together with the best available science can efficiently inform Minnesota’s Water Quality Framework.

- Milestone 2a – Develop and maintain Hydrological Simulation Program – Fortran (HSPF) models or other more appropriate water quality simulation models for each of the 80 watersheds in Minnesota.
- Measure – number of HUC-8 watersheds that have a completed and QA/QCed water quality simulation model.
 - Watersheds completed: 5
- Milestone 2b – extend time series and data of each watershed model once every five years ensuring latest water quality data is available.
- Measure – number of completed water quality simulation model updated once every five years.
 - Watersheds completed: 6

Measure results at the Watershed scale

Similar to prioritizing and targeting, measuring results is best achieved at the watershed scale. Watershed-based local water plans capable of producing measurable results are essential to adaptive management and accountability to the public.

- Milestone 3a – support ongoing nutrient load monitoring through the Watershed Pollutant Load Monitoring Network (WPLMN) which occurs on every major river throughout the state.
- Measure – number of WPLMN sites maintained.
 - Basin Sites: 23
 - Major Watershed Sites: 52
 - Subwatershed Sites: 125
 - Total: 200
 - [Watershed pollutant load monitoring | Minnesota Pollution Control Agency \(state.mn.us\)](#)
- Milestone 3b – support Minnesota’s Watershed Approach Intensive Watershed Monitoring (IWM) program which evaluates streams and lake water quality on a 10-year cycle of biological and chemical monitoring conducted in each of the 80 HUC-8 watersheds in Minnesota.
- Measure - number of HUC-8 watersheds completing IWM each year.

- Cycle 1: 80 out of 80 watersheds completed.
- Milestone 3c – support the Minnesota Citizen Monitoring Program (CMP) to allow dedicated citizen scientist and the MPCA to track the long-term health of Minnesota lakes and streams, in a collaborative approach, via regular summer water clarity monitoring.
- Measure - number of volunteers participating in the CMP.
 - A total of 1,400CMP volunteers collected data during the most recent monitoring season.
 - [Citizen water monitoring | Minnesota Pollution Control Agency \(state.mn.us\)](#)
- Milestone 3d – provide input and assist in the development of the biennial Clean Water Fund Performance Report. This report provides a snapshot of how Clean Water Fund and other leveraged dollars are being spend and what progress has been made in achieving water quality goals.
- Measure – Clean Water Fund Performance Report published in even numbered years.
 - [2020 Clean Water Fund Performance Report](#)
 - [Clean Water Fund Performance Reports | Minnesota's Legacy \(mn.gov\)](#)
- Milestone 3e – maintain and update the Healthier Watershed webpage which provides interactive and updated information on WRAPS and TMDL status, wastewater treatment plant progress, BMP implementation by watershed, and information on state, local and federal spending for clean water projects.
- Measure – webpage [Healthier watersheds: Tracking the actions taken | Minnesota Pollution Control Agency \(state.mn.us\)](#) updated annually by July 1, 2022.
 - Updated August 1, 2022

Utilize science-based information

A key to developing prioritized implementation schedules for projects with targeted actions, and measuring results of these actions, is to incorporate the wealth of science-based information, summarized in WRAPS, TMDLs and other technical reports, and practice effectiveness research into local water planning and project development processes.

- Milestone 4a – Utilize Watershed Assessment Teams (WAT) and Professional Judgement Groups (PJG) in the water quality Assessment Process to determine if state waters are attaining water quality standards.
- Measure - number of Assessment Processes completed each year.
 - Two assessment processes in FFY 2022, Mississippi River Twin Cities and Crow Wing River watersheds
- Milestone 4b – perform Stressor Identification (SID) in each of the 80 HUC-8 watersheds to identify stressors causing biological impairments of aquatic ecosystems through a weight of evidence approach and provide a structure for organizing the scientific evidence supporting the conclusion. A Stressor Identification report will be developed for each of the 80 HUC-8 watersheds.
- Measure - number of SID reports/updates completed each year.
 - FFY 2022: 2 reports
- Milestone 4c – perform Problem Investigation Monitoring to investigate specific problems or protection concerns to allow for the development of a management approach to protect or improve the resource.
- Measure - number of sites monitored each year.
 - 50 sites FY2022

- Milestone 4d – develop Watershed Restoration and Protection Strategy (WRAPS) reports which include major findings of the Monitoring and Assessment Report, Biological SID Report, HSPF modeling results, TMDL study information, and protection and implementation strategies for each HUC-8 watershed.
- Measure - number of WRAPS reports, or subsequently WRAPS Update reports, developed yearly.
 - 75 of 80 WRAPS approved, 3 in progress, 2 on public notice. As of June 24, 2022
- Milestone 4e – develop TMDL studies in accordance with Minnesota’s TMDL Priority Framework document.
- Measure - number of TMDLs approved by EPA each year.
 - TMDL FFY 2022: 9
 - FFY 2016-2021: 73
 - [Approved TMDLs and WRAPS \(state.mn.us\)](#)
- Milestone 4f – develop Minnesota Department of Health Groundwater Restoration and Protection Strategies (GRAPS) reports for each watershed, which contain maps and data describing groundwater conditions in the watershed. The reports identify local groundwater concerns and outline strategies and programs to address them.
- Measure - number of GRAPS developed each year.
 - 9 complete GRAPS reports
 - [Groundwater Restoration and Protection Strategies \(GRAPS\) \(state.mn.us\)](#)
- Milestone 4g – develop Minnesota Department of Natural Resources Watershed Hydrology, Connectivity, and Geomorphology Assessment Reports for each watershed which analyzes the current and historical hydrology trends of the watershed, assesses the fluvial geomorphology and stability of rivers and streams within the system and investigates connectivity (i.e. longitudinal, lateral, and riparian).
- Measure - # of Hydrology, Connectivity, and Geomorphology Assessment reports developed each year.
- Milestone 4h – update and revise Minnesota Nutrient Reduction Strategy (NRS). Report on progress on implementation activities and strategies, BMP adoption assessment, water quality outcomes and any recommended adjustments to the NRS implementation efforts.
- Measure – NRS update completed in 2024.
 - [Nutrient reduction strategy | Minnesota Pollution Control Agency \(state.mn.us\)](#)

Build local capacity

The work of nonpoint implementation rests on the shoulders of local governments. As WRAPS proliferate and local water planning begins shifting to a watershed-based framework, success is dependent on highly capable local government staff to develop, prioritize, target, and implement projects at the local level.

- Milestone 5a – maintain, support and provide training for HSPF-Scenario Application Manager (HSPF-SAM) to aid local partners in the decision on the prioritization and placement of best management practices (BMPs) needed to achieve water quality goals.
- Measure - number of Processing Application Tool for HSPF (PATH) interfaces maintained.
 - One PATH maintained in FFY 2022
- Measure - number of trainings HSPF-SAM held.
 - Two trainings during FFY 2022

- Milestone 5b – provide water quality technical knowledge assistance and information to local planning partners in the development or updates 1W1P. This assistance will include providing water quality data, identification of stressors and pollutant sources, information on prioritizing and targeting critical areas for protection and restoration, and high-level strategies to achieve water quality goals.
- Measure – number of completed and approved 1W1P or subsequently developed updated 1W1P.
 - Approved Plans: 28
 - Planning: 26
 - [One Watershed, One Plan Participating Watersheds | MN Board of Water, Soil Resources \(state.mn.us\)](#)
- Milestone 5c – provide Smart Salting training to increase awareness of chloride pollution and prevention.
- Measure – cumulative # of people certified in Smart Salting.
 - Trained
 - FFY 2022: 1062
 - Total 5315 (FFY 2014-2022)
 - [Smart Salting training | Minnesota Pollution Control Agency \(state.mn.us\)](#)
- Milestone 5d – Implement the Minnesota Clean Water Partnership loan program offering zero-interest loans to local units of government for implementing nonpoint-source best management practices and other activities that target the restoration and protection of water resources.
- Measure – amount of money loaned to local units of government per year.
 - FFY 2022: \$4,100,000.00
- Milestone 5e – Continue to direct funding resources for accelerated program management and local implementation of non-point pollution reduction activities.
- Measure – amount of grant money awarded.
 - Section 319 FFY2021 \$5,923,719
 - [Show you're interested: Section 319 Small Watersheds Focus | Minnesota Pollution Control Agency \(state.mn.us\)](#)
 - Clean Water Funds 3,500,000 available for FFY 2022
 - [Clean Water Partnership loan | Minnesota Pollution Control Agency \(state.mn.us\)](#)
 - [Clean Water Fund | Minnesota's Legacy \(mn.gov\)](#)
- Milestone 5f – maintain and update the Minnesota Stormwater Manual WIKI
- Measure – continued update of manual. Updates can be tracked at [Recent changes - Minnesota Stormwater Manual \(state.mn.us\)](#).
 - Last updated: June 21, 2022

Maximize existing laws and regulations

Customary approaches to nonpoint pollution implementation include regulation as well as financial incentives and education. A key to developing effective Watershed Restoration and Protection Strategies is maximizing the effectiveness of existing laws and regulations.

- Milestone 6a – support and implement the 2015 Buffer Law (amended in 2016). The law establishes perennial vegetation buffers along rivers, streams, and public drainage ditches.
- Measure - Percentage compliance statewide of Buffer Law.

- Approximately 98 percent of parcels adjacent to Minnesota waters are compliant with the Buffer Law.
- [Minnesota Buffer Law | MN Board of Water, Soil Resources \(state.mn.us\)](#)
- [Where Can I Find Buffer Maps? | MN Board of Water, Soil Resources \(state.mn.us\)](#)
- Milestone 6b – support and implement the MDA Minnesota Nitrogen Fertilizer Management Plan and the Groundwater Protection Rule.
- Measure – annual posting of Fall Nitrogen Restriction map.
 - [Fall Nitrogen Fertilizer Application Restrictions \(2021\) \(arcgis.com\)](#)
- Measure – annual posting of Drinking Water Supply Management Area Mitigation Level map.
 - [Mitigation Level Determination | Minnesota Department of Agriculture \(state.mn.us\)](#)
- Milestone 6c – support and implement MPCA Feedlot rules on non-CAFO facilities.
- Measure - Number of high-risk feedlot inspections conducted annually.
 - [MPCA Feedlot Program overview](#) Updated January 2021
- Milestone 6d – support and implement the MPCA Subsurface Sewage Treatment System rules.
- Measure - Percentage of estimated SSTS compliant systems.
 - [SSTS Annual Report](#)
 - Total number of SSTS reported and construction permits issued in 2020
 - Total number of SSTS: 618,102
 - Construction permits: 12,368

Support innovative nonregulatory approaches

One of several keys to leveraging various implementation monies is to support the development of market-driven and reward-driven approaches.

- Milestone 7a – implement the Minnesota Agricultural Water Quality Certification Program (MAWQCP). The MAWQCP is a voluntary program that supports the implementation of conservation practices on a field-by field, whole-farm basis through its process of identifying and mitigating agricultural risks to water quality. Overall goal is the enrollment of one million acres.
- Measure – cumulative # of acres enrolled.
 - Total Acres enrolled 800,000. 1,200 producers. As of 6/21/2022
 - [Minnesota Agricultural Water Quality Certification Program | Minnesota Department of Agriculture \(state.mn.us\)](#)
- Milestone 7b. – support point/non-point water quality trading in a market-based approach for the protection and restoration of water resources that work in conjunction with existing voluntary, regulatory and financial assistance programs.
- Measure – cumulative # of water quality trades completed.
 - 6 Trades
 - [Water quality trades in Minnesota | Minnesota Pollution Control Agency \(state.mn.us\)](#)
- Milestone 7c. – support the MDA and University of Minnesota Forever Green Initiative which develops and promotes methods on incorporating perennial and winter annual crops into existing agricultural practices.
- Measure - # of projects funded each biennium.
 - Projects funded 2020-2021: 13
 - [2020-2021 Forever Green Projects | Minnesota Department of Agriculture \(state.mn.us\)](#)
 - <https://www.forevergreen.umn.edu/>

Additional strategies to achieve successful non-point pollution reductions.

