Water quality assessment

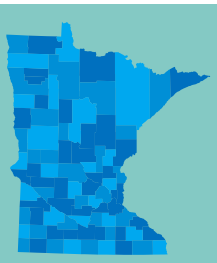
April 2024

Assessment Manual

Guidance for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment:
305(b) Report & 303(d) Impaired Waters List

2024 Assessment and Listing Cycle

MINNESOTA POLLUTION CONTROL AGENCY



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Abbreviations, acronyms, and symbols

AUID	Assessment unit identification
WID	Water unit identification
BCC	Bioaccumulate Chemicals of Concern
BCG	Biological Condition Gradient
Beneficial Use	The kinds of activities the waterbody can be used for. Used inter-changeably with the term designated use. The CWA requires assigning designated beneficial uses.
BOD	5-day Biological Oxygen Demand
CARL	name of MPCA's assessment database
CC	Chronic Criteria
chl-*a*	Chlorophyll-*a*, corrected for pheophytin
CS	Chronic Standard
CWA	Clean Water Act
DC	Domestic consumption
Designated Use	The kinds of activities the waterbody can be used for, and standards are applied to the waters to protect these activities being performed. Used inter-changeably with the term beneficial use. The CWA requires assigning designated beneficial uses.
DNR	Minnesota Department of Natural Resources
DO	Dissolved oxygen
EPA	U.S. Environmental Protection Agency
EQuIS	Environmental Quality Information System
FCMP	Fish Contaminant Monitoring Program
GLI	Great Lakes Water Quality Initiative
HDS	Human Disturbance Score
HH-WQS	Human Health-based Water Quality Standards
IBI	Index of Biotic Integrity
Index Period	The frame of time that data is used for assessments. For example, the index period for a parameter may be from May-September.
IWM	Intensive watershed monitoring
LTRMP	Long Term Resource Monitoring Program
MDA	Minnesota Department of Agriculture
MDH	Minnesota Department of Health
MPCA	Minnesota Pollution Control Agency
NHD	National Hydrography Data
PCB	Polychlorinated biphenyls
PJG	Professional Judgment Group
PFOS	Perfluorooctane sulfonate
QA/QC	Quality Assurance/Quality Control
RES	River Eutrophication Standards
Residence time	The amount of water in a reservoir divided by either the rate of addition of water to the reservoir or the rate of loss from it
RNR	River Nutrient Region
TALU	Tiered Aquatic Life Uses
TMDL	Total Maximum Daily Load
TP	Total Phosphorus
TSS	Total Suspended Solids

USGS	United States Geological Survey
UAA	Use Attainability Analysis
WAT	Watershed Assessment Team
WQS	Water Quality Standards

2024 revisions of the Guidance Manual

In this edition of the Guidance Manual for assessing the quality of Minnesota surface waters, the MPCA made these additions since the previous version published in 2022.

Formatting/reorganizing content

- Combined the forward and introduction.
- Reorganized the III. Steps in the assessment process to flow better. Content not changed in watershed or statewide approaches, just reorganized for ease of reading. Included more context regarding history of assessment approach before watershed approach was implemented 10+ years ago.
- Changed section titled “Data Sources and Quality” into two different sections for clarity.
- Moved a large portion of what was Appendix C into the data quality section, gives more context around data submittal requirements for use in assessments.
- Added boxes detailing more information regarding the call to data and requirements that MPCA places on partners to get data into EQuIS database.
- Re-organized sections to include an “impairment assessment” and “impairment removal assessment” for each beneficial use class. This provides clarity and consistency in finding information across sections. Formatted each beneficial use class header as 1) parameter-level assessment, 2) impairment assessment, 3) impairment removal assessment.
- Added headers “meeting the standard” and “exceeding the standard” and “data quality considerations” as appropriate.
- Changed items that used to be listed in long sentence lists to bulleted format for ease of reading/finding information.

Edits for consistency

- Changed references to the 303(d) list and TMDL list to Impaired Waters List (IWL).
- Updated all hyperlinks.
- Changed calculation in total metals flow chart which had a typo/error in how it read.
- Changed a few pieces of terminology such as morphometric, congeners, and other technical terms to plain language.
- Added call-out boxes giving brief description of why that parameter is important for assessment. Attempts to includes background and history on why these parameters are essential to monitor for and assess.
- Changed any reference to “assessment database” to specifically say CARL or EQuIS as appropriate for clarity.
- Added clarity with what the acute/maximum vs chronic standards are for each parameter.
- For pesticides, added a chart to clarify the MS vs CS.

New additions

- Sulfate assessment methodology
- Appendix containing waters used for production of wild rice designated uses list.
- Added a call-out box detailing more information on Assessment Consistency Technical (ACT) Team which was not mentioned previously in this document.
- Added images to more clearly articulate the Waterbody ID (WID) codes. These are the assessment units.
- Added Figure 2 watershed approach schedule and Figure 3 big river monitoring schedule as visuals to convey information.

I. Introduction

Minnesota is blessed with abundant water resources. Even the name of the state demonstrates this abundance, as Mni Sota is the Dakota name for this region, translated as the land where the waters reflect the sky. Our lakes, rivers, and streams play a vital role in the state's economy and the rich quality of life residents and visitors enjoy. The enormous opportunities for water related recreation these resources provide — such as aesthetic enjoyment, swimming, fishing, boating and canoeing — depend, to a great extent, on good water quality. Within Minnesota's borders lie the headwaters of three major continental watersheds: the Great Lakes/St. Lawrence River, the Mississippi River, and the Red River of the North/Hudson Bay Watersheds. Minnesotans have the privilege, and the huge responsibility, of living "upstream" of millions of downstream users of these major waterways. Minnesota also contains 11 sovereign Tribal Nations within its borders and have the responsibility of maintaining water quality as these flow into and out of Tribal Nation's land. Minnesota's water resources include about 105,000 river miles, 4.5 million acres of lakes and reservoirs including approximately 1.4 million acres of Lake Superior in Minnesota, and about 9.3 million acres of wetlands.

The Minnesota Pollution Control Agency (MPCA) is charged under both federal and state law with the responsibility of protecting the water quality of Minnesota's lakes, rivers, streams, and wetlands. One goal of the MPCA is to preserve the existing high quality of water bodies that are meeting standards, to maintain their beneficial uses. However, too many surface waters receive enough pollutant loading from a variety of sources that they do not meet one or more water quality standards (WQS).

This Assessment Manual (also known as the Guidance) explains the methods MPCA utilizes for assessing whether the waters where data has been gathered are meeting the beneficial uses or not. If the waters are not meeting their intended use, they are placed on the impaired waters list (IWL) for detailed tracking of future improvements. Being placed on this list also helps prioritize writing of restoration plans and/or total maximum daily load (TMDL) studies, which aid in mitigation of the pollutants in the waterbodies to bring them once again into a clean water state to meet their intended use and so the waters can once again live up to their namesake to run clear, clean, and reflect the sky.

A surface water is considered to be 'impaired' if the extent of its exceedances of applicable WQS is more than the levels spelled out in this Assessment Guidance Manual. The MPCA then works to improve the quality of impaired waters so WQS are met and beneficial uses are maintained and/or restored, where these uses are attainable. Since the Clean Water Act became law in 1972, significant and often dramatic improvements in the quality of Minnesota's surface waters have been accomplished. Notable examples include the Mississippi River below the Twin Cities, the Rainy River below International Falls, and the improvements to dissolved oxygen concentrations in the Minnesota River. Most of these gains can be attributed to vast improvements in domestic and industrial wastewater treatment.

Despite these success stories, many Minnesota lakes and streams do not fully support beneficial uses such as swimming and fishing. The contribution of pollutants from nonpoint sources, agriculture, construction and development sites, forestry, urban runoff, etc., is now the major reason why many of Minnesota's waters are considered impaired. The prevention and control of nonpoint source pollution remains one of Minnesota's greatest challenges.

This Guidance Manual will be updated as assessment methods improve and as new pollution problems emerge that require assessment. Comments and suggestions from readers are encouraged and will be used to help improve the Guidance Manual.

II. Purpose and scope

A. About the Assessment Guidance Manual

The purpose of this Guidance Manual is to define required data and information and lay out the criteria by which water bodies are assessed to determine if beneficial uses are supported or if waterbodies should be placed on the IWL. This is in accordance with the Clean Water Act (CWA) 33 U.S.C. §1251 et seq.

The scope of this Guidance Manual includes methods for assessing surface waters for the following beneficial uses:

- Class 1: Drinking water and aquatic consumption (human health-based standards).
- Class 2: Aquatic life (toxicity-based standards, conventional pollutants, biological indicators).
- Class 2: Aquatic recreation (Escherichia coli – *E. coli* – bacteria, eutrophication).
- Class 2: Aquatic consumption (fish-tissue and wildlife-based standards).
- Class 4A: Waters used for production of wild rice.
- Class 7: Limited value resource waters (toxicity-based standards, bacteria, conventional pollutants).

This manual serves as a piece of the reporting requirements the state submits every two years to the United States Environmental Protection Agency (EPA). It details the procedures and methods the MPCA uses to determine if waters are placed on the impaired waters list (IWL).

To people not involved with conducting water quality assessments, the determination of an impaired condition would seem to be a straightforward process: waters either meet standards or do not. However, the assessment process is complex and it includes a degree of uncertainty.

The MPCA must consider many different types and sources of data, different categories of pollutants, different uses of surface waters, the variability in natural systems, and many other factors. The goal of this Guidance Manual is to describe the assessment methods accurately and completely, and to make the assessment process as clear and understandable as possible. Nevertheless, questions about the assessment process will invariably arise that the Guidance Manual fails to answer. Readers are encouraged to access the many resources listed in Section XII, including MPCA staff, for additional information. Some MPCA products that may be especially useful are the resources for Volunteer Surface Water Monitoring Program and the Surface Water Data Viewer. Minnesota's Water Quality Monitoring Strategy provides information on the monitoring program, as well as data quality and management. The Surface Water Data website allows Minnesotans to access environmental data on surface waters statewide.

What is the difference?

Monitoring – The process of gathering surface water and biota samples, the process of data collection.

Assessment – The process of analyzing surface water chemical and biota data.

B. Disclaimers and future changes to the Assessment Guidance Manual

This Guidance Manual does not affect the rights and administrative procedures available to all affected or interested parties. The Guidance Manual is not part of any water quality rule – it does not have the force of law. It serves to guide the interpretation and application of current WQS that are in water quality rules. If any party feels that an MPCA decision based on the Guidance Manual is not supported by the facts, or they have any issue related to the MPCA's use of the Guidance Manual, that party can comment on the MPCA's actions in the following ways:

- Directly contact MPCA staff, management, or the Commissioner, verbally or in writing.
- Request a contested case hearing if the issue involves an MPCA permit action, or any other MPCA action for which a contested case hearing is an appropriate forum to resolve the concern.
- Challenge the MPCA action in the appropriate legal jurisdiction.

The MPCA updates this Guidance Manual every two years in conjunction with the current EPA-mandated schedule for preparation of both the 305(b) Integrated Report and the IWL. The MPCA involves the public when major changes to the Guidance Manual are being considered and invites the public to comment on this Guidance Manual on the same schedule as the IWL.

Methodologies will be developed and included in this document as new pollutants are added to the assessment process. These processes will follow equivalent methodologies discussed in this Guidance Manual, depending on the type of pollutant.

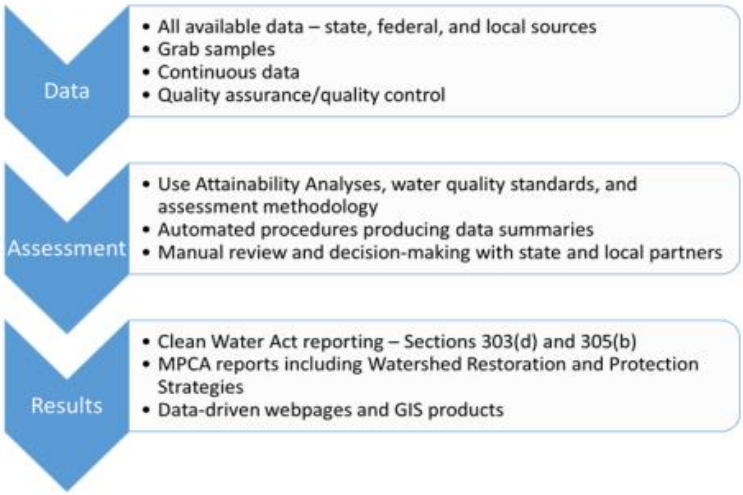
III. Monitoring approach

The MPCA conducts a variety of surface water monitoring activities focused on providing critical information to assess the condition of Minnesota's water resources. This information is also used to assess potential and actual threats to water quality and to evaluate the effectiveness of management activities taken to address impairments and other threats to water quality. Monitoring is conducted by other local, state, and federal agencies. Volunteer monitoring, and remote sensing data, and partner agency data are also used for assessments. More details on the MPCA's strategy can be found here: monitoring strategy.

> Assessments are conducted annually in spring, utilizing the previous 10 years of data.
>
> Example: Spring 2022 assessments include data from October 1, 2011, through September 30, 2021

The MPCA's primary monitoring activities are organized around Minnesota's 80 major watersheds. The watershed monitoring approach involves intensive monitoring for conventional pollutants on a subset of major watersheds every year. The MPCA has implemented a schedule for intensively monitoring each major watershed once every 10 years. These monitoring activities result in the identification of waters that are impaired and need restoration, as well as waters that need continued protection to prevent impairment. Monitoring is followed by TMDL prioritization and protection strategy at the major watershed scale, in conjunction with ongoing implementation. For information on TMDL priority rankings as they pertain to reporting to EPA, see Appendix B.

Figure 1: Monitoring, Assessment, and Reporting Approach



Every two years the watershed and statewide assessment results are packaged together into the Impaired Waters List and Integrated Report. This manual serves as a piece of the reporting requirements the state submits every two years to the EPA. It details the procedures and methods MPCA uses to determine if waters are placed on the impaired waters list (IWL). How's My Waterway is an EPA mapping tool that assists in visual viewing of assessment results.

IV. Assessment approaches

The Federal Clean Water Act (CWA) requires states to adopt water quality standards (WQS) to protect waters from pollution. These standards define how much of a pollutant can be in the water and still allow the water to meet its beneficial uses, such as drinking, fishing, and swimming. WQS are the fundamental tools used to assess the quality of all surface waters.

States must monitor and assess the quality of their waters to identify those that are "impaired", i.e., not fully supporting their beneficial uses. Section 303(d) of the CWA requires states to publish and update a list of impaired waters for which a Total Maximum Daily Load (TMDL) study is needed. This list, known as the "Impaired Waters List," "303(d) List," or "TMDL List" is updated every two years via the assessment of water quality data and an extensive public participation process. The draft Impaired Waters List (IWL), as it will be referenced throughout the course of this document, is developed by the MPCA and submitted to the U.S. Environmental Protection Agency (EPA) for approval.

The two-year timeline for assembling and submitting the draft IWL is known as the assessment and listing cycle. Each year, the assessment process looks at data collected over a ten-year window, ending after the prior monitoring season.

Two years of assessments are completed between the development of each impaired waters list. This Guidance Manual has been prepared to reflect the 2024 Assessment and Listing Cycle.

Section 305(b) of the CWA requires states to submit a report on the status of all of their waters to help measure progress toward the national goals of fishable and swimmable waters. On the same two-year cycle, Minnesota submits the comprehensive results of all assessments in an "Integrated Report." The Integrated Report (IR) includes Minnesota's IWL, a 305(b) narrative report with programmatic information about protection and restoration efforts, and this Guidance Manual. As part of the assessment process and the development of the Integrated Report, all waters for which sufficient data have been collected to allow a review are assigned to a category of impaired, unimpaired, or insufficient information to determine impairment status according to EPA-established categories (Appendix A). The IWL contains a comprehensive list of all known impaired waters, even if those waters are not meeting the imposed requirements due to natural causes and therefore do not need remediation.

History on assessment approach

Prior to 2008, the monitoring and assessments of waters within state boundaries was minimal. After receiving clean water funds, many more sites were able to be added to the monitoring program. The large increase of data made it impractical to conduct assessments of the entire state's water quality data annually. Therefore, a watershed approach was created where watersheds were designated a rotational schedule and data from those watersheds are now collected and assessed only once every 10 years. This allows for extensive monitoring to be conducted on waterbodies across the state, and staff to not be overwhelmed with annual assessments. This approach is now called the watershed approach, or the intensive watershed monitoring approach (IWM).

However, the IWM was not applicable to certain toxic parameters. For parameters that are of extreme importance to fish, it would not be responsible to only monitor once every 10 years, giving the opportunity for a large data gap to be present in a waterbody for up to 9 years before it is addressed. Therefore, a statewide assessment approach was retained for those toxic parameters in question. Annual data are still collected for those toxic parameters, but assessments are only conducted every-other year in accordance with the biennial listing cycle.

A. Watershed approach

Watershed approach:
10-Year monitoring & assessment

Primary Focus: aquatic life and recreation beneficial uses

The MPCA uses an annual assessment process in order to make annual adjustments to the monitoring work, reflect the more detailed monitoring data available in each watershed, and generally implement the overall watershed approach. Intensive Watershed Monitoring (IWM) is the process of gathering data in surface waters that align with the watershed approach. Assessments take place immediately following a watershed's completion on the IWM schedule. For example, if the Big Fork River watershed was monitored May-October 2022 and 2023 then the assessment is completed in spring of 2024.

Prioritizing improvement measures

An important feature of the watershed approach is the fact that restoration and protection planning and associated implementation will occur in all watersheds. The identification of an impaired status is not the main factor in determining whether restoration and protection planning and associated implementation will occur in a watershed. Many factors are looked at when prioritizing implementation. For information on TMDL priority rankings as they pertain to reporting to EPA, see Appendix B.

The entire process of monitoring→assessment→restoration→protection can be completed for all watersheds within the state boundaries within 10 years, at which time the watershed comes up for monitoring again as part of the next scheduled 10-year rotation. The first cycle of 10-year rotations were completed in what is known as Cycle 1, which means all watersheds in Minnesota have been assessed once before. Minnesota is currently undergoing Cycle 2, taking a second round of monitoring and assessments to refine and build upon information gathered and listing decisions made in Cycle 1. This allows clear tracking of progress towards meeting water quality goals. In addition, Cycle 2 encourages earlier and more meaningful local involvement in monitoring and assessment.