Build partnerships to enhance a collaborative watershed approach to nonpoint water pollution

- Milestone 8a – Support collaborative water quality policy development through the Clean Water Council with members from: farm organizations, business organizations, environmental organizations, Soil Water Conservation Districts, Watershed Districts, nonprofit organizations focused on water quality improvements, state agencies, county governments, city governments, township officers, tribal governments, statewide hunting organizations and statewide fishing organizations.
- Measure – continued monthly meetings of the CWC and its Policy Committee.
 - Regular monthly meetings were held in FFY 2022.
- Milestone 8b – strengthen and expand state agency collaboration through the Interagency Coordination Team with members from BWSR, DNR, Met Council, MDA, Minnesota Department of Health (MDH), MPCA, PFA and EQB.
- Measure – continued regular meetings of the ICT, and its subteams.
 - Regular meetings were held in FFY 2022.

In addition to the above referenced strategies and milestones, Minnesota’s NPS Program will also deploy a variety of administrative measures to evaluate Minnesota’s NPS Program administration and management including:

- Timeliness and quality of report submittals to US EPA.
- Timeliness of federal fund obligation with state program partners and sub-grantees.
- Participation at all required meetings, conferences and other events outlined in the Programmatic Conditions section of Minnesota’s grant agreement with US EPA.
- Provide administrative oversight of the Minnesota Section 319 Small Watershed Focus Program.
- Submittal of an annual Watershed Achievements Report highlighting the achievements of active and recently completed nonpoint source water quality projects.
- Provide Section 319 grant program process into EPA’s Grants Reporting and Tracking System (GRTS) on a semiannual basis.
- Develop individual nonpoint source water quality Success Stories.
- Review and update the Minnesota Nonpoint Source Management Program plan at least once every five years.

The preceding measures are reported through the Minnesota Water Performance Partnership Grant (PPG) reporting. Copy of 2021 report attached as Appendix B.

Appendix B. Minnesota Water PPG work plan FFY 2021 report

Minnesota Water Performance Partnership Grant (PPG) work plan FFY 2021 report

Includes FFY 2021 work plan revisions when applicable.

Water Pollution Control Program (Sec. 106 and Sec. Section 319)

Strategic Goal 2: Protecting America's waters¹

Objective 2.1: Protect and restore watersheds and aquatic ecosystems.

Protect, restore and sustain the quality of rivers, lakes, streams and wetlands on a watershed basis and sustainably manage and protect coastal and ocean resources and ecosystems.

2014 – 2015 Strategic Priority goal: Improve, restore and maintain water quality by enhancing nonpoint source programs.

Water Pollution Control (Sec. 106).

¹ EPA Strategic Goals are located at <https://www.epa.gov/planandbudget/strategicplan>

Table 30. Water Pollution Control goals and status FFY 2020.

Color indicator: Green – commitment met Yellow – mixed progress Red – commitment not met	Code	Outputs/measures (identified from EPA National Program Guidance, Regulations or Policy)	State commitments – outputs/measures and outcomes – (should relate to the output/measure in column 1 and 2)	Progress target dates and contact	Annual performance report of progress made in meeting commitments (outputs/outcomes) in column 1 and 3																																																															
Green	WQ-SP10.N11	Number of waterbodies identified in 2002 as not attaining water quality standards where standards are now fully attained (cumulative).	We will report, as a cumulative number, the water bodies that have fully attained all water quality standards. We estimate that 1 water body a year will attain all standards from the 2002 303(d) list.	Wayne Cords	<p>FFY 2017 Report: The following water bodies appear to meet water quality standards and are proposed to be delisted in 2018.</p> <table border="1" data-bbox="1908 560 2551 1145"> <tr><td>2018</td><td>Red River of the North</td><td>English Coulee (ND) to Turtle R (ND)</td></tr> <tr><td>2018</td><td>Red River of the North</td><td>Turtle R (ND) to Park R (ND)</td></tr> <tr><td>2018</td><td>Red River of the North</td><td>Buffalo R to Elm R (ND)</td></tr> <tr><td>2018</td><td>Red River of the North</td><td>Elm R (ND) to Marsh R</td></tr> <tr><td>2018</td><td>Red River of the North</td><td>Buffalo Coulee (ND) to English Coulee (ND)</td></tr> <tr><td>2018</td><td>Red River of the North</td><td>Marsh R to Buffalo Coulee (ND)</td></tr> <tr><td>2018</td><td>Red River of the North</td><td>Park R (ND) to Unnamed cr (ND)</td></tr> <tr><td>2018</td><td>Red River of the North</td><td>Unnamed cr (ND) to MN/Canada border</td></tr> <tr><td>2018</td><td>Red River of the North</td><td>Otter Tail R to Wild Rice R (ND)</td></tr> <tr><td>2018</td><td>Red River of the North</td><td>Wild Rice R (ND) to Buffalo R</td></tr> <tr><td>2018</td><td>Crystal</td><td>Lake or Reservoir</td></tr> <tr><td>2018</td><td>McMahon</td><td>Lake or Reservoir</td></tr> <tr><td>2018</td><td>Mitchell</td><td>Lake or Reservoir</td></tr> <tr><td>2018</td><td>Clearwater River</td><td>JD 1 to Lost R</td></tr> <tr><td>2018</td><td>Clearwater River</td><td>Ruffy Bk to JD 1</td></tr> </table> <p>A previous number of 188 plus the 15 above equals 203 cumulative water bodies.</p> <p>FFY 2018 Report: In addition to those reported in 2017, the following water bodies appear to meet water quality standards and are proposed to be delisted in 2018/2020.</p> <table border="1" data-bbox="1908 1266 2893 1560"> <tr><td>2018</td><td>County Ditch 57</td><td>Unnamed ditch to Clearwater R</td></tr> <tr><td>2018</td><td>Roseau River</td><td>Hay Cr to MN/Canada border</td></tr> <tr><td>2018</td><td>Judicial Ditch 6 (Lake Okabena Outflow)</td><td>Okabena Lk to Ocheda Lk</td></tr> <tr><td>2020</td><td>Platte River</td><td>Rice-Skunk Lakes Dam to Unnamed cr (above RR bridge)</td></tr> <tr><td>2020</td><td>Little Rock Creek</td><td>T39 R30W S22, south line to T38 R31W S23, west line</td></tr> <tr><td>2020</td><td>Otter Tail River</td><td>JD 2 to Breckenridge Lk</td></tr> </table> <p>FFY 2019 Report: Measure suspended in FY2019. FFY 2020 Report: Measure suspended in FY2020. FFY 2021 Report: Measure suspended in FFY 2021.</p>	2018	Red River of the North	English Coulee (ND) to Turtle R (ND)	2018	Red River of the North	Turtle R (ND) to Park R (ND)	2018	Red River of the North	Buffalo R to Elm R (ND)	2018	Red River of the North	Elm R (ND) to Marsh R	2018	Red River of the North	Buffalo Coulee (ND) to English Coulee (ND)	2018	Red River of the North	Marsh R to Buffalo Coulee (ND)	2018	Red River of the North	Park R (ND) to Unnamed cr (ND)	2018	Red River of the North	Unnamed cr (ND) to MN/Canada border	2018	Red River of the North	Otter Tail R to Wild Rice R (ND)	2018	Red River of the North	Wild Rice R (ND) to Buffalo R	2018	Crystal	Lake or Reservoir	2018	McMahon	Lake or Reservoir	2018	Mitchell	Lake or Reservoir	2018	Clearwater River	JD 1 to Lost R	2018	Clearwater River	Ruffy Bk to JD 1	2018	County Ditch 57	Unnamed ditch to Clearwater R	2018	Roseau River	Hay Cr to MN/Canada border	2018	Judicial Ditch 6 (Lake Okabena Outflow)	Okabena Lk to Ocheda Lk	2020	Platte River	Rice-Skunk Lakes Dam to Unnamed cr (above RR bridge)	2020	Little Rock Creek	T39 R30W S22, south line to T38 R31W S23, west line	2020	Otter Tail River	JD 2 to Breckenridge Lk
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	WQ-SP11	Remove the specific causes of water body impairment identified by states in 2002 (cumulative).	We will report, as cumulative number, the water body impairments (parameters) that have attained the respective water quality standards (for water bodies that have both fully or partially	Wayne Cords	<p>FFY 2017 Report: The following water body impairments appear to meet water quality standards and are proposed to be delisted in 2018.</p>																																																															

Color indicator: Green – commitment met Yellow – mixed progress Red – commitment not met	Code	Outputs/measures (identified from EPA National Program Guidance, Regulations or Policy)	State commitments – outputs/measures and outcomes – (should relate to the output/measure in column 1 and 2)	Progress target dates and contact	Annual performance report of progress made in meeting commitments (outputs/outcomes) in column 1 and 3																																																															
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Yellow	WQ-SP12.N11	Improve water quality conditions in impaired watersheds nationwide using the watershed approach (cumulative).	We will report the progress on any documented improvements in the 3 National Water Quality Initiative (NWQI) watersheds: Elm Creek (Blue Earth River HUC-8), Seven Mile Creek (Minnesota	Wayne Cords	<p>FFY 2017 Report: For Minnesota, this is a new measure and at this point, insufficient data has been collected or analyzed for these watersheds to determine condition trends, improved or otherwise.</p> <p>FFY 2018 Report: Evaluation monitoring began in 2018 and the Seven Mile Creek NWQI watershed via a Section 319 Grant. Monitoring will be used as post implementation monitoring with pre-</p>																																																															