The MPCA and Minnesota Department of Natural Resources (DNR) collaborate on the assessment of aquatic life in lakes utilizing a lake fish Index of Biotic Integrity (IBI) and a review of existing plant data. The DNR collects lake samples within major watersheds on same MPCA watershed approach schedule.

Large rivers are defined as large mainstem rivers that comprise and flow through multiple major watersheds and therefore are considered separately within the watershed approach. In Minnesota, these rivers include the St. Croix, Minnesota, Red River of the North, Rainy, and Upper and Lower Mississippi Rivers. Monitoring and assessment of these large rivers are incorporated into the watershed approach within the same rotating 10-year schedule. This information can be found in Figure 3, in which the years reflected in the map are the first year starting two years of monitoring, with the third year being when assessments are performed. So for example the Mississippi River monitoring will be conducted in 2024-2025 with assessments conducted in 2026.

For the 2024 Assessment and listing cycle, the watersheds and periods of record considered are:

Table 1: 2024 Assessment and listing cycle watershed approach

Assessed in 2022	**Assessed in 2023**
Data collected 10/1/2011 – 9/30/2021	Data collected 10/1/2012 – 9/30/2022
Crow Wing River	Minnesota River – Yellow Medicine
Mississippi River – Twin Cities	Mississippi River – Winona
	Mississippi River – La Crescent
	Bois de Sioux River
	Mustinka River
	Big Fork River

Figure 2: Watershed approach schedule

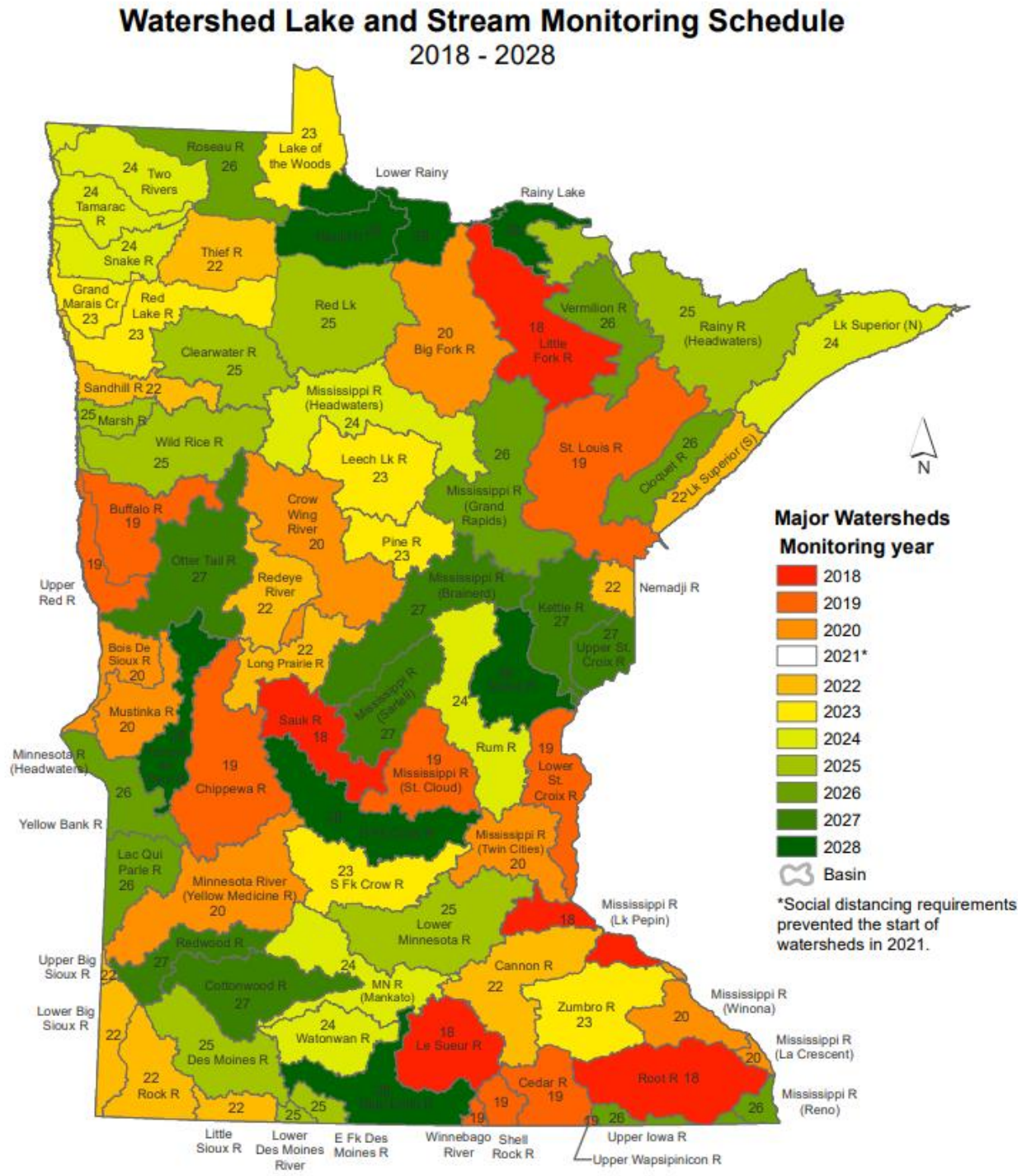
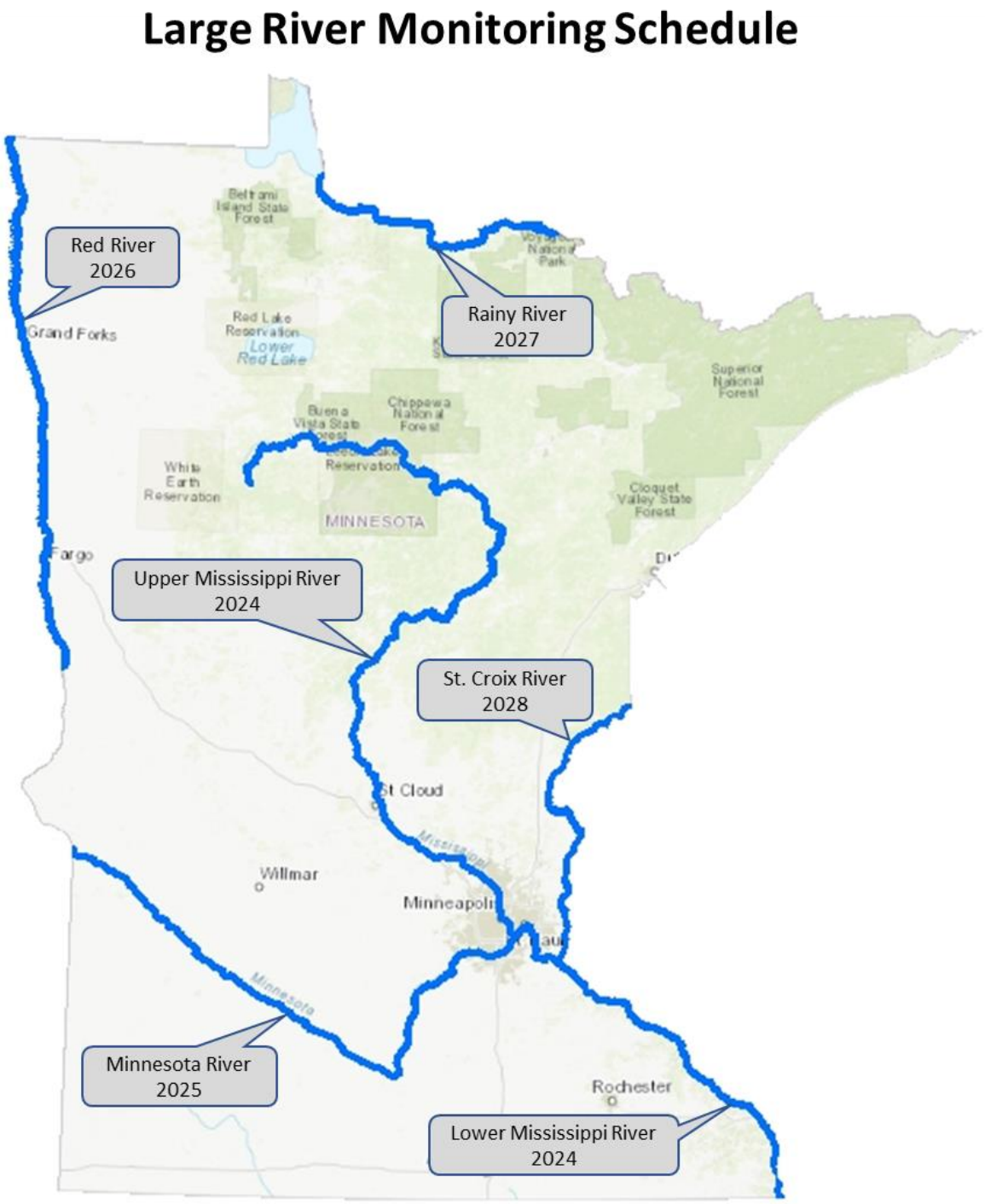


Figure 3: Large river schedule



B. Statewide approach


Statewide approach: annual monitoring

Primary focus: aquatic consumption and aquatic life toxicity beneficial use

Some monitoring, namely monitoring of toxic parameters, continues to occur on a statewide basis. This means that water chemical or biota monitoring occur in waters with that beneficial use across the state, not limited on watersheds assessed that year. For example, drinking water sources are monitored across the entire state for nitrates rather than just monitoring for nitrate in drinking sources found in the Big Fork River or other waterbodies listed in Table 1.

The assessment of the data monitored in the statewide approach then occurs every two years. Assessment of those parameters is done statewide every two years, to reflect the monitoring design for necessary inclusion on the IWL. The following statewide assessments were conducted for the 2024 Assessment and Listing cycle:

Table 2: 2024 Assessment and listing cycle statewide approach

Assessed in 2022	Assessed in 2023
Data collected in 2022, but no assessment performed	Data collected 10/1/2012 - 9/30/2022
	Nitrate in lakes and streams used as a source for drinking water
	Pesticide and fish tissue contaminants
	Trace metals
	Sulfate in waters used for production of wild rice

C. Opt-ins

While the MPCA's monitoring and assessment efforts primarily follow the major watershed schedule, interested parties may propose additional assessments during the call for data or public notice of the draft IWL. This process accommodates instances when assessment and listing outside of the watershed schedule is necessary for a locally led initiative to move forward. Any proposals for assessment outside of their designated assessment year in the watershed schedule must: 1) explain why moving forward with assessment is necessary prior to the waterbody's next watershed assessment year, 2) document how the efficiency and coordination that is lost by deviating from the watershed approach will be offset by a local benefit, and 3) demonstrate that the MPCA's assessment methods in this Guidance Manual were followed for the monitoring, analysis, and comparison of the data against state standards. The MPCA reviews any such proposals and makes a determination regarding impairment and listing prior to submitting the draft list to EPA for approval. This opt-in request applies to specific waterbody assessments, and does not apply to assessing an entire watershed outside of its typical assessment year.

V. Assessment process

A. Definition of assessment units - stream reaches, lakes, and wetlands

The MPCA uses the 1:24,000 scale high resolutions National Hydrography Dataset (NHD) to create geospatial data to represent stream and lake water body assessment units (WIDs). All of Minnesota's WIDs are indexed to the NHD or have had custom shapes created for addition to the NHD. The high resolution NHD was created from 1:24,000 scale United States Geological Survey (USGS) Digital Line Graphs and DNR stream and lake data.

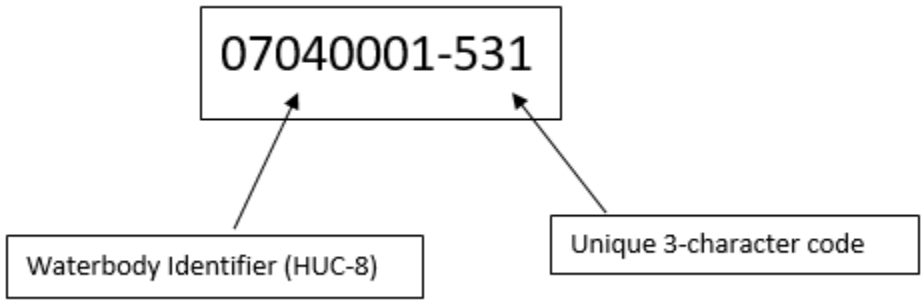
Each water body is identified by a unique water body identifier code called a water unit identification (WID). For streams, the code is comprised of the USGS 8-digit sub-basin code plus a three-character code that is unique within each sub-basin. The USGS 8-digit sub-basin code is known as a hydrologic unit code (HUC-8). It is for these specific reaches that the data are evaluated for potential use impairment.

Terminology

At EPA, WIDs are often called AUID, standing for assessment unit ID. Other MPCA reports might reference WIDs, but WID and AUID can be used interchangeably to reference the same assessment unit structure.

A stream WID usually extends from one significant tributary to another or from the headwaters to the first significant tributary. A WID is typically less than 20 miles in length. Main-stem large rivers utilize hydrologic unit boundaries (10-digit HUC) as the initial WID. A stream or river reach may be further divided into two or more WIDs when there is a change in the use classification (as defined in Minn. R. 7050), or when there is a significant morphological feature such as a dam or a lake within the river.

Figure 4: Stream identifier (WID) example

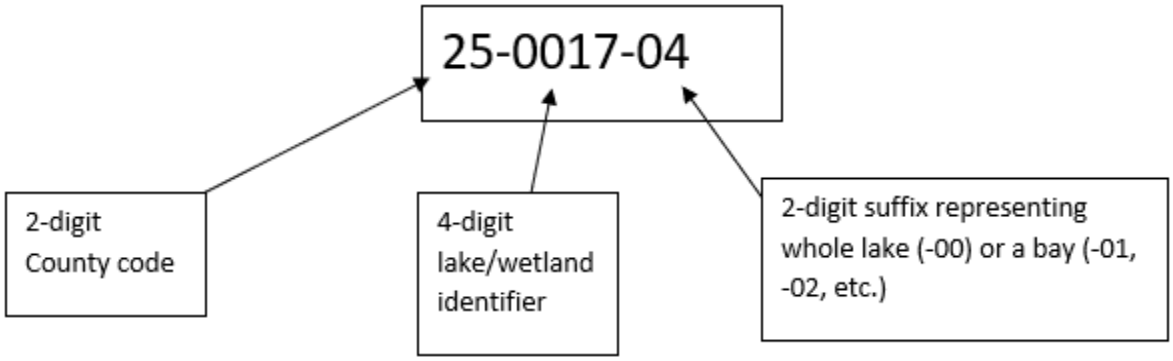


The lake and wetland 8-digit codes are from DNR's protected waters inventory. The DNR uses an 8-digit identifier for water bodies consisting of a 2-digit prefix that represents county, 4-digit number

Each watershed will be assessed once every ten years. However, if there is a specific reason that is needed to have a waterbody assessed outside of its normal rotation plan, that waterbody can be opted in an annual assessment in a year it was not normally scheduled. For example, if significant restoration was performed and a waterbody should be de-listed from the IWL, the data can be opted-in to a cycle where it may not be assessed again for up to 9 more years. This allows accurate information to be recorded and does not have to wait for the next time the watershed is up for its cycle of monitoring/assessment.

identifying a lake, and a 2-digit suffix that represents either a whole lake (-00) or representing a specific bay of a lake (-01, -02, etc.). This 8-digit identifier is used by the MPCA to represent an WID for lakes and wetlands. The MPCA reviews waters for wetland determination as needed during the assessment process using the criteria identified in Appendix D. Water bodies determined to be wetlands will not be assessed using the lake eutrophication factors.

Figure 5: Lake/wetland identifier (WID) example



For the purposes of identifying water bodies as either wholly or partially within federally recognized Tribal land, the MPCA uses the U.S. Census Bureau's spatial data on American Indian/Alaska Native Areas/Hawaiian Home Lands. Waters that flow through, or are completely within, reservation boundaries receive a special notation in Minnesota's IWL. Those lakes and streams that serve as a boundary between state land and Tribal land do not receive notation and are treated, in assessment and listing, the same as border waters between neighboring states. For more information on the MPCA's approach for assessing and communicating the quality of waters that occur partially or wholly within federally recognized Tribal land, see Appendix E.

Modifying assessment units

When an existing WID is sub-divided into two or more WIDs this is referenced as the parent and the child. The parent WID is the former WID reach, and the two or more new WIDs are known as the child WIDs. This typically happens for streams and rivers, and very rarely for lakes if a bay is considered a different use then the rest of the lake. This is important to be recorded appropriately in the assessment database (CARL and ATTAINS) for future assessments.

B. Five steps to the assessment process

Step 1: Data compilation

The initial step in the process is a computerized screening that identifies monitoring results collected on WIDs over the appropriate period of record (10 years) and compares each data point to water quality criteria (IBI scores or standards). Summarization of the number of data points that exceed the criteria, the total number of data points, and the number of years of data collected is performed. This step is conducted by MPCA's assessment database known as CARL and produces a parameter-level summarization to be utilized by assessment staff. Step 1 is when the parameter-level analysis occurs.

Call for data

The call for data issued by MPCA ensures that the MPCA is looking at all readily available data for the assessment process. The MPCA utilizes data from WQX as well as MPCA's internal database. However, there may be volunteer science data or partner data that are not submitted via a federal process that would otherwise not be utilized by the state without this call for data. Due to the complex internal assessment process of the MPCA, all data need to be entered into the MPCA EQuIS database because this populates data into several other internal control structures that inform assessments. The MPCA does the legwork to pull in federal WQX data and seek out other missing data through this call for data process. Readily-available data is considered that which is submitted in an Excel, CSV, or other importable method via spreadsheet. The GovDelivery notification system for the call for data can be found on the IWL webpage under "stay connected."More information can be found in Appendix C, as well as the submitting surface water data webpage here: https://www.pca.state.mn.us/business-with-us/submitting-surface-water-data.

Data period of record

The MPCA uses data collected over the most recent 10-year period for all the water quality assessments. Years of record are based on the USGS water year, October 1 of one year through September 30 of the following year. It is preferable to split the year in the fall, when hydrological conditions are usually stable, then to use calendar years. The MPCA uses the ten-year period in its assessments because this period is long enough to provide reasonable assurance that the data have been collected over a range of weather and flow conditions and that all seasons are adequately represented. From a practical standpoint, the ten-year period means there is a better chance of meeting the minimum data requirements for each parameter. A full ten years of data are not required to make an assessment.

In accordance with Minn. Stat. 114D.25, the MPCA must take into consideration recent relevant pollution reductions resulting from controls on municipal point sources and nonpoint sources. In practice, this means that, if MPCA is aware of projects or facility changes that would result in a measurable improvement in the receiving water quality, then MPCA will consider these improvements in its assessment decision-making. Depending on the potential impact to water quality realized by these improvements or changes, the MPCA may:

1) Base its assessment decision solely on data collected post-project/changes,
2) Make its assessment decision by placing more weight on data collected post-project/changes; or
3) Defer an assessment decision altogether until sufficient post-project/changes data can be obtained.

Data sources

Data for assessments are queried primarily from the MPCA's Environmental Quality Information System, known as EQuIS. This database holds all air and water data as collected by the MPCA and made available to the public. Data from outside that system are also included in the process if readily available for inclusion during the call for data process. However, to allow for the external data to be included in the process, it must be submitted with an appropriate format to MPCA in time for incorporation into the database. A deadline is announced to partners via a call for data and is typically November 1 prior to the start of the assessments. Data flows from EQuIS to CARL as part of Step 1 in the assessment process. Any data submitted to WQX is used in the assessment process, but is not made available to the public. For more information on the sources of data that the MPCA uses, and how partners can ensure their data are used in assessments see Appendix C.

Data quality

The data used in assessment decisions must be of reliable quality and QA/QC protocols must be carefully followed for each step along the way – from field sampling to lab analysis to data management – in order to reduce the introduction of errors. Monitoring and data management at the MPCA are performed in accordance with the requirements specified in a Quality Management Plan approved by the EPA. For more information on data quality see Appendix C.

Step 2: Desktop assessment

The desktop assessment involves a review of data and summaries for water bodies within a specific major watershed, or 8-digit hydrologic unit code watershed (HUC-8). It is performed by resource-specific staff. For example, water quality staff review chemistry data, biologists review stream biological data, DNR staff review lake biology, and specialists review toxic parameters such as pesticides and nitrate. Staff ascertain the quality of the dataset (temporal and spatial completeness, etc.) and consider multiple lines of evidence including but not limited to flow conditions, precipitation, land use, and habitat. The results of which are recommendations as to whether data shows the parameters are meeting or exceeding the appropriate standards, and if those exceedances of standards meet the requirements of listing the waterbody as being impaired. During this process, any candidates for recategorization (a move of an impairment out of their current category, typically Category 5, see Appendix A) are identified and work begins to justify those changes to the IWL. Step 2 is when the impairment assessment occurs.

Step 3: Watershed Assessment Team (WAT)

The WAT includes desktop assessors, regional watershed project managers, stressor identification staff, and other state agency personnel involved in the HUC-8 assessments. Invites to the meetings are also extended to Tribal nation water quality staff for HUC-8 watersheds that include waters wholly or partially within Tribal boundaries, as well as waters in counties Tribal Nations have identified interest. The WAT meets to review each WID in the watershed, considering comments and parameter-level evaluations from the desktop assessment as well as supplemental information, to reach an overall decision on whether or not that waterbody is impaired for its designated use. Waters that are no longer considered impaired (delisting or natural background candidates) may also be identified at this time.

Aquatic consumption (fish) assessment utilizes only the first three steps in the assessment process (Steps 1, 2 & 3). There are no meetings with the regional partners to discuss this decision since those meetings will already occur in regard to the water quality data parameters in the WAT and PJG.

Step 4: Professional Judgment Group (PJG)

The PJG is comprised of WAT and external parties (local data collectors, local government units, Tribal Nations, etc.), as determined by the MPCA regional watershed project manager. This group meets to discuss the results of the WAT meeting for a specific HUC-8 watershed, as identified in Table 1. Prior to the PJG meeting, the results of the WAT meeting are distributed to all invitees, including parameter-level evaluations, overall use-support recommendations and all decision comments. Invitees are asked to identify WIDs they wish to discuss; an agenda is developed based on these submissions.

PJG Format:

- Overview of the process.
- General discussion of the watershed and major subwatersheds.
- Review of requested WIDs.
- Review of recategorization candidates.

It does not include an exhaustive review of each WID. The PJG meetings result in final use-support determinations for the IWL. If applicable, border states are consulted and reasons for any discrepancies in assessment determination between Minnesota and the specific border state are documented.

The analyses and recommendations for each WID are documented in the MPCA's CARL assessment database and archived following the completion of the assessments. Throughout the annual assessment process, care is taken to maintain consistency among the HUC-8 assessment meetings and decisions. This is accomplished via internal training and quality control, and oversight and guidance provided by a technical team and a management team charged with ensuring quality data analysis and consistency among watershed assessment discussions and decisions.

Border waters

Because other countries may have alternative beneficial uses or different standards than Minnesota, and are subject to different responsibilities outside of the CWA, waters considered border waters are subject to discussion and international watershed management decisions. Typically, discussions on assessment of border waters occur with international partners in addition to the PJG, but those partners may be invited to attend the PJG as well. This applies to Tribal Nations as well as Ontario,

Assessment Consistency Technical Team (ACTT)

This team was developed to ensure appropriate consistency among all assessment methodologies, and WAT and PJG meetings. The team meets regularly throughout the assessment process. The team is comprised of the technical experts that are conducting the assessments, and these experts serve key roles in the WAT and PJG meetings.

Step 5: Reporting

The MPCA reports the results of the assessments in a number of different formats, including watershed assessment reports, and integrated reporting to EPA. A brief description of each is below.

Watershed monitoring and assessment report

Results of the assessments are compiled in a HUC-8 watershed monitoring and assessment report following the assessment determinations. The WIDs are discussed by subwatersheds and overall water quality conditions, potential stressors, and protection areas are identified. These documents inform the restoration (TMDL) and protection (WRAPS) strategies that are developed by the agency. An example of a watershed assessment report can be found at WRAPS example.

Integrated reporting

The results of the assessments are reported as directed by guidance from EPA. The assessment data are loaded into EPA's ATTAINS database and are made available at How's My Waterway. Categories and subcategories used to classify each WID can be found in Appendix A. Impaired use/pollutant combinations without approved TMDL plans make up the IWL List. In conjunction with the assessment data, a narrative report to the U.S. Congress as required by section 305(b) of the CWA is developed; this can be found at Minnesota's impaired waters list webpage. An Integrated Report consisting of the narrative report, ATTAINS data, IWL, and NHD indexed geospatial data are completed and submitted to EPA by April 1 of every even year.

What is the difference between Class and Category?

Class references the beneficial use of waters within the state. Different class of waters may have different standards for the same parameter. Example: waters in class 4 used for agriculture and wildlife may have a higher level of nitrate-nitrite tolerated, since this use is primarily irrigation. However, waters used for drinking water or swimming/recreation have more stringent water quality standards.

Category refers to a tracking system in the impaired waters list, recording whether a TMDL study has been done or restoration work has improved a water.

Parameter-level assessments

A key step in the assessment process is to determine if individual parameters meet or exceed their criteria (numeric or narrative standards) or have insufficient data to make that determination. In addition to this comparison against standards, the assessor also makes a determination of the confidence of the parameter assessment, assigning a low, medium, or high-quality rating. These results are stored in the assessment database and used in the WAT reviews and PJG meetings, with supporting information, to make the final use-support determinations.

What is the difference between conventional pollutants and toxic pollutants?

Toxic pollutants are often bioaccumulative chemicals of concern that persist in the environment and conventional pollutants may vary within a year due to seasons or weather events.

For example, total suspended solids (TSS) levels typically increase in streams after a rain event even in relatively undisturbed parts of the state and DO can drop below the standard in low gradient rivers and streams for reasons other than pollution, such as the flow of a stream through extensive wetland complexes. These potential pollutants are also natural characteristics of surface waters, the fluctuations of which aquatic organisms have adapted to cope with over time. The existence and extent of natural exceedances are considered during the assessment process.

The IWL uses the term 'pollutant or stressor' to identify parameters that are causing impairment. For example, DO is not a pollutant but rather a characteristic that when low can cause stress to aquatic life.

For some parameters, the parameter-level evaluation is equivalent to the final use assessment decision (e.g., *E. coli* bacteria). For other parameters (e.g., biota), the parameter-level evaluations are then used in conjunction with supporting data, including consideration of dataset quality, to make a final determination if a waterbody is meeting its designated use or is considered impaired. Each beneficial use class outlined in this Guidance Manual will detail the specifics needed in determining how many parameter exceedances are needed before a waterbody will be determined as meeting its designated use or is impaired. Table 3 can be found below which details the requirements for conventional pollutants based on EPA guidance. These thresholds for impairment determinations have been used by the MPCA for many years. These thresholds are appropriate for conventional pollutants for several reasons, including that none are considered toxic, and all are subject to periodic "exceedances" because of natural causes. The dataset quality rating and notes about the parameter-level evaluation are recorded for use by the WAT and PJG in making the use-support assessment.

Table 3: Guidelines for parameter-level evaluations of conventional pollutants[1]

Assessment	Frequency of exceedances	Magnitude of exceedances	Duration of exceedances	Timing of exceedances[2]
Water chemistry parameter indicating unimpaired or supporting conditions	Less than 10% exceedances of chronic standard	Exceedances generally within 10% of water quality criteria	Continuous data or extensive grab sample dataset indicates no or few instances of prolonged exceedance	Exceedances only occurring during extreme events such as 100-year flood or severe drought conditions
Water chemistry parameter indicating potential impairment	Between 10 – 25% exceedances of chronic standard	Exceedances generally greater than 10% but less than 25% of water quality criteria	Continuous data or extensive grab sample dataset indicates some instances of prolonged exceedance	Exceedances only occurring during periods in which they are most likely to occur (e.g., before 9 am, low flow conditions, storm events, etc.); not counting extreme events above
Water chemistry parameter indicating potential for severe impairment	Greater than 25% exceedances of chronic standard	Exceedances generally greater than 25% of water quality criteria	Continuous data or extensive grab sample dataset indicates chronic exceedance or many instances of prolonged exceedance	Exceedances occurring during periods (seasonal or daily cycle) in which they typically do not occur in addition to occurring in periods in which they are most likely to occur.

[1] Most parameters will have data sets that only allow frequency and magnitude to be evaluated. When sufficient data exist (e.g., continuous monitoring or extensive grab samples) or appropriate ancillary data (e.g., flow, precipitation) are accessible, duration or timing of exceedances may also be considered in the evaluation. The parameter-level evaluation requires best professional judgment to integrate information across all applicable columns.

[2] Based on evaluation of available flow data and/or precipitation records as well as observations made by monitoring staff.

Assessors must determine if the water body is not meeting its beneficial use and is considered as having an impaired condition. Any waters determined to have an impaired condition will then be placed on the impaired waters list. However, this is more complex and requires more data reviews than simply analyzing if individual parameter readings are above or below a numerical standard. For example, there needs to be determination on how many exceedances of the standard from individual samples are required in order to label something as impaired. Also, if any of those exceedances can be considered a result of natural weather or habitat conditions. If so, that exceedance may be ruled out as data usable to make an impaired determination since that exceedance is naturally occurring and not anthropogenic. This guidance seeks to break-down how assessors determine if a parameter is exceeding the standard, as well as how to determine if there are enough measurements of that parameter exceeding the standard to count a waterbody as impaired.

D. Impairment assessments

First a waterbody must be evaluated based on parameters meeting or exceeding the standard. Secondly those exceedances inform the impairment assessments. Impairment assessments determine if a waterbody will be listed on the IWL.

E. Impairment removal assessments

For several parameters and beneficial-use classes, requirements to determine if a waterbody can be removed from the IWL may differ then the requirements to be placed on the IWL. This is to achieve a high level of accuracy and caution in an attempt to not remove a waterbody from the IWL before management actions have truly supported an improved condition.

There are four ways in which water bodies are removed from the IWL:

- A TMDL plan for reducing the sources of pollution is completed and approved by the EPA.
- The sources of impairment are determined to be not caused by a pollutant.
- New and reliable data or information indicates that the water body is now meeting WQS.
- A correction to the list is required after it was determined that a water body was placed on the list in error, or reassessment with new standards or assessment methods does not indicate impairment.

Difference between exceeding a standard and being impaired

There is a distinction between meeting and exceeding a standard and being listed as impaired. If a monitoring site exceeds the standard one time it does not necessarily mean that water is impaired.

There is one method used to assess if a specific site parameter is meeting or exceeding the standard.

There is another method used to assess if that site is impaired and will then be placed on the IWL.

Sometimes, as in the case of fish tissue sampling or wild rice production, the determination of exceeding the standard can be the same as the determination of impairment.

See each parameter-level assessment and impairment assessment sections for details.

It is important to note that in the scenarios presented in the first two bullet points above, the water body is still impaired and still appears in MPCA's assessment database (until such time as the water body supports all its beneficial uses it will appear on the Impaired Waters Viewer; impairments are parameter-based). The following paragraphs provide more details on the four scenarios above.

Water body no longer impaired

In general, water body listing or delisting decisions will be made using the methods described in this Guidance Manual. In practice, there will usually be more data available for the "delisting" assessment than were available for the "listing" assessment. Most recent ten years of data is the period of record for reassessments, unless improvement projects were implemented within the watershed during those ten years that may warrant professional judgement to use only recent data after project implementation to make an impairment decision.

Examples of large improvements in a watershed are implementation of best management practices to reduce nonpoint sources, improvements in wastewater treatment, or some combination of nonpoint and point source reductions. If the new data show the water body to be un-impaired for a parameter or stressor, the MPCA will recommend that the water body be delisted for that parameter. Delisting is done on a parameter-by-parameter basis, as waters can be impaired for multiple pollutants or stressors and not all the parameters may be improved or solved at once.

All delisting decisions are subject to review by the appropriate staff from the watershed assessment (WAT) and professional judgment groups (PJG) (Section V) or the ACTT for waters outside of the watersheds being assessed that year. Information about watershed improvements should be recorded on the delisting decision forms for review by the team. The ACTT will make a final determination on whether a water body can be considered no longer impaired and should be submitted to the EPA for delisting.

It is essential that data used in the delisting assessment be collected under appropriate conditions and meet the data minimum requirements listed under each parameter-level assessment guidance.

For specific data and assessment requirements to determine removal from the IWL, see the parameter-specific sections under each use class of this Guidance Manual.

EPA-approved TMDL plan

The most common way waters are removed from the IWL is through the completion of the TMDL study. Under the current federal TMDL regulation, the TMDL process must progress through the step where an EPA-approved plan is in place that sets pollution reduction targets that will result in the river reach or lake being restored to compliance with WQS. That is, under current EPA regulations, the water body does not need to be brought back to an un-impaired condition to be delisted. Irrespective of this EPA regulation, the MPCA is committed, with the help of local entities, to improving the water quality in all impaired waters so beneficial uses are restored, where restoration is possible. To that end, a WID that has an approved TMDL plan for a pollutant no longer appears on the IWL, but it remains in the MPCA assessment database with a 4A category until it is found to be no longer impaired. Information on completion of a TMDL is obtained from MPCA watershed staff and documented in the MPCA assessment database.

Water body impaired because of a non-pollutant or natural background conditions

A water body may be removed from the IWL after it is determined that there are only non-pollutant sources contributing to the impairment. These sources might include changes to the water body such as dams, impoundments, or other anthropogenic factors affecting stream connectivity or flow. These impairments remain on the IWL with a 4C Category.

If it is determined that an impairment is due to natural background conditions, that waterbody can be moved on the IWL to the category of 4D. Examples of 4D impairments include shallow northern Minnesota lakes naturally higher in nutrients than current deep-lake WQSs, and rivers influenced by wetlands which contribute to naturally low dissolved oxygen.

These decisions are made during the WAT and PJG meetings by MPCA assessment staff and partners. All of these recategorizations decisions are documented by MPCA and information retained for public information.

List correction

If a water body was placed on the list in error either by incorrect data or would not have been placed on the list under current standards or methodology, the reach will be removed from the list as a correction. These decisions are made by MPCA assessment staff and partners during the WAT and PJG meetings and all correction decisions are documented and information retained as public information.

F. Uncertainty in assessments

Professional judgement example

If a waterbody was in year seven of the monitoring/assessment cycle, but in year three a major point source facility shut down, professional judgement will be made on whether to only utilize data gathered after year three (four years of data) in order to determine impairment.

The MPCA is cognizant of the hazards of making assessments with limited data. One benefit of the watershed monitoring approach is that it provides a robust dataset for assessment. The selection of the minimum data requirements for water quality assessment is clearly a compromise between the need to assess as many water bodies as possible and the importance of minimizing the probability of making an erroneous assessment. The methods described in this Guidance Manual deal with this problem in a variety of ways, depending on the pollutant. Nonetheless, even with relatively robust datasets, some level of uncertainty is part of every analysis of water quality data. There is always a chance that a water body will be assessed as impaired when in fact it is not or assessed as un-impaired when in fact it is. The number of data points the MPCA requires as a minimum for water quality assessments is small in the context of statistical analyses of uncertainty. The approach used by the MPCA to make impairment decisions, which is a screening of the data using the impairment thresholds, followed by a review by professionals (Step 2: desktop assessment), makes the best use of limited data. This is the approach recommended by the EPA.

All assessments are subject to review by a team of professional water quality experts (WAT & PJG meetings). Review of the data by professionals is an important part of minimizing erroneous impairment determinations and is required whether statistical tests of data uncertainty are used or not. The possible erroneous placement of a water body on the IWL is a concern because of the regulatory and monetary implications of listing; however, not placing a water body on the list may miss prioritization for restoration and improvement. It has been the experience of the MPCA that very few water bodies have been incorrectly determined to be impaired.