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Yellow			River Mankato HUC-8), and Shakopee/Gilcrest (Chippewa River HUC-8).		implementation monitoring having been completed by previous efforts. A long-term pollutant load monitoring site is also located at the mouth of the watershed. Two new NWQIs were added in FFY2018. No evaluation monitoring is being completed in Cottonwood Lake NWQI by the MPCA. While specific evaluation monitoring by the MPCA is not being done in the Dobbins Creek NWQI, the Cedar River Watershed District has an ongoing monitoring network that will be incorporated into an evaluation monitoring design in conjunction with the watershed’s selection as a long-term Section 319 Small Watersheds Focus Program project. FFY2019 Report: Measure suspended in FY2019. FFY2020 Report: Measure suspended in FY2020. FFY2021 Report: Measure suspended in FY2021.
Green	WQ-01a	Number of numeric water quality standards adopted for total nitrogen or total phosphorus for all waters within the States or Territories for each of the following waterbody types: lake/reservoirs, rivers/streams, and estuaries (new language).	The MPCA has already adopted numeric eutrophication water quality standards for lakes and rivers/streams. <u>EPA:</u> EPA is developing draft national recommended phosphorus and nitrogen criteria for lakes and reservoirs. These criteria are intended to protect aquatic life, recreation, and drinking water supply uses. Once the criteria are finalized, EPA expects that MPCA will review them to determine whether or not the Agency believes that it is appropriate to revise its water quality criteria to reflect these new recommendations. If MPCA determines that it is not necessary to revise its criteria to reflect EPA’s recommendations, the Agency must provide an explanation for its conclusion at the time of its next triennial review, consistent with 40 CFR 131.20(a). <i>MPCA is okay with the above additional language from EPA for this item.</i>	Catherine Neuschler	FFY 2017 Report: No change. The MPCA has numeric eutrophication WQS for TP and will review the national TN criteria when they are completed. FFY2018 Report: No change. FFY2019 Report: No change. The MPCA is continuing to implement Minnesota’s existing river and lake eutrophication standards and tracking federal criteria development. FFY 2020 Report: No change. The MPCA is continuing to implement Minnesota’s existing river and lake eutrophication standards. MPCA has been tracking the development of the draft Lake Numeric Nutrient Criteria and will consider them as required. FFY 2021 Report: The MPCA is continuing to implement Minnesota’s existing river and lake eutrophication standards. The MPCA has been tracking the development of the draft Lake Numeric Nutrient Criteria and is beginning a process to revise the state’s lake eutrophication standards. More information will be available in early CY2022.
Green	WQ-03a	Number, and national percent, of States and Territories that within the preceding three-year period, submitted new or revised water quality criteria acceptable to EPA that reflect new scientific information from EPA or other resources not considered in the previous standards.	The MPCA has re-designed the “triennial review” process to allow for more regular review and prioritization of water quality criteria development/revision needs. The next review is expected in FFY17. The MPCA is currently working on the following standards updates: <ul style="list-style-type: none">• Antidegradation• Variance procedures• Wild rice sulfate standard• Tiered Aquatic Life Uses• Class 3 and 4 standards	Catherine Neuschler	FFY 2017 Report: The MPCA has submitted and received approval of rule updates for antidegradation and variance. MPCA has completed the state rulemaking process for TALU and will be submitting it for EPA approval shortly. MPCA anticipates completing the state process for wild rice sulfate standard in FFY18 and will submit it for approval. The TSR process is beginning in early FFY18. FFY 2018 Report: The MPCA completed our TSR and submitted it to EPA in July 2018. MPCA continues to actively work on the Class 3 and 4 rule update. FFY 2019 Report: The MPCA plans to begin work on our next TSR in calendar year 2020, with likely submittal in FFY2021. MPCA continues to actively work on the Class 3 and 4 rule update and is awaiting additional information from EPA on criteria for chloride/sulfate and nitrate. FFY 2020 Report: All rules listed under “currently working” are complete or withdrawn (wild rice), with the exception of Class 3 and 4. Class 3 and 4 is expected to be public noticed in December 2020. Information on nitrate is now available and MPCA will likely begin to move forward on an aquatic

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			<p>The MPCA is also tracking and developing technical documentation, as studies become available, on:</p> <ul style="list-style-type: none"> • Chloride • Nitrate <p>The MPCA will review national recommended water quality criteria to determine if the Agency believes that it is appropriate to revise its water quality criteria to reflect these new recommendations.</p> <p>EPA: If the MPCA chooses as part of the triennial review not to adopt new or revised criteria for any parameters for which EPA has published new or revised 304(a) criteria recommendations, the MPCA will explain that decision when reporting the results of their triennial review to EPA.</p> <p><i>MPCA is OK with this added language (Neuschler)</i></p>		<p>life nitrate standard. The triennial standards review will likely be on public notice in early calendar year 2021 and will set the MPCA's WQS workplan for the next three years.</p> <p>FFY 2021 Report: The Class 3&4 rulemaking was completed and approved by EPA. MPCA also completed the triennial standards review and identified our standards workplan for the next three years. These include updates to the Class 1 domestic consumption standards; nitrate and ammonia; ongoing adjustments to Class 2 designations for TALU and cool/warm waters; and lake eutrophication.</p>
	WQ-04a	Percentage of submissions of new or revised water quality standards from States and Territories that are approved by EPA.	<p>The MPCA will continue to provide Technical Support Documents and other technical information to EPA Region 5 prior to rule adoption for discussion and common understanding. All required documentation will also be provided to EPA for adopted WQS rules that require EPA approval. Include EPA in triennial review discussions and priority setting to assist in generating workload expectations. This measure's final determination and reporting is done at the national level.</p> <p><i>MPCA is okay with the above additional language from EPA for this item.</i></p>	Catherine Neuschler	<p>FFY 2017 Report: The MPCA is continuing to do this as needed for projects; has involved EPA in TSR conversations.</p> <p>FFY 2018 Report: The MPCA is continuing to do this as needed for projects, both statewide standards and site-specific projects.</p> <p>FFY 2019 Report: The MPCA is continuing to do this as needed for projects, both statewide standards and site-specific projects.</p> <p>FFY 2020 Report: No changes.</p> <p>FFY 2021 Report: No changes.</p>
	WQ-05	Number of States and Territories that have adopted and are implementing their monitoring strategies in keeping with established schedules.	<p>Continue to implement the 2011 Minnesota Monitoring Strategy:</p> <ul style="list-style-type: none"> • Intensively monitor an average of 8 watersheds each year (IWM). This includes biological, physical and chemical monitoring of streams; flow and chemistry monitoring at the outlets of each watershed; monitoring 80-100 lakes each year (focusing on lakes >500 acres); and supporting citizen and local monitoring. This level of effort depends on continued state funding at the same 	Kim Laing	<p>FFY 2017 Report:</p> <ul style="list-style-type: none"> • Intensive watershed monitoring remains on track. In FFY17, we began monitoring the final 6 major watersheds in Minnesota that have not yet been sampled. Since water quality sampling is conducted over two summers before assessment occurs, we won't assess the watersheds we have started sampling this year until winter 2019. In the past year, we have completed watershed monitoring and assessment reports for the 2012, 2013, and 2014 watersheds. All have been posted to the MPCA's watershed web pages. • We have been piloting a slightly revised approach to our rotating watershed-based condition monitoring approach since last year. With this approach, we would only revisit of subset of the lakes and stream reaches (two thirds, on average) as we return to watersheds where we have already sampled. This approach would salvage some funding so that sister agencies and local partners can request monitoring to help fill data gaps to complete

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			<p>level as the SFY2016-2017 biennium; if that funding is not continued, the planned accomplishments will need to be adjusted.</p> <ul style="list-style-type: none"> Continue to actively participate in the national probabilistic monitoring efforts (lakes, streams, wetlands, coastal waters), and conduct state-level probabilistic monitoring either as an add-on to the national studies or through a parallel state monitoring effort (example: state wetland WQ monitoring). Conduct wetland sampling in IWM watersheds. Continue to monitor ambient ground water quality in accordance with the state's integrated ground water quality monitoring system. In this inter-agency approach, the MPCA monitors about 190 wells per year, focusing on non-agricultural chemicals in urban and natural areas. Actively participate in and attend the R5 hosted webinars and bio-assessment meetings. Continue to transfer water quality data to EPA's STORET Warehouse from EQuIS. Communicate with external stakeholders about the purpose and expectations of TALU. <p>Continue to sample to support TALU classification system, and complete data analysis needed for TALU development.</p>		<p>TMDLs, restoration strategies, etc. We are gathering additional feedback and input from our local partners, policymakers, and legislators for this new approach. We should finalize by December 2017; at which time we'll look into revising the Minnesota Water Quality Monitoring Strategy.</p> <ul style="list-style-type: none"> We have completed the sampling the Rainy River for water quality and biology and began sampling on the St. Croix River. The St. Croix is the last of the large rivers to be sampled. We are developing a future schedule for return visits to these large rivers. Monitoring and program operations for the Watershed Pollutant Load Monitoring Network continues. We can calculate trends on about 15 percent of the load network at this time – the development of the approach is ongoing. MPCA has continued to participate and provide technical expertise for the NARS steering committees, most notably in the past year the upcoming National Lake Assessment survey. Last winter, MPCA staff analyzed data and identified vouchered plant specimens associated with last summer's National Wetland Condition sampling. MPCA is currently conducting the wetland depression monitoring that expands upon last year's National Wetland Condition Assessment. We just received word that we have received funding for the upcoming Rivers and Streams survey. The MPCA continues to operate its Ambient Groundwater Monitoring Network, the Citizen Monitoring Programs, and participate in the EPA's regional monitoring network. The TALU framework is nearing completion of Minnesota's administrative process. All that remains is final approval from the Governor and then the notice of adoption will be published in the state register (probably in a week or two). At which time the rule will be formally implemented. The rule will be submitted to EPA for approval shortly after it is published. We are also currently working on a batch of new TALU designations from the 2014 and 2015 IMW watersheds. These will be incorporated in a use designation rule package that will likely also include Class 2A (coldwater) and Class 7 (limited resource value waters) designations. A technical report should be available for these use proposals in January 2018. <p>FFY 2018 Report:</p> <ul style="list-style-type: none"> Intensive watershed monitoring remains on track. In FFY18, we began the final year of monitoring the last 6 major watersheds in Minnesota that have not yet been sampled. Assessments on these watersheds will begin in FFY19. In the past year, we have completed, and web posted watershed monitoring and assessment reports for the 2015 watersheds. The agency has adopted a revised approach to our rotating watershed-based condition monitoring. Agency selected sites have been reduced by 1/3 on watersheds we return to. This frees up funds for other state and locally identified monitoring needs (i.e. delisting, problem investigation, permitting needs). This revised approach will be incorporated into the next iteration of the Minnesota Water Quality Monitoring Strategy. We have completed the sampling the St. Croix River for water quality and biology. This is the final large river to be sampled; assessments are slated for FFY19. Monitoring and program operations for the Watershed Pollutant Load Monitoring Network continues. At this time, there is a sufficient history of water sampling and associated

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					<p>streamflow to analyze for trends at about 30 percent of the 199 stations in the network. This percentage will grow to 100 percent over the next five years. A seasonal Kendall test will be applied universally, with other trend analysis methods applied at some sites, and as the number of years of available data grows.</p> <ul style="list-style-type: none"> The MPCA has continued to participate and provide technical expertise for the NARS steering committees. Field planning is underway for the Rivers and Streams Survey. Reports are in development for the wetland condition monitoring and depressional wetlands. Data analysis is underway for the National Lakes Assessment and planning for the application for the 2020 Coastal Survey is underway. The MPCA continues to operate its Ambient Groundwater Monitoring Network, the Citizen Monitoring Programs, and participate in the EPA’s regional monitoring network. TALU has been promulgated and is a routine part of our assessment process. Work continues to properly classify stream reaches within the TALU framework ahead of each assessment cycle. Meetings have been held to help increase local partner knowledge of the framework and process. <p>FFY 2019 Report:</p> <ul style="list-style-type: none"> Intensive watershed monitoring is fully implemented in our second cycle. Assessments are completed for the first cycle statewide, with the exception of approximately 200 stream reaches that will be completed in FFY20. In the past year, we have completed, and web posted watershed monitoring and assessment reports for the 2016 watersheds. The agency has adopted a revised approach to our rotating watershed-based condition monitoring. Agency selected sites have been reduced by 1/3 on watersheds we return to. This frees up funds for other state and locally identified monitoring needs (i.e. delisting, problem investigation, permitting needs). This revised approach will be incorporated into the next iteration of the Minnesota Water Quality Monitoring Strategy. Monitoring and program operations for the Watershed Pollutant Load Monitoring Network continues. At this time, there is a sufficient history of water sampling and associated streamflow to analyze for trends at about 30 percent of the 199 stations in the network. This percentage will grow to 100 percent over the next five years. A seasonal Kendall test will be applied universally, with other trend analysis methods applied at some sites, and as the number of years of available data grows. The MPCA has continued to participate and provide technical expertise for the NARS steering committees. Reconnaissance is underway for the Rivers and Streams Survey. Reports were completed for the wetland condition monitoring and depressional wetlands. Data analysis is underway for the National Lakes Assessment and funds were awarded for the 2020 Coastal Survey. The MPCA continues to operate the Citizen Monitoring Programs and participate in the EPA’s regional monitoring network. <p>FFY 2020 Report:</p> <ul style="list-style-type: none"> The 2011 Monitoring Strategy is under revision. Anticipate submitting to EPA in early 2021.

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					<ul style="list-style-type: none"> • Intensive watershed monitoring is fully implemented in our second cycle. In the past year, we have completed, and web posted watershed monitoring and assessment reports for the 2017 watersheds. • The MPCA has revised our approach to reporting and data delivery. A new web tool will be released in early 2021 to allow for local access to assessment decisions, documentation, prioritization, and other water related data. • Monitoring and program operations for the Watershed Pollutant Load Monitoring Network and Ambient Groundwater Monitoring Network continues. • All monitoring was delayed by state stay at home orders and/or necessary social distancing protocols. Groundwater work was completed at 26 percent of the planned sites, and surface water work was completed at 47 percent of the planned sites; with no fish or lake work completed. • The MPCA has continued to participate and provide technical expertise for the NARS steering committees. Reconnaissance is underway for the Wetlands Survey, and monitoring was initiated for the Rivers and Streams survey in 2020. NCCA monitoring was delayed due to social distancing measures and will be completed in 2021. Report and accompanying data visualization tools were published for the National Lakes Assessment. • The MPCA continues to operate the Citizen Monitoring Programs and added online data entry and enrollment in 2020. <p>FFY 2021 Report:</p> <ul style="list-style-type: none"> • Intensive watershed monitoring is fully implemented in our second cycle. In the past year, we have completed, and web posted watershed monitoring and assessment reports for the 2018 watersheds. • The MPCA has revised our approach to reporting and data delivery. A new web tool was released early 2021 to allow for local access to assessment decisions, documentation, prioritization, and other water related data. We will look to continue updates to ensure tools is useful for water management. • Our program developed a climate data viewer tool to connect numerous water quality parameters to climate change. The climate data viewer utilized large existing datasets to display numerous water and biological factors that are expected to change as the climate changes. • Monitoring and program operations for the Watershed Pollutant Load Monitoring Network and Ambient Groundwater Monitoring Network continues. • Our biological monitoring program recorded data via tablets for stream biological surveys. This saved approximately 1,100 hours of manual data entry and QAQC of the manual data entry. Additionally, it reduced nearly 8,000 pieces of paper, allowed staff to be more efficient and update tracking of sites in “real-time”. • All monitoring was resumed in 2021. Through careful workforce planning and increased collaboration between programs, we successfully completed lake, stream, river and wetland monitoring in spite of challenges due to COVID and a severe drought. For example, low flow studies were conducted in the Minnesota River and Des Moines River to

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					<p>determine, in part, if effluent limits are protective of these resources during a critical low flow period.</p> <ul style="list-style-type: none"> The entire complement of biological monitoring stations that comprise the long-term biological monitoring network, approximately 60 sites throughout Minnesota, were sampled during the drought year. This network of biological monitoring stations is designed to evaluate the effects of a changing climate on aquatic communities. The MPCA has continued to participate and provide technical expertise for the NARS steering committees. Monitoring is underway for the Wetlands Survey, and monitoring was completed for the Rivers and Streams survey in 2021. NCCA monitoring was also completed in 2021. The MPCA continues to operate the Citizen Monitoring Programs and added online data entry and enrollment in 2020.
	WQ-07	<p>Number of States and Territories that provide electronic information using the Assessment Database version 2 or later (or compatible system) and geo-reference the information to facilitate the integrated reporting of assessment data.</p>	<p>The MPCA continues to use the Assessment Database for assessment reporting to EPA for the 2016 list. As EPA is phasing out the ADB, MPCA is working on a replacement (CARL/WALIS) and will ensure that data continues to flow to EPA. MPCA will continue efforts with MDH and Reg. 5 to explore/refine assessment methodology for water use assessment determinations for waterbodies with Public Water Supply intakes. MPCA will also work to ensure that Integrated Report (303(d) and 305(b)) determinations are accurately and consistently reflected.</p>	Catherine Neuschler	<p>FFY 2017 Report: The MPCA will continue to maintain the Assessment Database (ADB) until after the 2018 submittal to EPA’s new ATTAINS. The MPCA has a working replacement (CARL/WALIS) and will use it as a source to flow data to EPA via the Exchange Network for 305(b) reporting in 2018. MPCA will continue to submit geospatial information via the Exchange Network.</p> <p>FFY 2018 Report: The MPCA has replaced the ADB with CARL/WALIS and is in the process of submitting 2018 305(b) assessment data to ATTAINS, after which geospatial information will be submitted. The 2018 submittal has been manual in large parts while in 2020 MPCA will flow data to EPA via the Exchange Network for 305(b) reporting.</p> <p>FFY 2019 Report: The MPCA is finalizing their 2018 305(b) assessment data in ATTAINS, after which geospatial information will be submitted. 2020 data will likely be submitted manually but MPCA will work on the steps necessary to flow data to EPA via the Exchange Network, planning to be completed by March 2020.</p> <p>EPA Remark: Could MPCA please provide an update in the FY20 self-assessment related to work with MDH on the assessment methodology for waterbodies with public water supply intakes.</p> <p>FFY 2020 Report: As of November 24, 2020: Geographic Information System (GIS) data has not been sent yet but is expected to be submitted December 2020. The MPCA completed their 2020 assessment data submittal to ATTAINS in early November of 2020. Cycle 2020 is still in draft status and being reviewed by EPA. The submittal was accomplished by a mix of manual and batch updates in the ATTAINS interface. MPCA is investigating the resources necessary to use the Exchange Network for the 2022 Cycle.</p> <p>PWS intakes: The MPCA and MDH are continuing to work together on Clean Water Act (CWA)/Safe Drinking Water Act (SDWA) overlap. No specific changes have been made on the assessment methodology for waterbodies with public water supply intakes. The MPCA and MDH have worked to share geographic information and improve communication around permitting of NPDES sources upstream of drinking water intakes. The MPCA anticipates beginning a more intense phase of work on revisions to the Class 1 domestic consumption WQS in early 2021, which will inform future assessment for those waters.</p> <p>EPA Comment: EPA is encouraged by this work. We would be interested in finding out more information on this work as a part of future MDH submissions of its PWSS Grant self-assessment or in an upcoming CWA/SDWA Directors call.</p>

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Yellow					<p>FFY 2021 Report: As of November 16, 2021, Cycle 2020 was recently finalized by EPA, and the MPCA is working on submitting all Cycle 2022 303(d) and 305(b) data into the ATTAINS interface. The MPCA is pursuing the resources necessary to use the Exchange Network the next reporting cycle.</p>																																								
Green	WQ-10a	<p>Number of waterbodies identified by States (in 1998/2000 or subsequent years) as being primarily nonpoint source (NPS)-impaired that are partially or fully restored (cumulative).</p>	<p>We will report, as a cumulative number, the water bodies that have attained a water quality standard through restoration. Only water bodies that are judged to be mainly impacted by non-point source pollution will be counted. We estimate that one (1) water body a year will attain at least one standard from the 1998 and all subsequent 303(d) lists.</p>	Catherine Neuschler	<p>FFY 2017 Report: From the draft 2018 303(d) list, a cumulative number of 24 water bodies have attained their water quality standards through non-point restoration activities.</p> <p>FFY 2018 Report: From the draft 2018 303(d) list, a cumulative number of 25 water bodies have attained their water quality standards through non-point restoration activities.</p> <p>FFY 2019 Report: Minnesota’s Draft 2020 303(d) list – four additional waterbodies are scheduled for delisting in 2020 due to restoration activities for a cumulative number of 29 waterbodies that have attained their water quality standards through nonpoint restoration activities.</p> <table border="1" data-bbox="1898 808 2943 1074"> <thead> <tr> <th>Delist year</th> <th>Water body name</th> <th>Water body description</th> <th>AUID</th> <th>Pollutant or stressor</th> </tr> </thead> <tbody> <tr> <td>2020</td> <td>Plum Creek</td> <td>Warner Lk to Mississippi R</td> <td>07010203-572</td> <td>Escherichia coli (E.coli)</td> </tr> <tr> <td>2020</td> <td>Sleepy Eye</td> <td>Lake or Reservoir</td> <td>08-0045-00</td> <td>Nutrients</td> </tr> <tr> <td>2020</td> <td>Faille</td> <td>Lake or Reservoir</td> <td>77-0195-00</td> <td>Nutrients</td> </tr> <tr> <td>2020</td> <td>Waverly</td> <td>Lake or Reservoir</td> <td>86-0114-00</td> <td>Nutrients</td> </tr> </tbody> </table> <p>FFY 2020 Report: Minnesota’s Draft 2020 303(d) list – two additional waterbodies are scheduled for delisting in 2020 due to restoration activities for a cumulative number of 31 waterbodies that have attained their water quality standards through nonpoint restoration activities.</p> <table border="1" data-bbox="1898 1251 2887 1433"> <thead> <tr> <th>Delist year</th> <th>Water body name</th> <th>Water body description</th> <th>AUID</th> <th>Pollutant or stressor</th> </tr> </thead> <tbody> <tr> <td>2020</td> <td>North Center Lake</td> <td>Lake or Reservoir</td> <td>13-0032-01</td> <td>Nutrient</td> </tr> <tr> <td>2020</td> <td>South Center</td> <td>Lake or Reservoir</td> <td>13-0027-00</td> <td>Nutrients</td> </tr> </tbody> </table> <p>FFY 2021 Report: Minnesota’s Draft 2022 303(d) list - 12 of waterbodies are scheduled for delisting in 2022 due to restoration activities for a cumulative number of 43 waterbodies that have attained their water quality standards through nonpoint restoration activities.</p>	Delist year	Water body name	Water body description	AUID	Pollutant or stressor	2020	Plum Creek	Warner Lk to Mississippi R	07010203-572	Escherichia coli (E.coli)	2020	Sleepy Eye	Lake or Reservoir	08-0045-00	Nutrients	2020	Faille	Lake or Reservoir	77-0195-00	Nutrients	2020	Waverly	Lake or Reservoir	86-0114-00	Nutrients	Delist year	Water body name	Water body description	AUID	Pollutant or stressor	2020	North Center Lake	Lake or Reservoir	13-0032-01	Nutrient	2020	South Center	Lake or Reservoir	13-0027-00	Nutrients
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Red	WQ-12a	<p>Percent of facilities covered by NPDES permits that are considered current.</p> <p>Note: Measure will still set target and commitment and report results in both percent and number.</p>	<p>New measure write-up 12a: Currently, the MPCA has 1140 wastewater NPDES permitted facilities, 656 facilities covered under individual wastewater permits and 484 facilities covered under general permits.</p> <p>Over the past year, the MPCA has started incorporating the newly adopted river eutrophication standards (RES) into permits and also started writing permits in a new Tempo database. Both of these have brought forth a number of challenges that resulted in decreased productivity in reissuing permits. The MPCA has</p>	Holly Sandberg	<p>NPDES Comments: Based on ICIS data as of last week of July 2016, following are the #s for major and minor individual permits:</p> <table border="1"> <thead> <tr> <th></th> <th>Total</th> <th>Expired</th> <th>Current</th> </tr> </thead> <tbody> <tr> <td>Majors</td> <td>101</td> <td>40</td> <td>61</td> </tr> <tr> <td>Minors</td> <td>617</td> <td>164</td> <td>453</td> </tr> <tr> <td>Non SW GPs</td> <td>1,772</td> <td>193</td> <td>1,579</td> </tr> <tr> <td>Total</td> <td>2,490</td> <td>397</td> <td>2,093</td> </tr> </tbody> </table> <p>Note: EPA counts all CAFO permits, (i.e., covered by IPs as well as non-SW GPs)</p>		Total	Expired	Current	Majors	101	40	61	Minors	617	164	453	Non SW GPs	1,772	193	1,579	Total	2,490	397	2,093																																																		
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			<p>started to see a slight increase in productivity but anticipates that it will take 3 years to get back to full productivity. As a result, throughout FFY 17-20 the MPCA will work to improve productivity and will operate under a tiered approach to attain the 82 percent of permits (NPDES individual, general, and NOC) being considered current by FY20.</p> <p>In FFY 17-18 MPCA will ensure that 70 percent of the NPDES wastewater permits (NPDES individual, general, and NOC) are current. In FY19 MPCA will ensure that 75 percent of the NPDES wastewater permits (NPDES individual, general, and NOC) are current. In FY20 MPCA will ensure that 82 percent of the NPDES wastewater permits (NPDES individual, general, and NOC) are current.</p> <p>EPA: EPA accepts this commitment. In order to foster good communication and to ensure collaboration between the Agencies, EPA will engage in regular calls with MPCA NPDES program management regarding progress toward attaining this goal.</p> <p><i>MPCA: Ok.</i></p>		<p>Region would like to work with MPCA to reconcile data differences, specifically, numbers to ensure ICIS is current and reflects most current and accurate data.</p> <p>State needs to commit to at least 82 percent for the measure WQ-12a, which includes individual major & minor permits and facilities covered under non-storm water general permits.</p> <p>MPCA: The MPCA will work with EPA Region 5 as appropriate to ensure ICIS reflects the most current data for MN.</p> <p>With the current decrease in permitting productivity due to implementation of river eutrophication standards and transitioning into a new database MPCA believes that committing to an 82 percent goal is currently unattainable. The MPCA expects that within approximately 3 years that we will be back to full productivity. The MPCA has proposed a tiered approach to getting back to the 82 percent commitment that EPA is looking for from states.</p> <p>FFY 2017 Report: Currently, the MPCA has 1135 wastewater NPDES permitted facilities, 646 facilities covered under individual wastewater permits and 489 facilities covered under general permits. 37 percent of general permits and 46 percent of individual permits were current on September 31, 2017, with a combined total of 42 percent.</p> <p>Permit productivity has not increased as anticipated by the MPCA throughout FFY17. NPDES permits with new phosphorus limits were on hold in FFY17 due to discussions between MPCA and EPA regarding implementation of river eutrophication standards (RES). In addition, the MPCA has continued to respond to various external comments, contested case hearing requests, and challenges related to RES.</p> <p>Throughout FFY18 MPCA will continue to work on increasing permit productivity and the goal of ensuring that 70 percent of the NPDES wastewater permits are current.</p> <p>FFY 2018 Report: Currently, the MPCA has 1,109 wastewater NPDES permitted facilities, 631 facilities covered under individual wastewater permits and 478 facilities covered under general permits.</p> <p>Fifty-five percent of general permits and 43 percent of individual permits were current on September 30, 2017, with a combined total of 48 percent.</p> <p>Although the percentage of current NPDES permits increased slightly from FFY17 to FFY 18, the commitment of having 70 percent of the NPDES permits current by FFY18 was not met.</p> <p>The Wastewater Program has set a goal of reducing the permit backlog and having 82 percent of the NPDES permits current by 2020 and 90 percent current by June 30, 2021. This goal aligns with our federal commitment of having 82 percent of the NPDES permits current by FFY20.</p> <p>To achieve this goal the MPCA has completed the following actions:</p> <ul style="list-style-type: none"> • Final issued the Wastewater Pond General Permit on December 1, 2018. This permit accounts for approximately 20 percent of the overall backlog. NOCs for the 233 potential permittees will be final issued over the next 1-2 years. • Hired 3 new permit writers (1 industrial and 2 municipal) to increase the amount of permits issued per year. • The program is taking a closer look at permitting options/tools available to move expired permits forward that have been on hold for a period of time.