When the professional review of data collected for a lake or stream finds conflicting or inadequate information to make a confident assessment, and more data could resolve the need, notes are recorded in the assessment database (CARL) as insufficient evidence (IF). Subsequent discussions with monitoring programs occur to determine who is responsible for additional sampling and when it can be completed to better inform decision making.

VI. Class 2: Protection of aquatic life

A. Parameter-level assessments: Conventional pollutants

Conventional pollutants or water quality characteristics in MPCA water quality assessments include DO, pH, temperature, sediment, and river eutrophication. Sediment is measured directly through TSS concentrations or estimated

Watershed approach:
10-year monitoring & assessment

from Secchi tube measurements. River eutrophication consists of a causative variable (TP) and response variables indicating eutrophication. Biological indicators consist of fish and invertebrates in streams and fish in lakes.

Chemistry data and biological data are both considered, along with data quality indicators and supporting information, in aquatic life use-support determinations. Not all data types are available for all WIDs, and not all datasets agree. The following paragraphs describe the parameter-level data that inform aquatic life use-support determinations and the process for evaluating the parameter-level and supporting data to make such decisions.

The conventional pollutants most often included in MPCA water quality assessments are briefly described below. Pollutants other than those mentioned here may be assessed also, as data allow.

Dissolved oxygen (DO)

DO standards differ depending on the use class of the water (Minn. R. 7050.0222)

Table 4: Dissolved oxygen (DO) standards

Beneficial use class	Standard
2A	Not less than 7.0 mg/L as a daily minimum
2Bd, 2B	Not less than 5.0 mg/L as a daily minimum
2D	Maintain background
7	Not less than 1 mg/L as a daily average, provided that measurable concentrations are present at all times

Why is it important to assess dissolved oxygen (DO)?

DO is required for essentially all aquatic organisms to live. When DO drops below acceptable levels, desirable aquatic organisms, such as fish, can be harmed or killed.

Period of record

Most recent ten years. April – November, before 9 A.M.

The standard for DO is expressed in terms of daily minimums and concentrations generally follow a diurnal cycle with concentrations increasing during the day and decreasing overnight.

Meeting the standard

A designation of meeting the standard for DO generally requires at least 20 suitable measurements from a set of monitoring data that give a representative, unbiased picture of DO levels over at least two different years. Continuous data, taken at 15- or 30-minute intervals are also considered for assessment. However, if it is determined that the data set adequately targets periods and conditions when DO exceedances are most likely to occur, a smaller number of measurements may suffice for a determination of meeting the standard.

Exceeding the standard

A stream is considered to not support aquatic life use due to low DO if: 1) more than 10% of the "suitable" (i.e., taken before 9:00 a.m.) May through September measurements exceed (i.e., are below) the minimum standard and there are at least three such exceedances, or 2) more than 10% of the total May through September measurements exceed the minimum standard and there are at least three such exceedances, or 3) more than 10% of the total annual measurements exceed the minimum standard and there are at least three such exceedances.

Because the underlying criterion defines that WQS can be exceeded no more than 10% of the relevant time, it is usually essential that measurements are a representative sample of overall water quality and are not biased towards certain types of conditions, such as storm events, or certain times of the year. The relevant time generally refers not to the entire year but rather to the usual water quality monitoring portion of the year. The requirement of an exceedance rate of more than 10% helps ensure that the measured data set is sufficiently large to provide an adequate picture of overall conditions.

In spite of the significant water quality improvements that have resulted from application of the DO standard, the current standard is not necessarily appropriate for all streams. Some low-gradient, heavily wetland-influenced streams may never meet the current DO standard of 5.0 mg/L, even though pollutant sources and anthropogenic influences are insignificant or even non-existent. In such cases, the current DO standard is not a useful indicator of the health of the water.

Until the DO standard is refined to fit such situations, the following will apply:

- WIDs where all monitoring sites have wetland characteristics significant enough to preclude the use of the current DO standard as well as current biological criteria will be designated as "not assessable" for aquatic life.
- WIDs where all monitoring sites have wetland influences significant enough to preclude the use of the current DO standard but which are assessable using biological criteria will be designated as "not assessable" for DO.

pH

Period of record

Most recent ten years.

pH standards differ depending on the use class of the water (Minn. R. 7050). If multiple beneficial use classes apply, the standard that applies is the most stringent of the standards (Class 2A).

Why is it important to assess pH?

The pH of water is a measure of the degree of its acid or alkaline reaction. Acidic or low pH waters can corrode or dissolve metals and other substances, as well as harm aquatic life and plants.

Table 5: pH Standards

Beneficial use class	Standard
2A	minimum of 6.5 and a maximum of 8.5
2B & 2Bd	minimum of 6.5 and a maximum of 9.0

Meeting the standard

A stream is considered to fully support aquatic life use for pH if the standard is met at least 90% of the days of the monitoring season. A designation of fully supporting aquatic life use for pH generally requires at least 20 suitable measurements from a data set that gives an unbiased representation of conditions over at least two different years.

pH values that are outside the range of the standard because of natural causes are not considered exceedances.

Exceeding the standard

A stream is considered to not support aquatic life usage due to pH if: 1) the standard is exceeded more than 10% of the days as determined from a data set that represents unbiased conditions, and 2) there are at least three measurements that exceed the standard.

Why is it important to assess for TSS?

TSS consists of soil particles, algae, and other materials that are suspended in water and cause a lack of clarity. Excessive TSS can harm aquatic life, degrade aesthetic and recreational qualities, and make water more expensive to treat for drinking.

Total Suspended Solids (TSS)

Transparency values, as measured by Secchi tubes (S-tube), reliably predict TSS and can serve as surrogates. While TSS measurements themselves are generally preferred, datasets for S-tube are often more robust due to volunteer science monitoring, and their relative strength will be considered in assessments. S-Tube data can be used to determine impairment in absence of TSS data.

S-tube measurements are not perfect surrogates, however, their use involves a margin of safety. Therefore, the S-tube surrogate thresholds for determining if a stream exceeds the TSS standard are different than for determining if a stream meets the standard (Table 6). TSS standards differ depending on the use class of the water (Minn. R. 7050).

Table 6: Minnesota's TSS (mg/L), S-tube (cm) and site-specific standards for specifically named river reaches

Region or River	TSS Value: Above=Exceeds Below=Meets	S-tube value: Exceeds standard	S-tube value: Meets standard
(Assessment season April through September)			
All Class 2A Waters	10	55	95
Northern River Nutrient Region as Modified for TSS	15	40	55
Central River Nutrient Region as Modified for TSS	30	25	35
Southern River Nutrient Region as Modified for TSS	65	10	15
Red River Mainstem – Headwaters to Border	100	5	10
(Assessment season for Lower Mississippi is June through September)			
Lower Mississippi River Mainstem – Pools 2 through 4	32		
Lower Mississippi River Mainstem below Lake Pepin	30		

Details regarding River Nutrient Region boundaries and assignments as adapted for application of the Minnesota TSS water quality standards can be found in Heiskary and Parson (2013)

Meeting the standard

A stream is considered to fully support aquatic life use for TSS/S-tube if the standard is met at least 90% of the days of the assessment season. A designation of fully supporting aquatic life use for TSS/S-tube generally requires at least 20 suitable measurements from a data set that gives an unbiased representation of conditions over at least two different years. However, if it is determined that the data set adequately targets periods and conditions when exceedances are most likely to occur, a smaller number of measurements may suffice.

Exceeding the standard

A stream is considered to not support aquatic life use due to high TSS/S-tube if: 1) the standard is exceeded more than 10% of the days of the assessment season (April through September) as determined from a data set that gives an unbiased representation of conditions over the assessment season, and 2) at least three measurements exceed the standard.

Insufficient information

S-tube measurements that fall between the two relevant surrogate values are considered to be indeterminate in exceeding or meeting the TSS standard. If a stream satisfies neither the criterion for exceeding the standard nor the criterion for meeting the standard, the stream is considered to have insufficient information regarding TSS levels.

Temperature

Currently the MPCA is evaluating mostly cold-water fisheries for temperature-caused impairment because of the special sensitivity of cold-water fish to elevations in temperature in streams.

Temperature standards (Table 7) differ depending on the use class of the water (Minn. R. 7050).

Table 7: Temperature standards

Beneficial use class	Standard
2A cold waters	no material increase
2Bd, 2B	5°F above natural in streams and 3°F above natural in lakes, based on monthly average of the maximum daily temperatures, except in no case shall it exceed the daily average temperature of 86°F

Why is it important to assess temperature?

High water temperatures, or rapid elevations of temperature, can be detrimental to fish. Cold water fish such as trout are particularly intolerant of high temperatures. High temps could cause fish kills.

Meeting the standard

There is no significant increase of temperature.

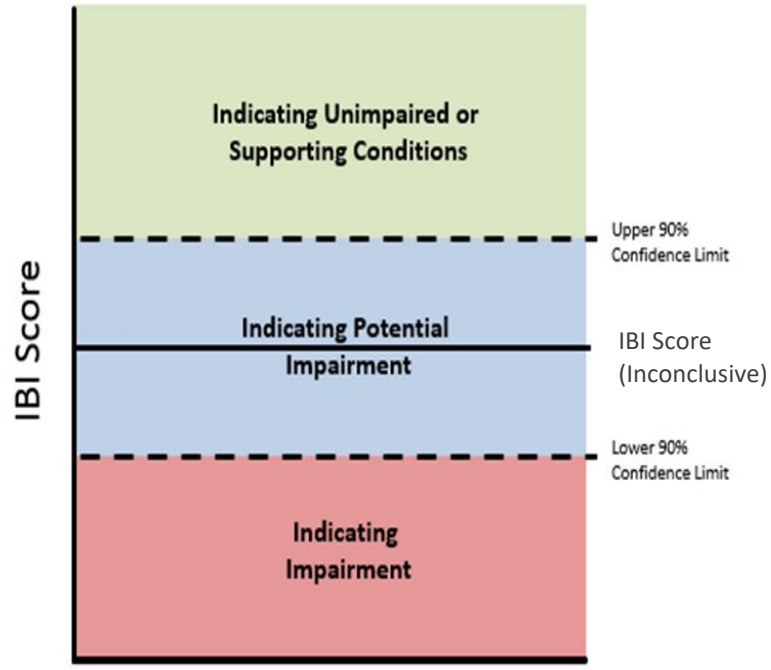
Exceeding the standard

Examples of demonstrating a "material increase" include temperature data showing a statistically significant increase when measured upstream and downstream of a stream modification, upstream and downstream of a point or nonpoint heat source, or before and after a modification that might impact stream temperature. Temperatures must be for similar time frames such as weeks or seasons. The larger the data set, the finer the precision in determining whether a material increase in stream temperature has occurred.

Biological indicators

Interpreting aquatic community data is accomplished using an index of biological integrity or IBI. The IBI incorporates multiple attributes of the aquatic community, called "metrics," to evaluate a complex biological system. The MPCA has developed fish and invertebrate IBIs to assess the aquatic life of rivers and streams statewide in Minnesota as well as plant and invertebrate IBIs to assess depressional wetlands. A fish IBI has been developed by the DNR with assistance from the MPCA to assess the aquatic life of several lake types. A predictive model-based plant indicator also developed by DNR as a measure of eutrophication stress to lake plant communities was used as supporting information only (Baciagalupi).

Figure 6: General diagram illustrating the characterization of IBI



Minnesota adopted Tiered Aquatic Life Uses (TALU) for streams and rivers in 2018. This framework refines Minnesota's single goal for aquatic life into three tiers, based on a water body's potential to support aquatic life. These tiered uses are Exceptional, General, and Modified. The process for determining the appropriate tier is called a Use Attainability Analysis and it is carried out before the assessment process. The mechanism for performing a biological assessment under the TALU framework is similar to the process for any other biological assessment, with the major difference being the biocriteria threshold (Table 26) used.

Further interpretation of aquatic community data is provided by an assessment threshold or biocriteria against which a stream IBI score can be compared. In general, an IBI score above this threshold is indicative of aquatic life support, while a score below the threshold is indicative of beneficial use impairment.

Bracketing each IBI assessment threshold is a 90% confidence interval that is based on the variability of IBI scores obtained at sites sampled multiple times in the same year (i.e., replicates). This is a 'margin of error' that accompanies most survey results, and it informs the viewer how likely the result falls within a certain range. A confidence interval brackets an IBI score, not the impairment threshold itself (Section V). When an IBI score's confidence limit overlaps the impairment threshold, it is likely the WID is impaired. See Appendix F for further information regarding the basis of biological assessments including Minnesota's WQS, the development of the biological condition gradient (BCG), and the selection of river and stream reference sites.

Meeting and exceeding the standard

Confidence intervals account for variability due to temporal changes in the community as well as method error. For assessment purposes, sites with IBI scores within the 90% confidence interval are initially considered "inconclusive." Upon further review of available supporting information, an IBI

parameter review may change to “indicating support” or “indicating impairment” depending on the extent and nature of this additional information (Figure 6).

Eutrophication

For total phosphorus (TP), chlorophyll-a (seston), and BOD5, the following data are required:

- A minimum of 12 measurements per parameter within the ten-year assessment period (minimum 2 years required).
- Data compared to the standard is a seasonal average – June to September data only.
- If multiple values exist for a parameter along a given reach for a single day, a daily average will be calculated prior to determining a seasonal average.

For DO flux, the following are required:

- A minimum of a 4-day deployment is required – June to September.
- A minimum of two deployments over separate years in the assessment window are required.
- It is preferred that the deployments coincide with summers when chemistry data are collected and that the deployments are taken during mid-late summer.
- Multiple deployments will be summarized separately.

For pH

- Class 2A waters: pH range is 6.5 ≤ concentration ≤ 8.5.
- Classes 2B and 2Bd waters: pH ranged is 6.5 ≤ concentration ≤ 9.0.
- Minimum of 20 samples necessary to indicate standard is met.
- Review of data is limited to June to September.

For periphyton chlorophyll-a, the following are required:

- A minimum of two years of data are required within the last ten years.

Table 8: Minnesota’s river eutrophication and standards by nutrient region. See Appendix G for map of regions

	Causative	Response (stress)			
Region or River	**Total phosphorus µg/L**	**Chlorophyll-*a* (seston) µg/L**	**Diel dissolved oxygen flux mg/L**	**Biological oxygen demand mg/L**	**Periphyton chlorophyll-*a* mg/m²**
Northern River Nutrient Region	50	7	3.0	1.5	150
Central River Nutrient Region	100	18	3.5	2.0	150
Southern River Nutrient Region	150	40*	5.0*	3.5*	150

**Values shown here have been promulgated into Minn. R 7050.0222 but these are not the variable endpoints that EPA approved. The EPA approved response variables are; 35 µg/L for chl-a, 4.5 mg/L for DO_{FLUX} and 3.0 mg/L for BOD_5. Corrections to these numbers will be made in a future rulemaking. Assessments were performed with the numbers listed in Minn. R 7050.0222 but no impairment determinations would change based on the EPA-approved standard.*

Meeting the standard

A stream is considered to meet the river eutrophication standard if:

- The TP concentration meets the standard.
- TP meets the standard and any available response variables meet the standards (this includes the situation where no response variables are present). Not all response variables must be available to consider the reach to be meeting the river eutrophication standard.
- TP exceeds the standard and all response variables are available in sufficient quantities (chl-a, BOD5, DO Flux, pH) and they all meet the standards.

Exceeding the standard

The River Eutrophication Standard (RES) is a two-part standard. An impairment listing requires an exceedance of the causative variable (total phosphorus) and a response variable that indicates the presence of eutrophication (i.e., undesirable levels of sestonic or suspended algae, benthic or attached algae, or excessive rooted vegetation). This response can be measured directly with chlorophyll-*a* (seston or periphyton) or indirectly via diel (daily) DO flux, five-day biochemical oxygen demand (BOD_5), or pH. These measures are highly correlated with each other in rivers and are indicators of stress for aquatic communities.

- The TP concentration exceeds the standard; **and**
- Chlorophyll-a (sestonic), BOD5, DO Flux, pH OR periphyton exceeds the standard.

Insufficient information

- There are less than 12 samples of TP.
- A sufficient TP data set (12+ samples) exceeds the standard **and** no response variables meet the minimum data requirements.
- The causative and/or response variables are within the standard error of the mean and confidence does not exist in determining whether the reach meets or exceeds the standard.
- The causative and/or response variables have low data confidence or are not representative of ambient conditions (poor QA/QC, flood or drought biased sampling, proximity to continuously discharging facilities, etc.).

Due to the complexity of the standard, additional information to aid an assessment decision is available in Appendix G.

Impairment assessment: aquatic life

This assessment is used by members of the WAT and PJG to determine if a waterbody is impaired for aquatic life.

Overall assessment of whether an WID adequately supports aquatic life involves the review of the parameter-level evaluations and data quality in conjunction with all available supporting information (flow/water level, habitat, precipitation, plant surveys, etc.) to make an overall use-support determination. For a given WID there may be chemistry indicator data, biological indicator data, or both types of data available for assessment. The final assessment takes into consideration the strength of the various indicators and the quality of the data sets and, in addition, looks at upstream and downstream conditions to gain a better understanding of the interactions between the individual WID, the larger water body, and the watershed.

Table 9: Aquatic life designated use assessment

Water body type	Aquatic life beneficial–use support or beneficial use impaired	
	Supporting	**Impaired**
Rivers & Streams	1. IBI scores for all available assemblages indicate fully supporting conditions, **or** 2. The criteria for river eutrophication and/or DO are met, and TSS/Secchi tube criteria are met, **and** other lines of evidence considered comprehensively, including upstream/downstream conditions, do not contradict a finding of full support.	1. IBI scores for at least one biological assemblage indicate impairment, **or** 2. One or more water chemistry parameters indicates impairment, **and** other lines of evidence considered comprehensively, including upstream/downstream conditions, do not contradict a finding of non-support
Lakes	1. IBI scores for fish assemblage indicates fully supporting conditions, **and** other lines of evidence considered comprehensively do not contradict a finding of full support.	1. IBI score(s) for fish assemblage indicate impairment, **or** 2. One or more water chemistry parameters indicates impairment, **and** other lines of evidence considered comprehensively do not contradict a finding of non-support.

When there are sufficient data to render an assessment decision but one cannot be determined due to the above criteria not being met, the assessment is inconclusive. Otherwise, the result is a determination of insufficient information when data minimums have not been attained.

In cases where a WID has been determined to be not supporting based on biological indicators, water-chemistry parameters are added to the list of impairments only when the chemical impairment is clear enough that the WID would be considered impaired even without the biological evidence.

The following paragraphs provide more details of the considerations that occur when analyzing the available data and information to make a comprehensive aquatic life use-support assessment, based on what types of indicator data are available. This information is used by the WAT and PJG for each watershed as guidance in making assessment decisions.

Table 10: Aquatic life designated use assessment when only biological data are available on a WID

Water body type	Biological data only Aquatic life beneficial-use support or beneficial-use impaired	
	Supporting	**Impaired**
Rivers & Streams	1. All available fish and invertebrate IBI scores within the WID fall above the upper 90% confidence limit 2. A fully supporting determination does not require that both fish and invertebrates have been measured within the WID.	1. All fish and/or invertebrate IBI scores fall below the lower 90% confidence limit 2. An impairment determination does not require agreement between the fish IBI and the invertebrate IBI; either fish or invertebrates indicating impairment is sufficient.
Lakes	1. All fish IBI scores within the WID are above the upper 90% confidence limit	1. All fish IBI scores fall below the lower 90% confidence limit

Otherwise, the beneficial use assessment may be inconclusive when one or more IBI score's 90% confidence interval overlaps the assessment threshold **or** multiple IBI scores within an indicator assemblage are resulting in discrepant assessments. However, further analysis may yield a more definitive determination, considering the following factors:

- Co-occurrence of indicator data.
- Habitat conditions.
- Sampling conditions.
- Watershed context.
- Past assessments and/or IBI scores.

Table 11: Aquatic life designated use assessment when only water chemistry data are available on a WID

Water body type	Water chemistry data only Aquatic life beneficial–use support or beneficial–use impaired	
	Supporting	**Impaired**
Rivers & Streams	1. The criteria for river eutrophication and/or DO are met **and** 2. TSS/Secchi Tube criteria are met, **and** 3. Supporting information, including upstream/downstream conditions, does not strongly contradict a finding of full support.	1. One or more water chemistry parameters indicate potential impairment or impairment **and** 2. Supporting information including upstream/downstream or watershed conditions does not strongly contradict a finding of non-support.
Lakes	Not applicable	1. One or more water chemistry parameters indicate potential impairment or impairment **and** 2. Supporting information including watershed conditions does not strongly contradict a finding of non-support.

Further analysis may be required to make a definitive assessment decision and includes examination of additional information such as:

- Co-occurrence of indicator data (when available)
- Strength of indicator
- Parameter-level evaluations
- Sampling conditions
- Watershed context
- Continuous monitoring data (when available)
- Past assessments and/or data

Table 12: Aquatic life designated use assessment when biological and water chemistry data are available on a WID

Period of record	Biological & water chemistry data Aquatic life beneficial–use support or beneficial–use impaired	
	Supporting	**Impaired**
Rivers and Streams	1. IBI scores for all available indicator types (fish or inverts) indicate fully supporting conditions, or 2. The criteria for river eutrophication and/or DO are met, and TSS/Secchi tube criteria are met, and 3. Other lines of evidence considered comprehensively, including upstream/downstream conditions, do not contradict a finding of full support.	1. IBI score for at least one biological assemblage indicates impairment or 2. IBI score for at least one biological assemblage indicates potential impairment and the parameter-level evaluations and other data/ information considered comprehensively corroborate a finding of non-support or 3. One or more water chemistry parameters indicate impairment and the evidence considered comprehensively leads to a conclusion of non-support.
Lakes	1. IBI scores for all available indicator types (fish or inverts) indicate fully supporting conditions, or 2. Other lines of evidence considered comprehensively, including upstream/downstream conditions, do not contradict a finding of full support.	1. IBI score for at least one biological assemblage indicates impairment or 2. IBI score for at least one biological assemblage indicates potential impairment and the parameter-level evaluations and other data/ information considered comprehensively corroborate a finding of non-support or 3. One or more water chemistry parameters indicate impairment and the evidence considered comprehensively leads to a conclusion of non-support.

Further analysis may be required to make a definitive assessment decision and includes examination of additional information such as:

- Co-occurrence of indicator data
- Strength of indicator
- Parameter-level evaluations
- Sampling conditions
- Watershed context
- Continuous monitoring data (when available)
- Habitat conditions
- Past assessments and/or data

Inconclusive and insufficient information

If the criteria are not met for a fully supporting or not supporting assessment and there is a sufficient amount of data to assess one or more parameters, the assessment is inconclusive. An insufficient information decision, on the other hand, includes situations where sufficient data are not available to assess the use, or the strength of the available indicator(s) is low and there is no supporting information available to help verify what the inadequate data set is indicating.

Assessment for impairment removal from the IWL: aquatic life

Both biological and water chemistry indicator data are required for removal from the list. Requirements must be met for the following parameters to be considered for removal.

Data requirements

River eutrophication data requirements

- The causative variable (TP) and the response variable(s) that were used to list the WID meet the standard.
- A minimum of 12 paired samples over a minimum of 2 years for total phosphorus, chlorophyll-*a*, and/or biochemical oxygen demand.
- A minimum of 20 pH samples over a minimum of 2 years.
- A minimum of 2 DO sonde deployments; each with a length of a minimum of 4 days and occurring in separate years during a similar index period to the listing deployment within the assessment window.

Total Suspended Solids (TSS) data requirements

- At least 20 observations in the most recent ten years, of which at least ten observations are in the most recent 5 years or at least 20 new observations in the most recent 5 years.
- Monitoring for new observations has occurred at times or under situations where exceedances of the WQS would be most likely to occur.
- Fewer than 10% of observations exceed the WQS.

pH data requirements

- At least 20 observations in the most recent ten years, of which at least ten observations are in the most recent 5 years or at least 20 new observations in the most recent 5 years.

- Monitoring for new observations has occurred at times or under situations where exceedances of the WQS would be most likely to occur.
- Fewer than 10% of observations exceed the WQS.

Dissolved Oxygen (DO) data requirements

- At least 20 observations in the most recent ten years, of which at least ten observations are in the most recent 5 years or at least 20 new observations in the most recent 5 years.
- Monitoring for new observations has occurred at times or under situations where exceedances of the WQS would be most likely to occur.
- Fewer than 10% of observations exceed the WQS.

Biological (fish and invertebrate IBI) data requirements:

- New data from the original listing station(s) indicating conditions are now supporting of aquatic life.
- An evaluation of any new biological data and other lines of evidence considered comprehensively, including upstream/downstream conditions, do not contradict a finding of full support.

B. Parameter-level assessments: toxic pollutants


State-wide approach: annual monitoring

Protection of "aquatic life" with applicable Class 2 chronic standards means protection of the aquatic community from the direct harmful effects of toxic substances, and protection of human and wildlife consumers of fish or other aquatic organisms. This section of the Guidance Manual deals with the assessment of water quality for pollutants that have aquatic life toxicity-based chronic standards (CS) and acute or maximum standards (MS) that are always aquatic life toxicity-based. These standards are identified in Minn. R. 7050.0222 by the abbreviation, "Tox," and by column headings, "Aquatic Life Chronic Standards or Maximum Standards," in Minn. R. 7052.0100. These numeric standards are applied based on one-day average pollutant concentrations for the MS and four-day average concentrations for the CS.

Surface waters are assessed to determine if they are of a quality needed to support the aquatic community that would be found in the water body under natural conditions. Assessments for aquatic life utilize both water chemistry data and biological data. Technical experts doing the assessments use the assessment database and consider data quality.

Toxic pollutants

This section is in reference to assessments using state-wide approach. These assessments performed by MPCA technical experts.

The pollutants that have aquatic life toxicity-based standards and most often included in MPCA water quality assessments are briefly discussed. Pollutants other than those mentioned here may be assessed also, as data allow.

Trace metals

Chronic standard (CS) trace metals assessed for aquatic life use (AQL) are listed below. Each parameter has a different standard based on the use class of the water and the total hardness of that waterbody.

- Aluminum
- Cadmium
- Chromium III
- Chromium VI
- Copper
- Lead
- Nickel
- Selenium
- Silver
- Zinc

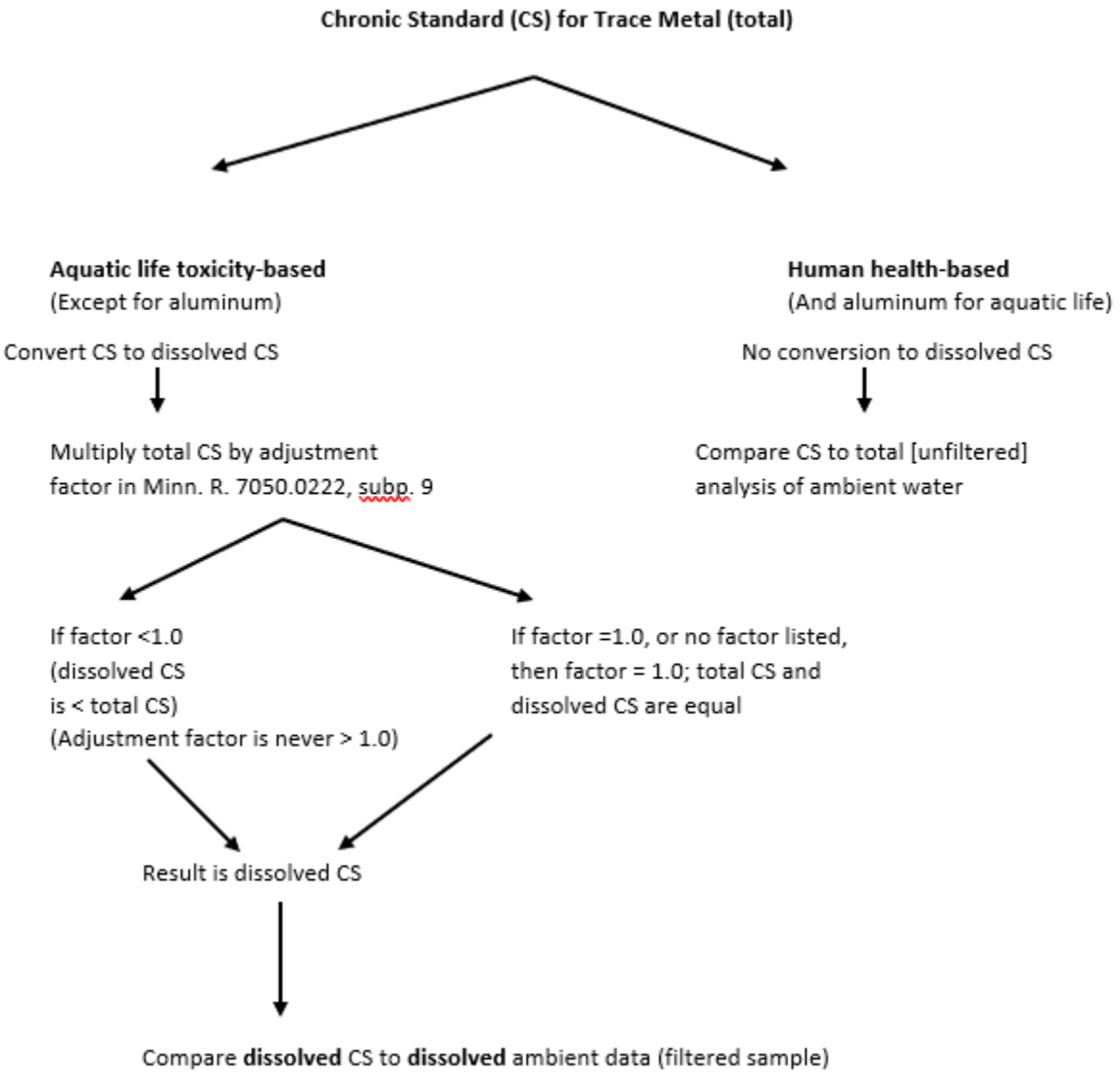
Antimony, arsenic, cobalt, mercury, and thallium are discussed in Class 2: Protection for Human Recreation – human health-based chronic standards because they have human health-based standards.

Minnesota Rules 7050 and 7052 include numeric standards for trace metals both in terms of "total" metal and, through conversion factors, "dissolved" metal. The use of dissolved metal standards is based on evidence that the dissolved analysis is generally a better estimate of the toxic fraction of metals in most water bodies, and it is EPA policy that metal standards should be in the form of dissolved metal (EPA, 1993).

The exception to this is aluminum. In recent years, additional research has demonstrated that the total fraction of aluminum is a better estimate of the toxic fraction. EPA has recently updated the aluminum criteria value, and has based it on total aluminum, rather than dissolved, reflecting the updated science (EPA, 2018). Total and dissolved metal data will be used in the assessments. However, with the exception of aluminum, total metal data can be used to show that concentrations are less than (and thus meet) dissolved metal WQS, but it cannot be used to indicate impairment.

The CSs for cadmium, chromium III, copper, lead, nickel, and zinc vary with ambient total hardness. Thus, the standards for these metals are in the form of formulas that reflect the hardness/toxicity relationship. Each measured value for a hardness-dependent metal is compared to an individually calculated standard based on the hardness at near the same time and place the metal sample was taken. If the measured hardness is above 400 mg/L, a maximum hardness cap of 400 mg/L is used to calculate the standard. If the measured hardness is below 50 mg/L, a minimum hardness value of 50 mg/L is used to calculate the standard.

Figure 7: Hypothetical Example of Chronic Standard (CS) for Trace Metal (total)



Hypothetical example: Total Copper CS = 15 µg/L @ a hardness of 200 mg/L
Internal MPCA databases have built-in conversions for units from mg/L to µg/L.
Total CS = 15 µg/L, aquatic life toxicity-based; factor = 0.960;
Dissolved CS = (15 µg/L X 0.960)= 14.4 µg/L

Therefore in this example 14.4 ug/L is the dissolved CS that will be used. Specific data points at that location will be compared to this standard to determine if waterbody meeting or exceeding standard.

Un-ionized ammonia

Ammonia at elevated levels in the un-ionized form (NH_3) is toxic to aquatic life.

Table 13: Un-ionized ammonia standards

Beneficial use class	Chronic standard (CS)
2A	0.016 mg/L
2Bd, B, C, D	0.04 mg/L

The fraction of total ammonia in the un-ionized form in water is dependent on ambient pH and temperature. Therefore, pH and temperature as well as total ammonia must be measured at the same time and place to determine the un-ionized ammonia concentration.

Chloride

Table 14: Chloride standards

Beneficial use class	Chronic standard (CS)
2	230 mg/L

Why is it important to assess for Chloride?

Besides being a general indicator of human impacts on water quality, high levels of chloride can harm aquatic organisms by interfering with the organism's osmoregulatory capabilities.

Pesticides

The Minnesota Department of Agriculture (MDA) conducts extensive pesticide monitoring in surface waters and submits all data to the MPCA for assessments. At present, the MPCA has Class 2 chronic and maximum aquatic life standards for acetochlor, alachlor, atrazine (including degradats), chlorpyrifos, metolachlor, and parathion. These standards vary depending on water body type and location.

Impairment assessment: toxins for aquatic life

This assessment uses data from the statewide approach. Exceedances of standards for toxic pollutants are evaluated over consecutive three-year periods (see Table 15). Aquatic life toxicity-based CS are written as four-day average concentrations.

Why is it important to use a 4-day average for chronic standards (CS)?

In some cases, pollutant concentrations can be quite variable over such periods, depending on factors such as the type and size of the water body, weather and flow conditions, and the source and nature of the pollutant. For example, chloride concentrations in lakes, streams, and wetlands are relatively stable during low flow conditions over a four-day period, while pesticide concentrations in small streams during storm events can vary greatly in that same amount of time.

Table 15: Impairment determination for aquatic life toxicity standards

Period of record	Beneficial use–support or beneficial use–impaired	
	Supporting	**Impaired**
Most recent 10 years	No more than one exceedance of the Chronic Standard in three years, and no exceedances of the Maximum Standard	Two or more exceedances of the Chronic Standard in three years, **and/or** one or more exceedances of the Maximum Standard

Data quality considerations

The necessary number and type of samples can vary considerably from one situation to another and the determination of adequacy for the purpose of assessment will necessarily involve considerable professional judgment. It should be noted that because impairment can result from only one or two exceedances, a designation of meeting the standard generally requires extensive monitoring during times when exceedances are most likely to occur.

Streams

When concentrations are judged to be relatively stable over the four-day period in question, single samples can be sufficient. If more than one sample is taken within a four-day period the values are averaged as a mean, and the four-day average is counted as one value in the assessment. This includes multiple samples in four days at one station or multiple stations along an WID. Because the CSs are expressed as four-day averages, care must be taken to ensure that the water quality measurements used in assessments provide an adequate representation of pollutant concentrations over the relevant time period.

When concentrations are more variable, multiple samples or time-weighted composite samples are can be used in order to calculate a sufficiently accurate average concentration. Flow-weighted composite samples are taken with the purpose of calculating average concentrations by volume rather than by time. As flow-weighted composite samples can be very difficult to interpret in assessment contexts they are not used.

Lakes/Wetlands

For lakes, depth of sample must be taken into consideration, as concentrations may change with depth (i.e., chloride often increases with depth). Within the four-day period, samples will typically be averaged as follows: those samples collected at depths of 2 meters or less (including both grab samples and 0-2 meter integrated samples), those at maximum depth (defined as the deepest two meters of the water column), and the mid-depth values (taken between 2 meters from the surface and the maximum depth). As with flowing waters, this averaging applies to both samples at a single station or samples collected at multiple stations along the WID. Each depth will be compared against the CS.

If any four-day average, regardless of depth, exceeds the CS standard, it counts as a single exceedance for the water body (e.g., the surface average may meet the standard, while the average at 12 meters may exceed the standard – for that four-day period, a single exceedance will be counted).