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					<p>FFY 2019 Report: Currently, the MPCA has 1,419 wastewater NPDES permitted facilities, 808 facilities covered under individual wastewater permits and 611 facilities covered under general permits.</p> <p>43 percent of domestic and 85 percent of industrial general permits and 48 percent of domestic and 33 percent of industrial individual permits were current on November 19, 2019, with a combined grand total of 55 percent.</p> <p>While the percentage of current NPDES permits did decrease for domestic NPDES permit it did increase for industrial NPDES permits from FFY18 to FFY 19. Despite this the commitment of having 70 percent of the NPDES permits current by FFY19 was not met.</p> <p>The Wastewater Program has set a goal of reducing the permit backlog and having 82 percent of the NPDES permits current by 2020 and 90 percent current by June 30, 2021. This goal aligns with our federal commitment of having 82 percent of the NPDES permits current by FFY20.</p> <p>To achieve this goal the MPCA has completed the following actions:</p> <ul style="list-style-type: none"> Final issued the first batch of the Wastewater Pond General Permit on December 26, 2018, which included final issuing 86 Notice of Coverages to expired Permittees. The second batch of Notice of Coverages includes 62 currently expired Permittees and is anticipated to be final issued in January 2020. NOCs for the remaining 88 potential permittees will be final issued over the next year. The Wastewater Pond General Permit accounted for approximately 20 percent of the overall backlog. After the Batch 2 NOCs are final issued, the backlog should change to 54 percent of permits being current and 46 percent being expired. Assuming all remaining 88 potential Batch 3 permittees are final issued in Batch 3, the permit backlog is expected to change to 63 percent of permits being current and 36 percent being expired. Hired 2 new permit writers (1 industrial and 1 municipal) to increase the amount of permits issued per year. There are 2 vacant municipal permit writer positions open that are going through the hiring process; one is expected to be filled by end of 2019 and the other in early 2020. <p>The program is continuing to take a closer look at permitting options/tools available to move expired permits forward that have been on hold for a period of time. An effort is being made to determine specific reasons by permits are expired by grouping the permits in categories (i.e. general permits, chloride limits, phosphorus limits, etc.) and to strategize ways permit writers can use to aid in prioritizing and managing their individual workloads.</p> <p>FFY 2020 Report: Currently, the MPCA has 1,414 permitted wastewater facilities; 1,100 of those permitted facilities are covered by NPDES/SDS permits. Of the total 1,414 total NPDES/SDS and SDS permitted facilities, 782 facilities are covered under individual wastewater permits and 632 facilities are covered under general permits.</p> <p>Seventy-eight percent of domestic and 96 percent of industrial general permits and 51 percent of domestic and 33 percent of industrial individual permits were current on December 3, 2020, with a combined grand total of 65 percent current.</p> <p>The percentage of current domestic permits increased in FFY20 from FFY19 in both, the general and individual permit categories. The percentage of current industrial general permits increased from FFY19, and the percentage of current individual permits remained the same.</p>

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					<p>At the end of 2019, the Wastewater Program set a goal of reducing the permit backlog and having 82 percent of the NPDES permits current by 2020 and 90 percent current by June 30, 2021. This goal aligns with our federal commitment of having 82 percent of the NPDES permits current by FFY20. Despite our improvements and increases in our percent of current permits, we were unable to meet the 82 percent current goal by 2020.</p> <p>In April 2020, the MPCA developed a Backlog Reduction Strategy that shifted the focus on the backlogged permits by placing more emphasis on the expired major permits. At the time of implementation of the new strategy, the major permit backlog was sitting at 60 percent permits expired. An internal goal for major permits was made; the goal was to get to 62 percent expired for industrial permits and 42 percent expired for municipal permits by January 1, 2021. As of today, December 3, 2020, 83 percent of the industrial major permits are expired, and 55 percent of the municipal major permits are expired. This results in a 65 percent current rate for industrial and domestic permits combined.</p> <p>A couple factors have been contributing to the backlog this past year. Up until recently, a number of the permits located within the MN River Basin were being held due to ongoing discussions regarding the implementation of new phosphorus limits within those permits. Additionally, a number of our permits statewide continue to receive new chloride and/or salty parameter limits and have applied to go through the MPCA's Streamlined Chloride Variance Process or are expected to receive new chloride/salty parameter limits but are being held due to proposed Class 3/4 Rule changes. The MPCA final issued the first two permits under the Streamlined Chloride Variance process during 2020 but is still currently only able to process chloride variances on a "one at a time" basis which contributes to a significant delay in permitting. Despite this, the MPCA continues to work on the remaining permits who have also submitted applications under the Streamlined Chloride Variance process.</p> <p>The MPCA has completed the following actions making progress towards achieving the permitting goals:</p> <ul style="list-style-type: none"> • Final issued Batch 2 of the Wastewater Pond General Permit on February 14, 2020, which included final issuing 60 Notice of Coverages to expired Permittees. Batch 3 was final issued on December 1, 2020, and included 25 Notice of Coverages. Additionally, there is a smaller batch of 8 permittees included in the 4th Batch which are expected to be placed on public notice mid-December 2020 with an anticipated issuance date in March 2021. NOCs for the remaining 32 potential permittees will be final issued over the next year as phosphorus watershed reviews are completed. The issuance of 85 Notice of Coverages over the 2020 year has contributed to the improvement of our overall backlog. • Throughout the course of the entire year, we hired 2 new permit writers (1 industrial and 1 municipal) to increase the amount of permits issued per year. There is a recent permit writer position vacancy in the municipal section of which our Agency is actively requesting approval from the State of MN to backfill. Upon approval, work will be underway to fill that position, hopefully in early 2021. • The program is continuing to take a closer look at permitting options/tools available to move expired permits forward that have been on hold for a period of time. Included in the backlog strategy mentioned above, on a quarterly basis, permit writers account for the reasons behind each of their expired permits (i.e. resource deficiency, rulemaking, external