Assessment for impairment removal from the IWL: toxins for aquatic life

Data requirements and recategorization

Water bodies with impaired aquatic communities can be delisted utilizing the same criterion as listing if additional bio-monitoring indicates that the community is no longer impaired when compared to the IBI threshold (±confidence interval). Overall assessment of whether an WID adequately supports aquatic life usage involves the review of the parameter-level evaluations and data quality in conjunction with all

available supporting information (flow, habitat, precipitation, etc.) to make an overall use-support determination. For a given WID, there may be chemistry indicator data, biological indicator data, or both types of data available for assessment. The final assessment takes into consideration the strength of the various indicators and the quality of the data sets and, in addition, looks at upstream and downstream conditions to gain a better understanding of the interactions between the individual WID and the larger water body and watershed.

VII. Class 1 and 2: Drinking water and aquatic recreation & consumption

This section focuses on Human Health-based Water Quality Standards (HH-WQSs), Class 2 chronic standards (CSs), and site-specific chronic criteria (CC). These standards serve as the basis for developing chronic or long-term protection for humans from toxic pollutants to ensure the beneficial uses of drinking water (where designated) and fish consumption and recreation in all surface waters are met. Class 2 numeric WQS and criteria for human health cover elemental and synthetic chemical contaminants characterized as toxic pollutants (as defined in Minn. Statute 115.01, subd. 20). For assessment purposes, CS and CC are treated the same. CS generally apply statewide, while CC apply on a site-specific basis.

The Class 1 designation and associated domestic consumption (DC) standards specifically address drinking water and food processing use of groundwater and designated surface waters. The Federal Safe Drinking Water Act standards incorporated by reference into Minn. R. 7050 provide the numeric basis for protecting this use. Application of Class 1 DC standards for nitrate and nitrite in surface waters designated for drinking water protection is also discussed in this section.

A. Parameter-level assessments: Conventional pollutants – Class 1B & 1C

Watershed approach:
10-year monitoring & assessment

Class 1 waters are protected as a source of drinking water (Minn. R. 7050.0221). In Minnesota, all groundwater and selected surface waters are designated Class 1. The assessment of Class 1A groundwater , where treatment is not necessary to meet federal drinking water standards, is outside the scope of this Guidance Manual. The MDH monitors municipal water supplies for compliance with drinking water standards. The assessment of Class 1B and 1C listed surface waters for potential impairment by nitrate nitrogen is discussed in this section. Only surface waters listed as Class 1B and/or 1C are assessed according to this Guidance Manual. Class 1A and municipal water supplies monitored by MDH are outside the scope of this Guidance Manual.

Nitrate Nitrogen

Nitrate nitrogen poses a risk to human health at concentrations exceeding 10 mg/L in drinking water.

In recognition of the trend of increasing nitrate concentrations in Minnesota streams and the public health and economic impact arising from elevated nitrate concentrations in drinking water (a particular concern in Southeast Minnesota's karst region), the MPCA assesses Class 1B and 1C designated surface waters for potential impairment by nitrate nitrogen.

Meeting the standard

24-hour average nitrate concentration is below 10 mg/L

Exceeding the standard

24-hour average nitrate concentration is above 10 mg/L

Why is it important to assess for nitrate/nitrogen?

Humans, especially infants under six months of age, who are exposed to nitrate in drinking water at concentrations exceeding the 10 mg/L federal safe drinking water standard (which is incorporated by reference into Minn. R. 7050.0221), can develop methemoglobinemia, a blood disorder that interferes with the ability of blood to carry oxygen. The 10 mg/L standard is an acute toxicity standard. Long term, chronic exposure to nitrate in drinking water is less well understood but has been linked to the development of cancer, thyroid disease, and diabetes in humans.

Impairment assessment: Class 1B & 1C

Table 16: Impairment determination in assessment of nitrate nitrogen, Class 1 drinking water standard

Period of record	Beneficial use–support or beneficial use–impaired	
	Supporting	**Impaired**
Most recent 10 years	No more than 1 exceedance of the acute standard in 3 years	2 or more exceedances of the acute standard in 3 years

Data requirements

Single measurements of nitrate concentrations under relatively stable conditions are generally considered to be sufficiently representative of 24-hour average concentrations for the purpose of assessments. When concentrations are more variable, multiple samples or time-weighted composite samples may be necessary in order to calculate a sufficiently accurate average concentration. The necessary number and type of samples can vary considerably from one situation to another and the determination of adequacy for the purpose of assessment will necessarily involve considerable professional judgment.

B. Parameter-level assessments: toxic pollutants – Class 2 protection for human recreation

State-wide approach: annual monitoring

Protection for human recreation – human health-based chronic standards

Class 2 chronic standards (CS) to protect human health are developed for application in water recreation and in fish tissue. For toxic pollutants detected in surface water that lack CSs, the methods in Minn. R. 7050 and 7052 are used to develop site-specific chronic criteria (CC). Fish tissue-based CSs (or CC) are described later in this section. Full details on HH-WQS are found in Minn. R. 7050 and 7052 and in the Human Health-Based Water Quality Standards Technical Support Document. HH-WQS are set at concentrations to protect human users of surface waters. That protection considers the toxicity (deleterious, noxious, or injurious) characteristics of the pollutant and how much a population may be exposed to that pollutant through the three designated beneficial uses of surface waters: drinking water, recreational activities, and fish consumption. In short, HH-WQS encompass a pollutant's toxicity

and a population's potential exposure and lead to numeric CSs (or site-specific CC) that cannot be exceeded in surface water or fish tissue.

The methods used to develop pollutant-specific numeric HH-WQS (Class 2 CSs or CC) for toxic pollutants were first adopted in 1990 for statewide application and in 1998 for the Lake Superior Basin. Currently, Minn. R. 7050 contains Class 2 standards for 69 toxic pollutants. Of these, 36 standards are more restrictive to protect human health than required to protect aquatic life (Minn. R. 7050.0222). Minn. R. 7052 contains Class 2 standards for 29 pollutants; for 15 of these standards, human health is the basis for the most stringent CS (Minn. R. 7052.0100). The pollutants that have human health-based CSs that are most often included in MPCA water quality assessments are briefly described. Pollutants other than those mentioned here may be assessed also, as data allow.

Trace metals

HH-WQS chronic standards include:

- antimony
- arsenic
- cobalt
- mercury
- thallium

See Class 2: protection of aquatic life Parameter level assessments toxic pollutants for description of how trace metals are assessed.

Data for pesticides are obtained through Minnesota Dept. of Agriculture (MDA) surface water monitoring program.

HH-WQS chronic standards include:

- Alachlor
- Atrazine (including degradants) 2,4-D, 2,4,5-TP
- Carbofuran
- Glyphosate
- Methoxychlor
- Picloram
- Simazine

Mercury

Mercury CSs are based on total concentrations and, thus, total mercury measurements are used in assessments. Minnesota has two water-column Class 2 WQS for total mercury, as shown below (although the more stringent CS for Lake Superior is based on fish-eating wildlife, this value is protective of human consumers and assessed the same way as the statewide mercury CS).

Beneficial use	Chronic standard
Class 2 – Statewide Minn. R. 7050.0222	6.9 ng/L
Class 2 - Lake Superior Basin Minn. R. 7052.0100	1.3 ng/L

Why is it important to assess for mercury?

Mercury is the classic example of a bioaccumulative element; it never degrades and it can bioaccumulate through the food chain to reach toxic levels in many fish species, which if eaten in high amounts, can lead to serious health effects. Neurodevelopmental effects to children exposed during gestation are of most concern.

The WQS alone cannot reduce mercury to levels that are not of concern for fish consumers, so the Minnesota Department of Health (MDH) provides Fish Consumption Guidance as an important means for providing information to fish consumers to keep exposure from mercury and other bioaccumulative pollutants in fish low (discussed further in the fish pollutant section).

C. Parameter-level assessments: toxic pollutants – Class 2 protection for human consumption

Protection for human consumption of fish – human health-based chronic standards

This section describes the assessment of fish for human consumption based on fish contaminant data. The MPCA has methods to develop fish tissue CSs (or CC) to use as the basis of impairment decisions - determining if pollutants in fish fillets exceed HH-WQS. Most fish monitoring data are collected through the inter-agency Fish Contaminant Monitoring Program (FCMP), which also provides the data used by MDH for Fish Consumption Guidance and Safe-Eating Guidelines. See Minn. R. 7050.0219 for details.

Why is it important to have a specific mercury standard for fish consumption?

Mercury is a BCC detected in most fish. Concentrations reach levels of concern in many predator species. Based on EPA guidance, the MPCA adopted a fish tissue standard for mercury in 2008 to provide a more accurate and directly usable standard to protect fish consumers.

The MPCA has adopted methods to develop fish-tissue standards or site-specific criteria for bio accumulative chemicals of concern (BCCs) identified in or with the potential to be in fish. When developed, the site-specific criteria (CC_{ft}) are used in place of the MDH thresholds. Details on site-specific CC_{ft} and applicable water bodies are found at Site-specific water quality criteria.

Mercury

The 0.2 mg/kg fish mercury concentration is the threshold for determining impairment for total mercury in edible fish tissue. 90th percentile fish tissue concentrations that exceed 0.2 mg/kg and are equal to or less than 0.572 mg/kg fall into the range for the EPA-approved statewide mercury TMDL. The 0.572 mg/kg fish tissue mercury concentration corresponds to the 90th percentile concentration of standard-length walleye in the Northeast region from 1988-1992. The concentration represents waters where a 65% reduction in mercury would allow the water to meet the statewide standard (0.2 mg/kg).
Waters with concentrations greater than 0.572 mg/kg are considered impaired and added to the IWL. The fish tissue based CS_{ft} for total mercury is found in Minn. R. 7050.0222. It is applicable in all Class 2 surface.

Why is it important for the CS for protecting human health fish consumption to require such low water standards?

The bioaccumulation factor (BAF) is the ratio between the concentration of the chemical in the biota (fish tissue) and the concentration of the chemical in the water. The BAFs can exceed one million (meaning the concentration in the biota is more than one million times higher than the concentration in the water) for very highly bioaccumulative chemicals. A BAF must be determined in order to calculate a human health-based water column standard.

For pollutants defined as bioaccumulative chemicals of concern (BCCs), or those with BAFs > 1000, the resulting CSs are very low water column concentrations. These low water column concentrations of pollutants are needed in order to limit the pollutant concentration in fish tissue. For these chemicals, such as mercury, polychlorinated biphenyls (PCBs), and dioxins, human exposure from consuming fish also far exceeds that from drinking water or recreational activities.

Meeting the standard

Fish tissue contains 0.2 mg/kg Hg or less

Exceeding the standard

A minimum of 5 fish of the same species are required for sampling. If more than 10% of the fish sampled in a species are greater than the fish tissue-based CS_{ft} or CC_{ft}, the fish are not meeting the WQS.

If fewer than 5 fish per species, but multiple species of fish, an average concentration is taken across species.

If the average concentration of at least three species exceeds the CS_{ft} or CC_{ft} the fish are not meeting the WQS.

Polychlorinated biphenyls (PCBs)

Impairments for PCBs are based on a fish tissue concentration exceeding 0.22 mg/kg and 0.05 mg/kg for PFOS in water bodies without CC_{ft}; these are the upper thresholds for one meal per week fish consumption. While water CSs exist in rule, CS_{ft} in fish tissue need to be adopted, along with revised CSs in water, in a future rulemaking, before they can be used for assessment.

Meets the standard

Fish tissue contains 0.22 mg/kg or less.

Exceeds the standard

Fish tissue contains 0.22 mg/kg or more.

Why is it important to assess for PCBs?

The PCBs constitute a group of chlorinated organic compounds distributed worldwide. Their extensive historical use combined with their persistence, bioaccumulative properties, and cancer and non-cancer toxicity, make them very serious environmental pollutants.

Concentrations of PCBs in water are very low (typically less than one part per trillion) and difficult to measure. However, because they bioaccumulate as much as a million-fold or more in fish, they are readily measured in fish tissues. The PCBs are usually assessed for the IWL on the basis of their presence in fish.

Perfluorooctane sulfonate (PFOS)

Waters listed as impaired prior to 2017 were based on a threshold of 0.20 mg/kg, set by MDH in 2009. Waters listed as impaired after 2017 are based on a threshold of 0.05 mg/kg (50 ng/g or 50 ppb) as set by MDH in 2017. This change came about with a lower standard required due to the readily available science.

Due to revised methods for human health water quality standards, the MPCA developed a site-specific criterion of 0.37 ng/g PFOS in fish tissue. Assessments for waters where the site-specific CC_{ft} apply are based on this PFOS criterion developed using the methods in Minn. R. 7050.0217 to 7050.0219. This site-specific standard applies to a portion of the Mississippi River, Bde Maka Ska, and waters in the Lake Elmo area. Details on site-specific CC_{ft} and applicable water bodies are found at https://www.pca.state.mn.us/water/ site-specific-water-quality-criteria.

Why is it important to assess for PFOS?

A PFOS is a synthetic perfluorinated chemical used for decades to make products that resist heat, oil, stains, grease, and water. The MPCA has been monitoring for PFOS in fish since 2004.

Meets the standard

Fish tissue contains 0.05 mg/kg or less.

If site-specific criteria apply, fish tissue must contain 0.37 ng/g PFOS or less

Exceeds the standard

Fish tissue contains 0.05 mg/kg or more.

If site-specific criteria apply, fish tissue must contain more than 0.37 ng/g PFOS in fish tissue to be impaired for aquatic consumption.

Dioxins and Furans

The MPCA has Class 2 HH-WQS for 2,3,7,8-TCDD in Minn. R. 7052, applicable only to waters in the Lake Superior basin. These standards also include other dioxins and furans with toxic equivalent factors. Some PCB compounds can also have dioxin-like toxicity and considered when data are available.

The MPCA evaluates waters for dioxins and furans only at site-specific locations where contamination is suspected or where data are needed to support remedial efforts. Evaluation of dioxin and furans in fish tissue will be based on site-specific CC or CSs developed based on Minn. R. 7050.0217 to 7050.0219 and Minn. R. 7052.0270. The only 2,3,7,8-TCDD standard in Minn. R. 7050 is the EPA drinking water standard of 30 pg/L.

Why is it important to assess for dioxins and furans?

Dioxins and furans are similar to PCBs in many respects. Both represent a family of chlorinated organic chemicals, some of which are very persistent, bioaccumulative and toxic. They are global in their distribution. Unlike PCBs, dioxins and furans were never intentionally manufactured. The major sources are combustion of waste, plastics, and wood, chlorine bleaching of pulpwood (now largely phased out), and trace contaminants in other manufactured organic compounds. 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) has been shown to be carcinogenic in animals at extremely low doses.

Impairment assesssment – Class 2 protection for human recreation

To determine if human health based CSs are being met, data with the total sample fraction are used. Both dissolved and total metals measurements can be used to determine impairment, but dissolved metals data cannot be used to determine if standards are met.

Table 17: Impairment determination for beneficial use aquatic recreation

Period of record	Beneficial use–support or beneficial use–impaired	
	Supporting	**Impaired**
Most recent 10 years	No more than 1 exceedance of the Chronic Standard in 3 years, and no exceedances of the Maximum Standard	2 or more exceedances of the Chronic Standard in 3 years, or 1 or more exceedances of the Maximum Standard

Data requirements

The Clean hands/Dirty hands sample collection technique is required for low-level mercury analysis and determination of the CSs (Method 1669, EPA. 1996.). Only mercury data collected by this technique are used for assessments.

The requirements for assessing water bodies for exceedances of human health-based CSs are essentially the same as for chemicals with aquatic life toxicity-based CSs (see Class 2: Protection of aquatic life, Parameter-Level Assessments: Toxic Pollutants) The major difference is that data compared to the human health-based CSs are averaged over a 30-day period rather then a 4-day period.

Impairment assessment: Class 2 protection for human consumption

The basis for assessing the contaminants in fish tissue is the narrative WQS and assessment factors in Minn. R. 7050.0150, subp. 7

The MPCA applies the MDH guidance threshold concentrations summarized in Table 18 to the most recent ten years of data from a water body.

For pollutant data in fish that rely on CS_{ft} or CC_{ft}, the determination of impaired waters for fish consumption reflects approaches used to assess water quality data. For other fish pollutants, the MPCA may develop site-specific CC_{ft} or future CS_{ft} to assess fish for impairment.

A water body is defined as impaired for aquatic consumption based on one of the two following approaches depending on the number of fish and species with available monitoring data.

Fish data will be used if at all possible for impairment determination. If fish tissue data are not available, professional judgement can be used to determine if water data are sufficient for impairment decision.

Table 18: Impairment determination for beneficial use aquatic consumption – fish tissue

Period of record	Consumption advice[1]	Four meals/week[2]	One meal per week	One meal per month	One meal per two months	Do not eat
		Supporting	**Supporting**	**Impaired**	**Impaired**	**Impaired**
	Mercury (mg/kg)	≤ 0.05	>0.05-0.22	>0.22-0.95		> 0.95
	Total PCBs (mg/kg)	≤ 0.05	>0.05-0.22	>0.22-0.95	>0.95 - 1.89	> 1.89
	PFOS (mg/kg)	≤ 0.01	>0.01 --0.05	>0.05- -0.20		> 0.20

Measurements are fish tissue concentrations for levels of consumption advice established by MDH 2017-present

[1]Consumption advice for young children and women who are pregnant or may become pregnant: https://www.health.state.mn.us/communities/environment/fish/.

[2]As of May 2021, "MDH Statewide Safe-Eating Guidelines for the General Population have changed from unrestricted to four servings per week for the panfish group of fish species. This change was made to clarify what is meant by "unrestricted" and to take into account findings of low levels of Perfluorooctane Sulfonate (PFOS) in fish throughout Minnesota."

Multiple fish of one species

If more than 10% of the fish (minimum of five fish) in a species are greater than the fish tissue-based CS_{ft} or CC_{ft}, the fish are not meeting the WQS. This is equivalent to saying the water is impaired if the 90th percentile of the pollutant concentration for any fish species is greater than the CS_{ft} or CC_{ft} . This is the same protocol that has been used to assess mercury in fish.