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					<p>delays, effluent limit reviews, applied for a variance, or internal delays) which is then populated into a Tableau report identifying the percent of expired permits for each major reason. This visual representation of the data enables us to watch for trends and shift focus where needed. This also serves as an aid to permit writers in prioritizing and managing their individual workloads.</p> <p>FFY 2021 Report: Currently, the MPCA has 1,426 permitted wastewater facilities; 1,106 of those permitted facilities are covered by NPDES/SDS permits. Of the total 1,426 NPDES/SDS and SDS permitted facilities, 780 facilities are covered under individual wastewater permits and 646 facilities are covered under general permits.</p> <p>Eighty-nine percent of domestic and 95 percent of industrial general permits and 58 percent of domestic and 36 percent of industrial individual permits were current on November 23, 2021, with a combined grand total of 70 percent current.</p> <p>The percentage of current domestic permits increased in FFY21 from FFY20 in both, the general and individual permit categories. The percentage of current industrial general permits slightly decreased from FFY20, and the percentage of current individual permits increased.</p> <p>At the end of 2019, the Wastewater Program set a goal of reducing the permit backlog and having 82 percent of the NPDEs permits current by 2020 and 90 percent current by June 20, 2021. This goal aligns with our federal commitment of having 82 percent of the NPDES permits current by FFY20. Although the initial goal of 82 percent current was set of the time period of FY17-20, and despite our improvements and increases in our percent of current permits, we are unable to meet the 82 percent current goal by the end of 2021.</p> <p>In April 2020, the MPCA developed a Backlog Reduction Strategy that shifted the focus on the backlogged permits by placing more emphasis on the expired major permits. The Backlog Reduction Strategy was updated for FY22 (July 1, 2021 – June 30, 2022) with the following goals for FY22; the goal is to get to 62 percent expired for industrial major permits and 18 percent expired for municipal major permits. As of November 23, 2021, 79 percent of the industrial major permits are expired, and 43 percent of the municipal major permits are expired.</p>
	WQ-13a	Number, and national percent, of facilities covered under either an individual or general MS4 permit.	<p>The MPCA will report annually the number of regulated MS4s under Phase II (general permits) and Phase I (individual permits).</p> <p>The MPCA will report annually the status of reissuing the Phase II general permit for small MS4s and the Phase I permit for large MS4s.</p>	Ryan Anderson Duane Duncanson	<p>FFY 2018 Report: Phase II General Stormwater permit for small MS4s. Current regulated universe = 250</p> <ul style="list-style-type: none"> Phase II general permit expired August 1, 2018. The MPCA current schedule calls for reissuance by October 2019. <p>Phase I Individual Stormwater permit for large MS4s. Current regulated universe = 2 (Minneapolis and Saint Paul)</p> <ul style="list-style-type: none"> Both Phase I permits expired January 21, 2016. The Minneapolis Phase I permit was reissued on February 16, 2018, and the Saint Paul Phase I permit was reissued on July 12, 2018. <p>FFY 2019 Report: Phase II General Stormwater permit for small MS4s. Current regulated universe = 249</p> <ul style="list-style-type: none"> Phase II General permit expired July 31, 2018. The MPCA’s current schedule calls for reissuance by late spring 2020. <p>FFY 2020 Report: Phase II General Stormwater permit for small MS4s.</p>

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Green					<p>Current regulated universe = 248</p> <ul style="list-style-type: none"> The Phase II General permit expired August 1, 2018. The MPCA reissued this permit on November 6, 2020. <p>FFY 2021 Report: Phase II General Stormwater permit for small MS4s.</p> <p>Current regulated universe = 247</p> <ul style="list-style-type: none"> The Phase II General permit was reissued on November 16, 2020, and expires on November 15, 2025. <p>Phase I Individual Stormwater permit for large MS4s.</p> <p>Current regulated universe = 2 (Minneapolis and Saint Paul)</p> <ul style="list-style-type: none"> The Minneapolis Phase I permit was reissued on February 16, 2018, and expires on February 15, 2023. The Saint Paul Phase I permit was reissued on July 12, 2018, and expires on July 11, 2023.
	WQ-13b	Number, and national percent, of facilities covered under either an individual or general industrial storm water permit.	The MPCA will report annually the number of facilities covered by the general industrial Stormwater permit and those covered by individual Stormwater permits.	Tanya Maurice Jeff Udd	<p>FFY 2017 Report:</p> <ul style="list-style-type: none"> 3,479 active permittees/No Exposure certifiers. 1,476 with permit coverage, and 2,003 that have self-certified for No Exposure Approximately 150 individual NPDES point source permits, with stormwater coverage included. Zero applications awaiting processing and a zero percent backlog. <p>FFY 2018 Report:</p> <ul style="list-style-type: none"> 3,557 active permittees/No Exposure certifiers. 1,499 with permit coverage, and 2,058 that have self-certified for No Exposure. Approximately 174 individual NPDES point source permits, with stormwater coverage included. At least 4 applications awaiting processing and a .5 percent backlog. <p>FFY 2019 Report:</p> <p>The MPCA reissued the General permit in 2019 and it will take effect April 1, 2020.</p> <ul style="list-style-type: none"> Active ISW Permittees (permits and No Exposure certifiers) = 3,573 <ul style="list-style-type: none"> ISW Permit Coverage Only = 1,515 No Exposure Only = 2,058 How many Individual NPDES/SDS Permits for Industrial and Municipal have a Stormwater chapter in them = 181 Permit Backlog – 3 <p>FFY 2020 Report:</p> <ul style="list-style-type: none"> 2,309 ISW Permittees under the 2020 General Permit 1,102 Permit Coverage 1,207 No Exposure How many Individual NPDES/SDS Permits for Industrial and Municipal have a Stormwater chapter in them = 121

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					<ul style="list-style-type: none"> Permit backlog = FFY 2021 Report: <ul style="list-style-type: none"> 1,137 ISW Permittees under the 2020 General Permit, with Coverage 1,810 No Exposure Total Universe: 2,947 Individual NPDES/SDS Permit for Industrial and Municipal with ISW chapters: <ul style="list-style-type: none"> 62 Individual Wastewater Permits with ISW Chapters 5 Individual Industrial Stormwater Permits Total= 67 Permit Backlog: 0
	WQ-13c	Number of facilities covered under either an individual or general construction storm water site permit.	The MPCA will reissue the Construction Stormwater General Permit Sites over 1 acre will be covered by the permit.	Ryan Anderson	FFY 2017 Report: 2,780 permittees covered under the General permit. The MPCA currently in the processing of reissuance of the General permit, estimated issuance date is spring 2018. FFY 2018 Report: The NPDES/SDS General Construction Stormwater permit expired on July 31, 2018. The 2018 permit was issued on August 1, 2018. 1,966 permittees acquired coverage under the General CSW permit in FY18. FFY2019 Report: 2,607 permittees acquired coverage under the CSW General permit in FY19. FFY 2020 Report: 2,779 sites acquired coverage under the CSW General permit in FY20. FFY 2021 Report: 3,213 sites acquired coverage under the CSW General permit in FY21.
	WQ-13d	Number of facilities covered under either an individual or general CAFO permit.	<p>The MPCA will report on both the number of facilities that are covered under either an individual or general NPDES CAFO permit, and the number of facilities that are covered under either an individual or general State Disposal System (SDS) 1,000 animal units or more permit.</p> <p>The MPCA will ensure that 95 percent of all CAFOs with 1000 or more animal units, are covered by a current NPDES or SDS permit.</p>	Randy Hukriede	FFY 2017 Report: <ul style="list-style-type: none"> 1,197 CAFOs with 1,000 or more animal units have current NPDES permit coverage. 105 CAFOs with 1,000 or more animal units have current SDS permit coverage. 99 percent of CAFOs with 1,000 or more animal units have current NPDES or SDS permit coverage. FFY 2018 Report: <ul style="list-style-type: none"> ~1,100 CAFOs with 1,000 or more animal units have current NPDES permit coverage. ~95 CAFOs with 1,000 or more animal units have current SDS permit coverage. 99 percent of CAFOs with 1,000 or more animal units have current NPDES or SDS permit coverage. FFY 2019 Report: <ul style="list-style-type: none"> ~1,000 CAFOs with 1,000 or more animal units have current NPDES permit coverage. ~130 CAFOs with 1,000 or more animal units have current SDS permit coverage. 99 percent of CAFOs with 1,000 or more animal units have current NPDES or SDS permit coverage. FFY 2020 Report: <ul style="list-style-type: none"> ~1,000 CAFOs with 1,000 or more animal units have current NPDES permit coverage. ~130 CAFOs with 1,000 or more animal units have current SDS permit coverage.

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					<ul style="list-style-type: none"> 99 percent of CAFOs with 1,000 or more animal units have current NPDES or SDS permit coverage. FFY 2021 Report: <ul style="list-style-type: none"> ~1,000 CAFOs with 1,000 or more animal units have current NPDES permit coverage. ~150 CAFOs with 1,000 or more animal units have current SDS permit coverage. 99 percent of CAFOs with 1,000 or more animal units have current NPDES or SDS permit coverage.
	WQ-14a	National percent of Significant Industrial Users (SIUs) that are discharging to POTWs with Pretreatment Programs that have control mechanisms in place that implement applicable pretreatment requirements.	Report percentage of Significant Industrial Users (SIUs) in delegated pretreatment POTWs with current unexpired control mechanisms: For FFY17 Report twice a year as follows: MY of current FFY (by March 31). End of FFY (by September 30).	Paul Scheirer	FFY 2017 Report: 385 SIUs with control mechanisms, 0 without, 100 percent with. FFY 2018 Report: 373 SIUs with control mechanisms, 0 without, 100 percent with. This item is duplicative EPA reporting. Remove this report out from the next EnPPA. Items WQ-14a and b, are reported directly to EPA Pretreatment staff Quintin White and those numbers can be obtained directly by EnPPA staff. FFY 2019 Report: 100 percent SIUs with control mechanisms. FFY 2020 Report: 100 percent SIUs with control mechanisms. FFY 2021 Report: 100 percent with control mechanisms.
	WQ-14b	Percent of Categorical Industrial Users (CIUs) in non-delegated pretreatment POTWs with MPCA permits.	Report known Categorical Industrial Users (CIUs) in non-delegated pretreatment POTWs with MPCA permits. For FFY17 Report twice a year as follows: MY of current FFY (by March 31). End of FFY (by September 30).	Paul Scheirer	FFY 2017 Report: 48 CIUs with permits, 0 without, 100 percent with permits. FFY 2018 Report: 51 CIUs with permits, 0 without, 100 percent with permits. This item is duplicative EPA reporting. Remove this report out from the next EnPPA. Items WQ-14a and b, are reported directly to EPA Pretreatment staff Quintin White and those numbers can be obtained directly by EnPPA staff. FFY 2019 Report: 100 percent CIUs with permits. FFY 2020 Report: 100 percent CIUs with permits. FFY 2021 Report: 100 percent CIUs with permits.
	WQ-15a	Percent of major dischargers in Significant Noncompliance (SNC) at any time during the fiscal year.	The MPCA will report the annual percentage of Major Facilities in Significant Noncompliance. End of FFY: Run reporting in December of each calendar year.	Paul Scheirer	FFY 2017 Report: Minnesota was 2 percent SNC for FFY17. FFY 2018 Report: Minnesota was 4 percent for FFY18. FFY 2019 Report: Minnesota was 8 percent for FFY19. FFY 2020 Report: Minnesota was 5 percent for FFY20. FFY 2021 Report: Cannot report until November. DMR data is in post December 21, 2021.
	WQ-19a	Number of high priority state NPDES permits that are issued in the fiscal year.	New measure write-up 19a: The MPCA will select 20 percent of the facilities on the candidate list to be priority permits and take action on 80 percent of the permits on the list per fiscal year. The MPCA maintains a 2-year priority permit schedule, which often fluctuates due to factors such as changes to water quality standards or effluent limit guidelines, potential to impact impaired waters, changes to national priorities, etc.	Holly Sandberg	NPDES comment: State needs to commit to at least 80 percent for the measure WQ-19a, take actions (i.e., reissue or terminate) on 80 percent of the 20 percent priority permits selected for each fiscal year. MPCA: As outlined in the initial state commitment MPCA has committed to taking action on 80 percent of the permits determined to be priority permits per fiscal year. The wording has been improved to provide clarity. FFY 2017 Report: The MPCA's FFY17 Priority Permit commitment was 14 NPDES wastewater permits. MPCA took final action on 10 of the 14 NPDES wastewater permits, or 71 percent of the NPDES permits on the list. The MPCA fell short of the 80 percent commitment due to NPDES permits with new phosphorus limits being on hold due to discussions between MPCA and EPA regarding implementation of river eutrophication standards (RES). In addition, the MPCA has continued to