To determine which water bodies (lake, reservoir, or stream WID) are impaired for fish consumption, the Minnesota FCMP database is queried for the following criteria:

Fish consumption

The IWL identifies water bodies that do not meet legally enforceable water quality standards (WQS) or site-specific criteria, and for which a remedial plan may be required. An important caveat is that one cannot assume, because a particular water body does not appear on the IWL, the fish in that water body are safe for unlimited consumption. Most likely, it means the fish from that water body have not been tested. Only those water bodies from which the fish have been tested and found to exceed the impairment thresholds are put on the IWL. In addition, water bodies listed as impaired for fish consumption can still yield fish low in pollutant concentrations. The MDH safe-eating guidelines should be consulted for advice on fish consumption on a statewide or water body basis (MDH 2021).

To find if your water body has been tested for pollutants and assessed for impairments, see the Surface_Water_Data_Viewer

Period of record

Fish collected in the last ten years.

If the 90th percentile between the most recent five years of data and the previous five years of data are statistically different, only the most recent 5 years of data are used in assessment. This method adequately captures utilizing only current data due to any land-use changes that have occurred and altered fish habitat or species.

Data requirements

- Filet with or without skin on; no whole fish.
- At least five fish in a species, including fish within a composite sample, are needed for 90th percentile calculation.
- 90th percentile fish tissue concentration is greater than CS_{ft} or CC_{ft} (i.e., more than 10% are greater than CS_{ft} or CC_{ft}).

The 90th percentile rank is calculated by multiplying the number of fish by 0.9 and rounding to the nearest whole number. The 90th percentile pollutant concentration is determined for each water body-species by (1) ranking the samples within each water body-species from low to high, (2) concentration of a composite sample is treated as the concentration for all fish within the composite, (3) if the 90th percentile ranked fish is greater than CS_{ft} or CC_{ft} or is in a composite that is greater than CS_{ft} or CC_{ft}, it is marked as impaired.

Fewer fish of more than one species

Period of record

Fish collected in the last ten years, unless enough fish samples are available to compare average concentrations between years ten and 6 and 5 to present. If the averages are statistically different, then only the most recent 5 years are used in the assessment.

Data requirements

If a water body has multiple species of fish with pollutant monitoring data, but fewer than five fish per species, the alternate method for determining if WQS are being met is through averaging a concentration across species. In a weight-of-evidence approach, if the average concentration of at least three species exceeds the CS_{ft} or CC_{ft} that water body would also be identified as impaired.

Both scenarios recognize that concentrations in fish are a result of a longer-term average exposure and that the fish sampled by the FCMP focus on those species regularly caught and consumed by Minnesotans; reasonable evidence of fish with pollutant concentrations above CS_{ft} or CC_{ft} warrants concern and impairment designation. Based on the FCMP sampling protocol, most water bodies monitored will exceed the minimum

data requirements or include the species of most concern for the respective pollutant (i.e., walleye for mercury and bottom feeders such as carp or catfish for PCBs).

More than one pollutant present in a water or fish sample

Another aspect to assessing Class 2 CSs (and CC) based on human health is the presence of more than one toxic pollutant in a sample. This is dependent on the toxicity determination of each pollutant: carcinogen, denoted with a "(c)" next to the pollutant's name in Minn. R. 7050.0220 or 7050.0222, or noncarcinogen.

Carcinogenic:

- Mercury
- Polychlorinated biphenyls (PCBs)
- Perfluorooctane sulfonate (PFOS)
- Dioxins and furons

WQS calculated with a cancer slope factor. A risk index is calculated for each carcinogen in the sample by dividing the concentration of the pollutant by its CS (or CC) and summing those values. The risk index value has to be equal to or less than one to meet HH-WQS. An index that exceeds one indicates the excess cancer risk level is greater than 1 in 100,000 and is in violation of the HH-WQS.

Approach for non-carcinogenic pollutants

An additivity analysis modeled on the MDH Health Risk Limit rule. The approach is again based on summing up the ratio of each pollutant concentration measured in the surface water or in fish tissue to their respective CS (or CC) based on their *Health Endpoint*. To ensure total exposure does not exceed the threshold for noncancer effects in the target organ, system, or process (development), the sum or *Health Risk Index* has to equal one or less to meet the HH-WQS.

Health Risk Index Endpoints (*Health Endpoints*) will be incorporated into HH-WQS for evaluation of mixtures of noncarcinogens. The MDH lists *Health Endpoints* for each noncarcinogen (or nonlinear carcinogen) unless the available study used to develop the toxicological values (reference dose) did not identify a specific adverse effect. *Health Endpoints* identify the most sensitive target organs or systems (e.g., nervous) or developmental process affected by that pollutant. These endpoints are used to group chemicals to evaluate mixtures if more than one pollutant with the same adverse effect is measured in a fish sample or water body. The details of this evaluation are in Minn. R. 7050.0222, subp. 7, item D.

D. Parameter-level assessments: Protection of wildlife in the Lake Superior basin

Protection of the aquatic life use includes the protection of wildlife consumers of aquatic organisms. Because the fish consume invertebrates and people eat the fish, it all ties together.

Minnesota has developed four wildlife-based WQS – all in Minn. R. 7052, the Great Lakes Water Quality Initiative (GLI) rule. The GLI rule focuses on the reduction of bioaccumulative toxic chemicals in the Great Lakes ecosystem as a whole. The standards in Minn. R. 7052 are applicable only to the surface waters of the Lake Superior basin in Minnesota. The GLI chronic wildlife-based standards are listed below:

- DDT – 11 pg/L.
- Mercury – 1300 pg/L.
- PCBs – 122 pg/L (GLI human health-based standards for PCBs are more stringent than the wildlife-based standard).
- 2,3,7,8-TCDD – 0.0031 pg/L (GLI human health-based standards for dioxin are more stringent than the wildlife-based standard for Lake Superior and Class 2A waters, but not for Class 2Bd and 2B, and 2D waters).

The assessment of water bodies for compliance with the GLI wildlife-based standards follows the same protocols used to assess water bodies for human health-based standards, as described in the previous section (Parameter level assessments: toxic pollutants – Class 2 protection for human consumption .

Impairment assessment: protection of wildlife Lake Superior basin

The same assessment methods apply to each parameter, subbing in the different standard numerical values for the Lake Superior basin as listed above.

Assessment for impairment removal from the IWL: protection of wildlife Lake Superior basin

Pollutants toxic to aquatic life & drinking water nitrate data requirements

- Sufficient ambient water quality monitoring to show, with reasonable certainty, that toxic pollutant concentrations no longer exceed the criteria for impairment and/or evidence that the source of the toxic pollutant is no longer a source.
- The criterion for delisting toxic pollutants is essentially a determination that the impairment no longer exists. The monitoring required for this can vary significantly, depending on the pollutant and the situation. The criterion for impairment is strict and requires only two exceedances of the chronic standard within any three-year period or one exceedance of the maximum standard. A showing that exceedances are not occurring on even such an infrequent basis requires either a good deal of monitoring or monitoring at times and under situations where exceedances would be most likely to occur. As such, the delisting determination will inevitably require knowledge of the specific pollutant and the specific situation as well as significant professional judgment.

What happens in assessment with chemicals that breakdown or environmental degradants?

Some pollutants, when introduced into the environment, undergo chemical transformation through microbial, photolysis, or other processes. Particularly for pesticides, there are known common environmental breakdown products referred to as degradates that originate from the "parent" chemical. In order to be health protective, breakdown chemicals that originate from a "parent" chemical are assessed the same as the "parent" when toxicological data on the degradate are insufficient for a chemical-specific health-based water value. To address degradates found in surface water, the MPCA applies the parent HH-WQS to environmental degradates or MDH health-based guidance when available (Minn. R. 7050.0222, subp. 7, item D).

Fish contaminants data requirements

Table 19: Fish contaminants data requirements

Parameter	Period of record	Minimum # of data points	Beneficial use-support or impairment	
	Minimum 2 years of data since year lake/river placed on IWL	**5 or more fish of same species causing impairment**	**Supporting**	**Impaired**
Mercury	Minimum 2 years of data since year lake/river placed on IWL	5 or more fish of same species causing impairment	All fish species collected not exceeding threshold of impairment **and/or** Data show a downward trend in the annual 90th% concentrations for a specific water body, species, and year has a 90th percentile less or equal to than 0.2 mg/kg (ppm)	One fish species collected is impaired
PCBs & PFOS	Minimum 2 years of data since year lake/river placed on IWL	5 or more fish of same species causing impairment	1. MDH's fish consumption guidance has been removed **or** 2. Reduced to less restrictive than a meal per month and arithmetic mean concentration is less than 0.22 ppm for PCBs or 50 µg/kg (ppb) for PFOS **and** some PFOS-contaminated sites have a site-specific criterion of 0.37 µg/kg (ppb) for PFOS and they are identified in	

Biological indicators data requirements

- New data from the original listing station(s) indicating conditions are now supporting of aquatic life.
- An evaluation of any new biological data and other lines of evidence considered comprehensively, including upstream/downstream conditions, do not contradict a finding of full support.
- An evaluation that any stressors to the biology that may have been previously identified as part of the TMDL process indicate measured improvement.

VIII. Class 2: Protection of aquatic recreation

This section addresses the assessment of water quality for pollutants that have aquatic recreation-based standards. Standards based on protecting the ability to recreate on and in Minnesota's waters are Class 2 standards. An overview of these standards and their application for assessment is provided below.

A. Parameter-level assessment: *E. Coli* bacteria – streams and rivers

Watershed approach:
10-year monitoring & assessment

The MPCA uses an *E. coli* standard based on a geometric mean EPA criterion of 126 *E. coli* colony forming units (cfu) per 100 mL. *E. coli* has been determined by EPA to be the preferred indicator of the potential presence of waterborne pathogens.

Period of record

Most recent ten years of data. *E. coli* standards are applicable only during the warm months (April-October) since there is very little swimming in Minnesota in the non-summer months.

Meets the standard

Sample contains less than 1260 organisms per 100 mL.

Exceeds the standard

Sample exceeds 1260 organisms per 100 mL.

Why it is important to assess for bacteria?

Recreational uses such as swimming and other recreation means immersion and inadvertently ingesting water is likely. Boating and wading where the likelihood of ingesting water is much smaller, but body contact with water is likely also falls under recreational uses. Humans coming in contact with or ingesting harmful bacteria can lead to illness and public health concerns.

Table 20: *E. coli* water quality standards for Class 2 and Class 7 waters

Beneficial use class	*E. Coli* standard number of organisms per 100 mL of water		Period of record	Human exposure
	Monthly geometric mean[1]	10% of samples maximum[2]	Recent 10 years	
2A, 2Bd, 2B	126	1260	April 1-October 31	Ingestion
2D, wetlands	126	1260	April 1-October 31	Ingestion, if the use is suitable
7, limited resource value waters	630	1260	May 1–October 31	Bodily contact

[1]Not to be exceeded as the geometric mean of not less than five samples in a calendar month.
[2]Not to be exceeded by 10% of all samples taken in a calendar month, individually.

Impairment assessment: aquatic recreation

Data requirements

Exceedances of the *E. coli* standard mean the recreational use is not being met. There is a considerable amount of *E. coli* data available in Minnesota, and also older fecal coliform data which are not used. For assessment purposes, only results analyzed within 24 hours of sample collection are used and only *E. coli* measurements are used. Data over the full ten10-year period are aggregated by individual month (e.g., all April values for all ten10 years, all May values, etc.).

Minimum of five values per month (e.g., 2 samples from June 2020, 1 sample from June 2021, 3 samples from June 2023), for at least three different months (e.g., June, July, August), are necessary to make a determination. Assessment with less than these minimums may be made on a case-by-case basis.

Where multiple bacteria/pathogen samples have been taken on the same day on a WID, then the geometric mean of all the measurements on that day will be used for the assessment analysis.

Determination of impaired condition

If the geometric mean of the aggregated monthly values for one or more months exceeds the number of organisms per 100 mL, that reach is considered to be impaired for aquatic recreation.

Also, a water body is considered impaired for aquatic recreation if more than 10% of individual values over the ten-year period (independent of month) exceed 1260 organisms per 100 mL.

Table 21: Impairment determination for beneficial use aquatic recreation

Period of record	Minimum # of data points	Beneficial use–support or impairment *E. coli* standard	
Standard exceedance thresholds → **Monthly geometric mean** **> 126 orgs/100 mL (Class 2)** **> 630 orgs/100 mL (Class 7)**		**No months**	**1 or more months**
Most recent 10 years	5 per month	Supporting	Impaired
Standard exceedance thresholds → **Exceeds 1260 orgs/100 mL***		**≤ 10 %**	**>10 %**
Most recent 10 years	15 (minimum 5 samples per month for 3 different months aggregated by month across year)	Not impaired	Impaired

* In full data set over 10 years.

Considerations in making the impairment determinations according to professional judgement include the following:

- Dates of sample collection (years and months).
- Variability of data within a month.
- Magnitude of exceedances.
- Remark or data qualifier codes associated with individual values.
- Previous assessments and impaired waters lists.

In some circumstances where four values are available for some or all months, a mathematical analysis is done to determine the potential for a monthly geometric mean to exceed the 126 organisms/100mL standard. All assessments are reviewed by the Watershed Assessment Team (WAT) for each watershed.

Large datasets

Aggregating data by month across years for very large datasets diminishes the value of the data and assessment, making it less likely that periodic *E. coli* exceedances will be identified that indicate impairment. Where there are five values per individual month or 30-day time period, the data will not be aggregated and individual monthly or 30-day geometric means may be calculated. Data aggregation should be held to a minimum, no more than necessary to have sufficient data to satisfy the requirements for determining exceedances.

If more than 10% of the individual month geometric means calculated exceed the 126 org/100 mL standard, assessment determination is not supporting aquatic recreation and is impaired.

Assessment for impairment removal from the IWL: aquatic recreation

***E. coli* data requirements**

- At least 15 observations over a two-year period in the most recent ten years.
- A minimum of 5 values per month for at least 3 different months; data are aggregated for each month over most recent ten years, unless there are a sufficient number of observations to aggregate data by month over consecutive 2-year time periods, or to calculate individual monthly or 30-day geometric means.

Table 22: Impairment decision for beneficial use aquatic recreation

Period of record	Beneficial use–support or impairment	
	Supporting	**Impaired**
Most recent 10 years, April – October **or** **June - September**	No exceedances of the 10-year aggregated monthly geometric mean standard (126 org/mL) **or** Less than 10% of individual values for all data (independent of month) exceeds the standard (1260 org/mL)	Exceeds the 10 year-aggregated monthly mean standard (126 org/mL) **or** More than 10% of individual values for all data (independent of month) exceeds the standard (1260 org/mL)

B. Parameter-level assessment: *E. coli* – Lake Superior beaches


State-wide approach: annual monitoring

There is a considerable amount of *E. coli* data collected as part of the BEACH monitoring program in Minnesota. Lake Superior coastal waters are subject to *E. coli* WQS in the BEACH Act rule and Water Quality Standards for Coastal and Great Lakes Recreation Waters rule.

To ensure use of the most recent data, data for the most recent 5-year period are used and assessments are made every other (odd numbered) year in accordance with the state-wide assessments. This is different than the typical period of record of ten years used for all other state-wide assessments because MDH data are more robust, containing weekly or bi-weekly samples.

Period of record

Most recent 5 years of data.

Sampling season

Most beaches are monitored weekly from Memorial Day to Labor Day, while some are monitored twice weekly.

Meets the standard

Individual monthly mean (average) is under 126 orgs/100mL

Exceeds the standard

Individual monthly mean (average) is over 126 orgs/100mL

Table 23: *E. coli* water quality standards for coastal recreation waters

Standard No. of organisms per 100 mL of water		Period of record	Exposure
Monthly geometric mean[1]	**10 % of samples maximum[2]**	5 years	
126	235	April 1 – October 31	Ingestion

[1] Not to be exceeded as the geometric mean of not less than five samples in a calendar month.

Why is it important to assess beaches on Lake Superior?

The Clean Water Act defines Coastal Recreation Waters as the Great Lakes and marine coastal waters (including coastal estuaries) that are designated under section 303(c) of the Clean Water Act for use for swimming, bathing, surfing, or similar water contact activities. The MPCA applies the coastal waters definition and Beaches Environmental Assessment and Coastal Health (BEACH) Act water quality standards to all bacteria monitoring sites on the Lake Superior shoreline and in the mouths of tributaries that are representative of shoreline/Lake Superior conditions. The St. Louis River and Duluth-Superior Harbor sites monitored in the BEACH Act program that extends upstream in the St. Louis River to the Boy Scout Landing Beach are also considered within the coastal recreation designation.

Why just Lake Superior and not all beaches within the state?

These longer-term use-support assessments based on several years of data are distinguished from the short-term beach advisory postings (water contact not recommended or do not swim notices) that are based only on current 'real-time' data of 24-hrs. Each county or private/public entity has a different frequency of sampling for these beach advisories and different QA/QC protocols. Assessing all beaches within the state may give a false indication of the health and safety of swimming at that beach, which is not the purpose of the assessment.

Quantifying *E. coli* impairments over the course of 10 years is not a comparable method to close monitoring for public safety of swimming beaches. Publishing this information may mislead the public to think certain

Impairment assessment: Aquatic recreation – Lake Superior beaches

When there are 5 or more samples per individual month or 30 day time period, individual monthly geometric means are calculated and compared to the 126 orgs/100mL standard for the period April 1 through October 31. If more than 10% of the geometric means calculated exceed the 126 orgs/100mL standard, or if more than 10% of the individual sample results in the entire dataset exceed the maximum criterion of 235 orgs/100mL, the WID is assessed as not supporting aquatic recreation and should be listed as impaired.

When sampling frequency results in smaller data sets, data are aggregated by month across years. If one or more of the monthly aggregated geometric means exceeds 126 orgs/100mL, or more than 10% of the individual sample results in the entire dataset exceeding the maximum criterion of 235 orgs/100mL, the WID is assessed as not supporting aquatic recreation and should be listed as impaired.