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					<p>respond to various external comments, contested case hearing requests, and challenges related to RES. To work towards meeting the commitment in FFY18 MPCA will be holding a monthly priority permit management meeting for all permit writers assigned to a priority permit. At this meeting permit writers will give verbal updates on the status of their priority permit work. This will allow program management to proactively provide assistance in identifying barriers and manage permit priorities and work towards meeting the FFY18 commitment.</p> <p>FFY 2018 Report: The MPCA’s FFY18 Priority permit commitment was 25 NPDES wastewater permits. MPCA took final action on 25 permits, meeting the goal. To continue to work towards getting permits issued and removed from the priority permit list the MPCA will continue to hold monthly priority permit management meetings for all permit writers with assigned priority permits. Management will also continue to discuss barriers and permit management to work towards final action on expired permits.</p> <p>FFY 2019 Report: Starting in FFY2019, the MPCA no longer has a priority permit commitment to the EPA in addition to the EPA’s annual list of review permits. Despite this, the MPCA still has an internal priority permit commitment to final issue a certain number of NPDES permits. The MPCA’s internal FFY19 Priority permit commitment was 45 NPDES wastewater permits. MPCA took final action on 25 permits as of November 19, 2019, with 2 more expected to be final issued by December 1, 2019. There may be a few additional permits issued through the month of December 2019 but not enough to meet the internal goal of 45 wastewater permits. To continue to work towards getting permits issued and removed from the priority permit list the MPCA will continue to hold monthly priority permit management meetings for all permit writers with assigned priority permits. Management will also continue to discuss barriers and permit management to work towards final action on expired permits.</p> <p>FFY 2020 Report: The MPCA no longer has a priority permit commitment to the EPA in addition to the EPA’s annual list of review permits. Despite this, the MPCA still has an internal NPDES permit issuance goal. In addition to what was noted in <i>WQ12-a</i> above, the MPCA’s internal FFY20 permit goal was to get to a backlog percentage of 62 percent expired for industrial permits and 42 percent expired for domestic permits. The MPCA took final action on 31 domestic permits on December 1, 2020, alone. There may be a few additional permits issued through the month of December 2020 but not enough to meet the internal backlog percentage goals. To continue to work towards reducing our backlogged permits, the MPCA will continue to hold monthly permit writer meetings where discussion of the backlog status will occur. Additionally permit writers will continue to provide updates on the current reasons for delays for each of their expired permits on a quarterly basis and the backlog strategy will continue to be updated based on these reasons. Management will also continue to discuss barriers and permit management to work towards final action on expired permits.</p> <p>FFY 2021 Report: The MPCA no longer has a priority permit commitment to the EPA in addition to the EPA’s annual Real Time Review permit list. Despite this, the MPCA still has an internal NPDES permit issuance goal. In addition to what was noted in <i>WQ12-a</i> above, the MPCA’s internal FFY20 permit goal was to get to a major permit backlog percentage of 62 percent expired for industrial permits and 42 percent expired for domestic permits. The MPCA identified six major industrial permits and 15 major domestic permits to reissue from the time of development of the 2020 Backlog Reduction Strategy (April 2020) through the end of the 2020 calendar year. The MPCA took final action on one of the six major industrial permits identified and reissued 18 major domestic</p>

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					permits. There may be a few additional permits issued through the month of December 2021 but not enough to meet the internal backlog percentage goals. To continue to work towards reducing our backlogged permits, the MPCA will continue to hold monthly permit writer meetings where discussion of the backlog status will occur. Additionally, permit writers will continue to provide updates on the current reasons for delays for each of their expired permits on a quarterly basis and the backlog strategy will continue to be updated on these reasons. Management will also continue to discuss barriers and permit management to work towards final action on expired permits.
	WQ-20	Number of facilities that have traded at least once plus all facilities covered by an overlay permit that incorporates trading provisions with an enforceable cap.	FFY17 – FFY 20 Commitment: As of 2015, 33 facilities have participated in trades (25 buyers, 8 sellers). There are currently 3 NPDES Permits that include a point to non-point source trade. With the implementation of River Eutrophication Standards (RES) stricter phosphorous limits are being established within individual permits than what was assigned within the Minnesota River Basin General Phosphorous Permit. As a result, the Minnesota River Basin General Phosphorous Permit will not be reissued. Minnesota has no other overlay trading permits. Throughout FFY17 – FFY20 MPCA anticipates that there will be an increased demand for trading. With the implementation of RES, the opportunities for point-to-point source trading is likely to decrease due to the more localized nature of the WQS. Therefore, MPCA foresees a need for more point to nonpoint source trading.	Holly Sandberg	<p>NPDES comment: State needs to send all permits (majors as well as minors) for EPA review when pollutant(s) trading requirements are incorporated in the proposed permits.</p> <p>MPCA: Trading is an innovative way for permittees to achieve their pollutant reductions in more cost-effective manner. The MPCA supports the increase in trading within the state. A number of Minnesota permittees have successfully participated in trades and MPCA anticipates that there will be an increase in demand for trading due to the implementation of RES. MPCA does not agree that it is necessary for EPA to review ALL permits that include trades as EPA Region 5 is already completing focused phosphorous reviews on ALL permits that include a new RES limit. Additional EPA review requirements would further slow down the permitting process and adversely influence the success of future trading in Permits. Note however that, since the vast majority of foreseeable trading will involve phosphorus, EPA’s review of permits containing new phosphorus limits will ensure an opportunity to review future trading permits as well.</p> <p>EPA response: While EPA does not agree that our review of trading permits would “further slow down” permitting or “adversely influence the success of future trading”, EPA appreciates MPCA’s statement that they will “ensure an opportunity to review future trading permits”. EPA intends to review any trading provisions incorporated into permits upon which EPA is conducting a review, including focused nutrient limit reviews, and will provide comments on the trading provisions contained in those permits to ensure consistency with federal regulations.</p> <p>MPCA: Ok.</p> <p>FFY 2017 Report: As of September 30, 2017, there are 14 facilities participating in active trades (11 buyers, 3 sellers):</p> <ul style="list-style-type: none"> • Minnesota River General Phosphorus Permit trades FFY 2017. Seven facilities participating in trades (6 buyers, 1 seller). • Point source – nonpoint source trades FFY 2017. Three facilities involved in trades (2 industrial, 1 municipal). • Point source-point source trades FFY 2017. Four facilities participating in trades (2 buyers, 2 sellers). <p>The total number of trades that have occurred (active and no longer active) is 34 (26 buyers, 8 sellers):</p> <ul style="list-style-type: none"> • Minnesota River General Phosphorus Permit trades (2008 – 2017). Twenty-five facilities participating in trades (20 buyers, 5 sellers). • Point source – nonpoint source trades (2 industrial, 1 municipal). • Point source-point source trades (2008 – 2017) Six facilities participating in trades (3 buyers, 3 sellers).

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					<p>FFY 2018 Report: As of September 30, 2018, there are 14 facilities participating in active trades (11 buyers, 3 sellers):</p> <ul style="list-style-type: none"> • Minnesota River General Phosphorus Permit trades FFY 2018. Nine facilities participating in trades (7 buyers, 2 sellers). • Point source – nonpoint source trades FFY 2018. Three facilities involved in trades (2 industrial, 1 municipal). • Point source-point source trades FFY 2018. Two facilities participating in trades (1 buyer, 1 seller). <p>The total number of facilities that have participated in trades (active and no longer active) is 34 (26 buyers, 8 sellers):</p> <ul style="list-style-type: none"> • Minnesota River General Phosphorus Permit trades (2008 – 2018). Twenty-five facilities participating in trades (20 buyers, 5 sellers). 124 seasonal transactions. • Point source – nonpoint source trades (1997 – 2018). Three facilities participating in trades (2 industrial, 1 municipal). Credit generating practices include riparian area restoration, livestock exclusion, streambank stabilization, bluff stabilization, filter strips and cover crops. • Point source-point source trades (2008 – 2018). Six facilities have participated in trades (3 buyers, 3 sellers). <p>FFY 2019 Report: As of November 19, 2019, there are 14 facilities participating in active trades (11 buyers, 3 sellers):</p> <ul style="list-style-type: none"> • Minnesota River General Phosphorus Permit trades FFY 2019. Nine facilities participating in trades (7 buyers, 2 sellers). • Point source – nonpoint source trades FFY 2019. Three facilities involved in trades (2 industrial, 1 municipal). There is an additional municipal facility that is currently on public notice that is proposing to participate in point source – nonpoint source trading. • Point source-point source trades FFY 2019. Two facilities participating in trades (1 buyer, 1 seller). <p>The total number of facilities that have participated in trades (active and no longer active) is 34 (26 buyers, 8 sellers):</p> <ul style="list-style-type: none"> • Minnesota River General Phosphorus Permit trades (2008 – 2019). Twenty-five facilities participating in trades (20 buyers, 5 sellers). 124 seasonal transactions. • Point source – nonpoint source trades 1997 – 2019). Three facilities participating in trades (2 industrial, 1 municipal). Does not include the facility that is currently on public notice. Credit generating practices include riparian area restoration, livestock exclusion, streambank stabilization, bluff stabilization, filter strips and cover crops. • Point source-point source trades (2008 – 2019). Six facilities have participated in trades (3 buyers, 3 sellers) <p>EPA: No comment.</p> <p>FFY 2020 Report: As of December 4, 2020, there are 14 facilities participating in active trades (11 buyers, 3 sellers):</p> <ul style="list-style-type: none"> • Minnesota River General Phosphorus Permit trades FFY 2020. Eight facilities participating in trades (6 buyers; 2 sellers).

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					<ul style="list-style-type: none"> Point source – nonpoint source trades FFY 2020. Four facilities involved in trades (2 industrial, 2 municipal). There is an additional municipal permit that is currently in development which includes point source – nonpoint source trading. Point source-point source trades FFY 2020. Six facilities participating in trades (3 buyers; 3 sellers). <p>The total number of Facilities that have participated in trades (active and no longer active) is 34 (26 buyers; 8 sellers):</p> <ul style="list-style-type: none"> Minnesota River General Phosphorus Permit trades (2008 – 2020). Twenty-five facilities participating in trades (20 buyers; 5 sellers). 129 seasonal transactions. Point source – nonpoint source trades (1997 – 2020) 4 facilities participating in trades (2 industrial, 2 municipal). Does not include the municipal permit that is currently in development. Credit generating practices include riparian area restoration, livestock exclusion, streambank stabilization, bluff stabilization, filter strips and cover crops. Point source-point source trades (2008 – 2020). Ten facilities have participated in trades (5 buyers; 5 sellers). <p>Four facilities developed trade agreements that were not executed because permits for proposed facilities were not ultimately issued (2 buyers; 2 sellers).</p> <p>FFY 2021 Report: As of November 24, 2021, there are 18 facilities participating in active trades (12 buyers, 6 sellers).</p> <ul style="list-style-type: none"> Minnesota River General Phosphorus Permit trades FFY 2021. Seven facilities participating in trades (5 buyers, 2 sellers). Point source – nonpoint source trades FFY 2021. Six facilities involved in trades (2 industrial, 2 municipal). There is an additional municipal permit that is currently in development which includes point source – nonpoint source trading. Point source-point source trades FFY 2021. Four facilities participating in trades (2 buyers, 2 sellers). <p>The total number of facilities that have participated in trades (active and no longer active) is 34 (26 buyers, 8 sellers).</p> <ul style="list-style-type: none"> Minnesota River General Phosphorus Permit trades (2008 – 2021). Twenty-five facilities participating in trades (20 buyers, 5 sellers). 134 seasonal transactions. Point source – nonpoint source trades (2 industrial, 4 municipal). Does not include the municipal permit that is currently in development. Credit generating practices include riparian area restoration, livestock exclusion, streambank stabilization, bluff stabilization, filter strips and cover crops. Point source-point source trades (2008 – 2021). Ten facilities have participated in trades (5 buyers, 5 sellers). <p>Four facilities developed trade agreements that were not executed because permits for proposed facilities were not ultimately issued (2 buyers, 2 sellers).</p>
	WQ-27 (new measure)	Extent of priority areas identified by each state that are addressed by EPA-approved	We will report the number of 303(d) listed waters that will be addressed by TMDLs, as set forth in	Wayne Cords	FFY 2017 Report:

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Green		TMDLs or alternative restoration approaches for impaired waters that will achieve water quality standards. These areas may also include protection approaches for unimpaired waters to maintain water quality standards.	the Prioritization Plan for Minnesota 303(d) Listings to Total Maximum Daily Loads, dated September 2015 (Plan). This information will be reported through the ATTAINS database. The U.S. EPA will analyze this data to convert to acreage, and supply MPCA with the acreage data. We will then report the acreage of TMDLs established through this measure. For the estimated number of TMDLs to be created each year, see the appendix of the Plan.		<ul style="list-style-type: none"> FFY2017 goal for segments addressed by TMDLs was 1,693,086 acres (baseline of 889,173 plus 803,913 for FY17 alone). The actual results were 2,347,291 acres. The Universe is numbered at 6,595,313 acres, and therefore 36 percent of the Universe has a TMDL. <p>FFY 2018 Report:</p> <ul style="list-style-type: none"> Universe – 6,484,377 acres. Cumulative total at end of FY18: 2,793,026 acres. Cumulative total for FY17: 2,347,291 acres. FY18 total: 445,735 acres. 43.1 percent of universe. <p>FFY 2019 Report</p> <ul style="list-style-type: none"> Universe: 8580.73 square miles. Completed: 5018.92 square miles. Percentage: 58.5 percent. <p>FFY 2020 Report:</p> <ul style="list-style-type: none"> Universe: 7701.07 square miles. Completed: 5617.29 square miles. Percentage: 72.94 percent. <p>FFY 2021 Report:</p> <ul style="list-style-type: none"> Universe: 7701.07 square miles. Completed: 7183.53 square miles. Percentage: 93.28 percent.
	SS-1	<p>Number and national percent, using a constant denominator, of Combined Sewer Overflow (CSO) permits with a schedule incorporated into an appropriate enforceable mechanism, including a permit or enforcement order, with specific dates and milestones, including a completion date consistent with Agency guidance, which requires:</p> <ol style="list-style-type: none"> Implementation of a Long Term Control Plan (LTCP) which will result in compliance with the technology and water quality-based requirements of the Clean Water Act; or 	<p>The City of Saint Paul and Metropolitan Council Environmental Services (MCES) CSO permit was terminated Oct. 2, 2014. Only one expired CSO permit (MN0046744 - City of Minneapolis and MCES) remains in Minnesota. The City of Minneapolis has completed all significant identified sewer separation work, and we have no documentation regarding overflow events related to this permit since 2011. There have only been two overflow events documented since 2007. Next steps regarding this permit are still under negotiation with the permittees. We are targeting termination of this permit before the end of FF17 (September 30, 2017).</p> <p>Note: MPCA requested EPA support in conducting an inspection of Minneapolis in FFY 2017.</p>	Randy Thorson	<p>FFY 2017 Report: Mixed progress: The joint City of Minneapolis and Metropolitan Council Environmental Services (MCES) CSO permit (MN0046744), which is currently expired, is the only CSO permit remaining in Minnesota. The City of Minneapolis has completed all significant identified sewer separation work, and we have no documentation regarding overflow events related to this permit since 2011. There have only been two overflow events documented since 2007. While this CSO permit was not terminated during FFY17, there have been significant milestone achievements including an EPA supported inspection and multiple meetings with permittees. We are targeting termination of this permit before the end of FF18 (Sept. 30, 2018).</p> <p>FFY 2018 Report: Commitment was met. The last remaining CSO permit in Minnesota (permit MN0046744) was terminated July 13, 2018.</p> <p>FFY 2019 Report: Commitment was met in 2018. No report needed for 2019.</p> <p>FFY 2020 Report: Commitment was met in 2018. No report needed for 2020.</p> <p>FFY 2021 Report: Commitment was met in 2018. No report needed for 2021.</p>

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		2. implementation of any other acceptable CSO control measures consistent with the 1994 CSO Control Policy; or 3. completion of separation after the baseline date (cumulative).	<i>MPCA is okay with this item.</i>		
	SS-1	Number of types of compliance monitoring actions performed at point sources, indirect dischargers, and biosolid generators or users.	Meet targets in state-specific Compliance Monitoring Strategy, as negotiated on an annual basis. Negotiating FFY17 CMS currently.	Paul Scheirer Lisa Scheirer Suzanne Baumann Duane Duncanson	Previous FFY reports available by request .
	New item 1	Identify and conduct State/EPA Worksharing activities in the compliance and enforcement program.	<p>Working together, U.S. EPA and MPCA will identify worksharing opportunities to support implementation of the National Enforcement Initiative (NEI) framework and track established priorities for each FFY.</p> <p>In 2017, EPA plans to participate in a MS4 compliance inspection of St. Paul and a CSO compliance inspection of Minneapolis (activities related to managing the expired Minneapolis CSO permit, either by permit termination or an enforceable schedule, will count under EPA Strategic Measure SS-1).</p> <p>Beginning in 2017, EPA will kick off an industrial sector of the NEI that will include metals and chemical manufacturing, mining and food processing. Initially, this will include quarterly consultations to review data, develop baselines and conduct inspection targeting.</p>	Paul Scheirer Lisa Scheirer Suzanne Baumann Tanya Maurice Duane Duncanson	<p>FFY 2017 Report:</p> <ul style="list-style-type: none"> In June of 2017 the MPCA and EPA worked together and performed an EPA lead audit of St. Paul’s MS4 program. The EPA took the lead on developing the final audit report, and the final report was completed on June 14, 2018. Green R5 and MPCA program Sups meet quarterly to discuss upcoming inspections and other issues of concern. Mining was the focus in 2017. <p>FFY 2018 Report:</p> <ul style="list-style-type: none"> R5 and MPCA program Sups meet quarterly to discuss upcoming inspections and other issues of concern. <p>FFY 2019 Report:</p> <ul style="list-style-type: none"> R5 and MPCA program Sups meet quarterly to discuss upcoming inspections and other issues of concern. <p>FFY 2020 Report:</p> <ul style="list-style-type: none"> R5 and MPCA program leaders meet quarterly to discuss upcoming inspections, SNC data, and other issues of concern. <p>FFY 2021 Report:</p> <ul style="list-style-type: none"> R5 and MPCA program leaders meet quarterly to discuss upcoming inspections, SNC data, and other issues of concern.

Water – Non-point Source (sec. Section 319)

	SP-10	Number of waterbodies identified by States (in 1998/2000 or subsequent years) as being primarily nonpoint source (NPS) - impaired that are partially or fully restored (cumulative).	<ol style="list-style-type: none"> The annual Watershed Achievements Report highlights the achievements of active and recently completed nonpoint source water quality projects, and a link will be provided for this report yearly. Staff will also provide Section 319 Grant program progress into EPA’s Grants Reporting and Tracking System (GRTS) on a semiannual basis (March 15 and 	Wayne Cords Juline Holleran	<p>FFY 2017 Report: The 2017 Watershed Achievements Report (WAR) includes descriptions of completed active and newly awarded nonpoint source projects and predicted pollutant reduction data. It was sent to EPA for approval on October 3, 2017. Once it is approved, the report will be posted on the MPCA website, at which point it can be found through the website search.</p> <p>GRTS reporting, including project reporting and pollution reductions, was completed by February 15, 2017, and September 15, 2017.</p> <p>US EPA conference and/or meetings attended included the <i>2017 National Training Workshop on CWA 303(d) Listing and TMDLs</i> held May 31 through June 2, 2017, in Shepherdstown, West Virginia. Jim Courneya, Supervisor of the Northwest Watershed Unit, attended and presented with Red Lake Indian Reservation.</p>
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			<p>September 15). In addition, GRTS will also be updated by MPCA to reflect any changes to grants or related projects (upon EPA approval of proposed changes).</p> <ol style="list-style-type: none"> 3. Staff will develop individual nonpoint source water quality Success Stories for local and national presentation. 4. MPCA staff funded through state match and Section 319 funding provide program direction, supervision, project management, technical assistance (water quality monitoring and modeling, stressor ID, data analysis and management, and GIS), program support (civic engagement, public information, computer, and administrative) for nonpoint source water quality projects and programs, including the federal Section 319 Grant Program. 		<p>Also, the <i>National NPS Training Workshop</i> in Boston, Massachusetts, held October 31 to November 3, 2016, was attended by Justin Watson, a project manager for the program.</p> <p>FFY 2018 Report: The 2018 Watershed Achievements Report (WAR) is in progress and will be submitted to the EPA by December 31, 2018.</p> <p>GRTS reporting was completed by February 15, and by September 20, 2018.</p> <p>U.S. EPA conference and/or meetings attended included the 2018 National Training Workshop on CWA 303(d) Listing and TMDLs, held May 30 through June 1, 2018, in Shepherdstown, West Virginia was attended by Scott MacLean, Supervisor of the Southwest Watershed Unit. The National NPS Training Workshop is held every other year and there was no training held in FFY2018. Also, the Annual GRTS Training, held November 7, to November 8, 2017, in Chicago, IL, was attended by Cindy Penny, the Section 319 Grants Program Administrator.</p> <p>FFY 2019 Report: The 2019 Watershed Achievements Report (WAR) is in progress and will be submitted to the EPA by December 31, 2019.</p> <p>GRTS reporting, including project reporting and pollution reductions, was completed by February 15, 2019, and September 15, 2019.</p> <p>U.S. EPA conference and/or meetings attended included the 2019 National Training Workshop on CWA 303(d) Listing and TMDLs, held May 29 through May 31, 2019, in Shepherdstown, West Virginia was attended by Justin Watkins, Supervisor of the Southeast Watershed Unit.</p> <p>FFY 2020 Report: The 2020 Watershed Achievements Report (WAR) is in progress and will be submitted to the EPA in January 2021.</p> <p>GRTS reporting, including project reporting and pollution reductions, was completed by February 15, 2020, and September 15, 2020.</p> <p>Two nonpoint source water quality success stories were approved by EPA in 2020.</p> <p>U.S. EPA conference and/or meetings attended included the 2020 National CWA 303(d) Training Workshop held May 26 through May 29, 2020, and the 2020 National Nonpoint Source Training held November 16 through November 19, 2020. These trainings were virtual, and a number of Watershed staff and management attended. A Success Story training was also held on June 23, 2020, and attended by Watershed staff.</p> <p>FFY 2021 Report: The 2021 Watershed Achievements Report (WAR) is in progress and will be submitted to the EPA in January 2022.</p> <p>GRTS reporting, including project reporting and pollution reductions, was completed by February 15, 2021, and September 15, 2021.</p> <p>One nonpoint source water quality success story was approved by EPA in 2021.</p> <p>U.S. EPA conference and/or meetings attended included the 2021 National CWA 303(d) and Data Management Training Workshop: Thoughtful Steps on the Path Ahead held June 7 through June 10, 2021 and the 2021 National Nonpoint Source Training Workshop held November 16 through November 19, 2021. These trainings were virtual, and a number of Watershed staff and management attended.</p>