Data from adjacent sampling sites on the same beach are combined. For sites with both tributary mouth stations and BEACH stations, data from each station are assessed separately and the results considered using best professional judgment to make an assessment decision. For sites with only tributary mouth samples, the data are assessed against the coastal recreation water standards. Streams tributary to Lake Superior with bacteria data at stations upstream of the mouth are assessed as stream WIDs using the statewide WQS and methodology in Parameter-level assessment: E. Coli - Lake Superior Beaches

The overall use-support assessment also requires best professional judgment to consider and integrate information regarding the timing, frequency, magnitude, and duration of exceedances along with other conditions present at the time of sampling.

Assessment for impairment removal from the IWL: Aquatic recreation – Lake Superior beaches

Similar to removing other waters from the IWL, a beach needs to have assessment data indicating beneficial use support, paired with information on BMPs or TMDL documenting water quality improvements.

C. Parameter-level assessment: Lake eutrophication

Watershed approach:
10-year monitoring & assessment

Excessive nutrient loads, in particular total phosphorus (TP), lead to increased algae blooms and reduced transparency – both of which may significantly impair or prohibit the use of lakes for aquatic recreation. The ecoregion-based eutrophication standards are the primary basis for aquatic recreational beneficial use assessments in lakes.

Water body classification and ecoregion determination

As the eutrophication standards are specific to ecoregion and lake depth, a number of steps are required to be completed prior to the actual assessment of the water body. The MPCA's rules define lake, shallow lake, reservoir, and wetland (Minn. R. 7050.0150). The determination between the four requires an analysis of basin depth and littoral area. Additionally, a series of questions were developed to help make the differentiation between shallow lake and wetland. These can be found in Appendix D. This step of determining the appropriate standard includes a desktop review using GIS and available spatial data and may include a site visit, if the decisions cannot be made from this review. Decisions are recorded and stored in the assessment database for future reference.

Reservoirs with residence times less than 14 days are not assessed as lakes, per EPA guidance (EPA, 200a & Kennedy, 2001). For this purpose, residence times are usually determined under conditions of low flow. A mean flow for the four-month summer season (June – September) with a once in ten-year recurrence interval is normally used. The MPCA may establish a minimum residence time of less than 14 days on a site-specific basis if credible scientific evidence shows that a shorter residence time is appropriate for that reservoir.

The majority of the lakes in the state (98%) reside in four of the seven ecoregions (EPA Omernik Level III ecoregions). The remaining 2% of lakes reside in one of three ecoregions: Red River Valley, Northern Minnesota Wetlands, and the Driftless Area (Heiskary and Wilson, 2005).

Why is it important to assess for eutrophication by eco-region?

Because eutrophication assessments base data off temperature, transparency, and total phosphorus or nutrient loading it is important to have site-specific standards for eutrophication that are based upon the region those waterbodies are located. Shallow lakes in southern MN for example naturally have high-nutrient levels and are naturally very warm due to water level conditions in the late summer. Comparing shallow lakes data to a criteria developed for clear, cold northern lakes would be an un-fair assessment of impairment for that shallow lake as it naturally tends towards eutrophic.

Lakes that do not have specific ecoregion standards or that cross ecoregion boundaries:

Percent land use by categories (forest, pasture/open, cultivated, urban, water/wetland) are calculated for the lake watershed using the most recent national land cover dataset. These percentages are then compared to the breakdown of land use for the standards development dataset to see which ecoregion is more similar to the lake in question. The next step involves comparing morphometry of the lake basin (large, small, deep, shallow); different ecoregions have different lake characteristics. These data are used together to determine the proper ecoregion-based standard to address these lakes that do not fall in the ecoregions for which criteria have been developed and for lakes that are near an ecoregion boundary.

Lake eutrophication data requirements

Typically, a minimum of eight individual data points for TP, chlorophyll-*a* (corrected for pheophytin or corrected chl-*a*), and Secchi are required.

1. Data used for phosphorus and chlorophyll-*a* calculations are limited to those collected on the same day, from the upper most three meters of the water column (surface). If more than one sample is collected in a lake per day, these values are averaged to yield a daily average value.
2. Following this step, all June to September data for the ten-year assessment window are averaged to determine summer-mean values for TP, corrected chl-*a*, and Secchi depth. These values are then compared to the standards and the impairment assessment is made.

Period of record

Samples must be collected over a minimum of two years and data used for assessments must be collected from June to September.

Insufficient data

In some instances, a lake may have good or excellent quality data but only one of the thresholds are exceeded (e.g., only TP or only corrected chl-*a* or Secchi). In this instance, the lake will be considered to have insufficient data to assess because both the cause (TP) and at least one response (chl-*a* or Secchi) must either meet to indicate support or both exceed to indicate impairment. For lakes that do not meet minimum data requirements and use-support cannot be determined, a determination of insufficient data will be made.

Table 24: Summary of lake eutrophication WQS for aquatic recreation beneficial use assessments

Ecoregion	TP (μg/L)	chl-*a* (μg/L)	Secchi (m)
Northern Lakes and Forest – Lake trout (Class 2A)	< 12	< 3	> 4.8
Northern Lakes and Forest – Stream trout (Class 2A)	< 20	< 6	> 2.5
Northern Lakes and Forest – Aquatic Rec. Use (Class 2B)	< 30	< 9	> 2.0
North Central Hardwood Forest – Stream trout (Class 2A)	< 20	< 6	> 2.5
North Central Hardwood Forest – Aq. Rec. Use (Class 2B)	< 40	< 14	> 1.4
North Central Hardwood Forest – Aq. Rec. Use (Class 2B) Shallow lakes	< 60	< 20	> 1.0
Western Corn Belt Plains & Northern Glaciated Plains – Aq. Rec. Use (Class 2B)	< 65	< 22	> 0.9
Western Corn Belt Plains & Northern Glaciated Plains – Aq. Rec. Use (Class 2B) Shallow lakes	< 90	< 30	> 0.7

Impairment assessment: aquatic recreation

Not impaired

All parameters must be in attainment with the standards for lakes with excellent data quality (2+ years of data) or lakes with good quality data (1-year data plus Secchi trends).

All parameters must be 20% above or better than the standards in order to consider the WID fully supporting. This margin of safety allows a fully supporting determination to be made on a water body that is difficult to access for water monitoring and may only have one season worth of data collected within the current ten-year period of record and was previously assessed as fully supporting with 2+ years of data.

Impaired

Lakes where total phosphorus (TP) and at least one of the response variables (corrected chl-*a* or Secchi) exceed the standards are considered impaired.

Table 25: Impairment determination for beneficial use aquatic recreation – lake eutrophication

Period of record	Beneficial use – support or impairment	
	Supporting	**Impaired**
Most recent 10 years, June – September	Total phosphorus, Chl-a, and Secchi do not exceed standards	Total phosphorus exceeds standards **and** Chl-a **or** secchi exceed the standards

Why are reservoirs treated differently than lakes?

Sampling design and assessments for aquatic recreational use for reservoirs may be different from those used for lakes. Since reservoirs typically exhibit distinct zones, often referred to as inflow segment, transitional segment, and near-dam segment, calculation of "whole reservoir" demonstrates TP may not be an appropriate basis for assessing aquatic recreational use. Rather, the MPCA may evaluate the status of the reservoir based on a specific segment – most likely the near-dam segment. In addition, water residence time may vary substantially as a function of river flow (e.g., Lake Pepin; Heiskary and Walker 1995) and may influence algal response to available nutrients. In addition, reservoirs often have very large watersheds that may drain portions of one or more ecoregions. Hence ecoregion-based standards based on where the reservoir is located may not always be the best basis for evaluating use-support.

Why do large lake bays get treated differently than entire lakes?

Lakes with distinct bays, such as Lake Minnetonka, may present a similar situation. The bays (basins) may need to be assessed on an individual basis (data are stored by specific basin, not by whole lake). In some instances, a single bay may exceed the listing thresholds while other bays in the lake do not. In this case it should be determined whether the entire lake should be listed as impaired (e.g., there is distinct interaction between the bays) or simply the individual bay. This will likely require knowledge of flow-through patterns in the lake and assistance from local cooperators to make an appropriate determination.

Impairment removal assessment – aquatic recreation

Lake eutrophication data requirements

- A minimum of 8 paired samples over a minimum of 2 years for total phosphorus (TP), corrected chl-*a*, and Secchi measurements (June to September) for the most recent ten years.

Assessment decision to remove aquatic recreation impairment–lake eutrophication

Period of record	Beneficial use–support or impairment	
	Removed from IWL	**Remains listed on IWL**
Most recent 10 years, June - September	1. Total phosphorus meets the standard **and** Chl-a **or** secchi meet the standard 2. Total phosphorus exceeds the standard, but chl-a **and** secchi meet the standard **and** total phosphorus shows improving trend **and** local entity provides info on how management activites will ensure this continues	Two parameters do not meet the standard

River eutrophication data requirements

- The causative variable (TP) and the response variable(s) that were used to list the WID meet the standard.
- A minimum of 12 paired samples over a minimum of 2 years for total phosphorus, chlorophyll-*a*, and/or biochemical oxygen demand.
- A minimum of 20 pH samples over a minimum of 2 years.
- A minimum of 2 DO sonde deployments; each with a length of a minimum of 4 days and occurring in separate years during a similar index period to the listing deployment within the assessment window.

IX. Class 4: Waters used for production of wild rice

Minn. R. 7050.0224 sets forth the Class 4 water quality standards to protect the agriculture (Class 4A) and wildlife (Class 4B) beneficial uses. All surface waters in Minnesota are classified as Class 4A waters. A subset of these Class 4A waters also protect naturally growing wild rice from the adverse impacts of sulfate pollution. Minn. R. 7050.0224, Subp. 2, provides a sulfate standard of "10 mg/L, applicable to water used for the production of wild rice during periods when rice may be susceptible to damage by high sulfate levels."

State-wide approach: annual monitoring

Excessive sulfate concentration in a waterbody can be harmful or injurious with respect to the designated uses of the water. Impairment of these waters due to high sulfate can lead to the failure of wild rice production and maintenance for wildlife and human consumption. Wild rice provides habitat for waterfowl and other wildlife. Further, this habitat is important to Tribal Nations that reside within the boundaries of Minnesota as their cultural, spiritual, and economic connection to naturally growing wild rice is deep and depends upon healthy rice populations.

Water body classification

Specific waterbodies in Minnesota are identified as "waters used for production of wild rice." A list of these waters, which includes rivers/streams, lakes and wetlands, is included as shown in Appendix H.

Why is it important to assess for sulfate?

Wild rice is Minnesota's state grain and is important to many people's economic livelihood and nutrition. It provides essential waterfowl habitat, and further is a plant that is sacred to the Anishinabe and Dakota Oyate and important to their cultural heritage. Due to the plant's sensitivity to excessive sulfate during its growing season, sulfate needs to be monitored and limited to allow for adequate plant growth and seed production. This standard has a long history in Minnesota and more information pertaining to beneficial use designations of waters and sulfate implementation of the standard can be found in Appendix H.

A. Parameter-level assessment: Sulfate

Period of record

ten years

Data minimum

5 independent observations

Meets the standard

Average annual sulfate concentration is lower than, with statistical significance, 10 mg/L

Exceeds the standard

Average annual sulfate concentration is higher than, with statistical significance, 10 mg/L

Inconclusive

If the average sulfate concentration is not significantly different than 10 mg/L, the assessment is considered inconclusive and the water is identified as needing additional monitoring and assessment.

Why use a mean value?

- Chemical changes happen over time, and average surface water concentration is a better indicator of potential harm than individual values.
- The mean most closely follows the methods that Moyle used in his 1944 work that was the basis for the current 10 mg/L sulfate standard.
- While some water quality parameters are assessed via frequency - each value is one point in time – there is no measure of the duration of the high value and no evidence that a spike is representative of overall conditions.
- The mean measures the overall total exposure of the wild rice to sulfate.
- Data quantity and variability are considered by using a statistical test to provide a high degree of confidence that the calculated average from the data adequately represents the actual average in the water.

Impairment assessment: Wild rice production

Waters used for production of wild rice are considered impaired if the average annual sulfate concentration exceeds the water quality standard of 10 mg/L, with statistical significance.

Data requirements

- Assessments require data sets of at least 5 independent observations over the ten most recent years that meet necessary QA/QC requirements and give an unbiased representation of overall conditions throughout the year.
    - Specified data minimum of 5 samples could come from one year of monitoring. However, the samples should be sampled at different periods within the year.

- Unbiased representation includes samples taken during different months across the growing period (April-September). For example, 8 samples taken from a waterbody over two years but all taken in the month of May do not give an unbiased representation of overall conditions.

- Multiple measurements taken at the same site on the same day are treated as repeated measures and averaged. For measurements taken at multiple sites on the same day within a water body, the maximum value is used.
- Duplicate samples (quality control replicates) are identified and removed.
- To be consistent with other assessment methods, samples in lakes are taken at the top 3m of the water only, although some site locations may have a deeper water depth than 3m overall.

Table 26: Impairment determination for beneficial use production of wild rice.

Period of record	Beneficial use–support or impairment	
	Supporting	**Impaired**
Most recent 10 years, April - September	average concentration is less than 10 mg/L (the upper confidence limit is less than 10)	average concentration is greater than 10 mg/L (the lower confidence limit is greater than 10)

More information regarding the process used to determine statistical significance of average sulfate concentration for determining impairment can be found in Appendix_H.

X. Class 7: Limited resource value waters

State-wide approach:
annual monitoring

Watershed approach:
10-year monitoring & assessment

Limited resource value waters (LRVW) include surface waters of the state that have been subject to a use attainability analysis and have been found to have limited value as a water resource. These waters are specifically listed in Minn. R. 7050.0470 and the standards can be found in Minn. R. 7050.0227. Class 7 contains both wetlands and ditches/streams, but wetlands are not assessed in this MPCA process.

Class 7 waters are protected so as to allow body contact use, to preserve the groundwater for use as a potable water supply, and to protect aesthetic qualities of the water. Class 7 waters are not protected for aquatic life beneficial use.

A. Parameter-level assessment

Escherichia *(E.) coli*

Assessment methodology follows that described in section Parameter-level assessment: E. Coli bacteria - streams and rivers

Dissolved oxygen

Narrative standard

At concentrations which will avoid odors or putrid conditions or at concentrations not less than 1 mg/L as a daily average, provided that measurable concentrations are present at all times.

pH

Assessment methodology follows that described in section on pH

Standard

Minimum value of 6.0, maximum value of 9.0

Toxic pollutants

Narrative standard

Not allowed in such quantities or concentrations that will impair the specified uses

Application of toxic standards to Class 7 waters for assessment purposes includes applying the Maximum Standard for most pollutants or 100 times the Chronic Standard (CS), whichever is lower (Minn. R. 7050.0222, subp. 7, item E). Assessment methodology follows that described in section Parameter_level_assessments: toxic pollutants

However, for bioaccumulative pollutants the CS would apply. Because Class 7 waters may be used by game fish for spawning and/or maintaining minnow populations during brief periods in the spring, a special protection against bioaccumulative pollutants is needed. See section Class 2_protection_of_human_consumption for assessment of chronic standards.

Impairment assessment: limited resource value

E. Coli

10% of individual monthly samples exceed 1260 organisms per 100 mL.

Table 27: Impairment determination for LRVW – beneficial use–support or impairment

Period of record	Supporting	Impaired
Most recent 5 years, May 1 – Oct 31	Monthly mean of 5 or more samples is less than 630 org/100mL	Over 630 organisms per 100 mL as a geometric mean of not less than 5 samples representative of conditions within any calendar month

XI. MPCA contact

For questions regarding this assessment Guidance Manual or the Impaired Waters List, contact impaired.waters.MPCA@state.mn.us

All MPCA staff can be reached toll free at 800-657-3864 or 651-296-6300 in the Twin Cities Metropolitan Area.

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XIIV. Appendices

Appendix A. Impaired Waters List reporting categories

Category	Description
2	Waterbody's assessed designated uses are fully supported, the designated use is fully supported, or parameter meets standards.
3	Data insufficient or inconclusive to assess.
4A	Impaired and a TMDL study has been approved by EPA.
4B	Impaired but a TMDL study is not required because water quality standards are expected to be met in the near future.
4C	Impaired but a TMDL study is not required because the impairment is not caused by a pollutant.
4D	Impaired but a TMDL study is not required because the impairment is due to natural conditions with insignificant anthropogenic influence.
4E	Impaired but existing data strongly suggests a TMDL study is not required because impairment is not caused by a pollutant or is due to natural conditions; a final category determination will be made pending confirmation from additional data collection.
5	Impaired and a TMDL study has not been approved by EPA.

Appendix B. Minnesota's TMDL commitments

Minnesota selected total maximum daily load (TMDL) commitments for federal fiscal year 2025-2026 based on Minnesota's Watershed Approach and other statewide strategies and initiatives. The TMDL commitment list may also take into account degree of impairment, local water plans, development pressure, aquatic recreation significance, needs of other state programs such as wastewater and stormwater, and data availability. The MPCA consults with other state agencies, local partners, Tribal Nations, and other interested stakeholders to decide for which impairments TMDLs will be developed.

This biennial TMDL commitment list includes TMDLs that MPCA commits to being EPA-approved and TMDLs that MPCA commits to being in-progress during the two year period. Minnesota expects to complete additional TMDLs for impairments on the impaired waters list as part of our ongoing Watershed Approach.

Minnesota's Total Maximum Daily Load Studies Prioritization Framework 2022-2032 and Minnesota's TMDL Commitments for FY 2025-2026 are posted on MPCA's TMDL and WRAPS guidance webpage

Watershed Restoration and Protection Strategy (WRAPS)

WRAPS reports will be done on a 10-year watershed cycle and the TMDLs for conventional pollutants in those watersheds will be done as part of the WRAPS process, with some exceptions (see deferred TMDLs below). The conventional pollutants are DO, pH, temperature, turbidity, TSS, bacteria, ammonia, nitrates, nutrients, and biological impairments.

The WRAPS report provides a watershed level (HUC8) strategy to address the impairments and protection needs in the watershed and allows for local partners to develop more specific plans at the local level. A key aspect of this effort is to develop and utilize watershed-scale models and other tools to identify strategies and actions for point and nonpoint source pollution that will cumulatively achieve water quality targets. For nonpoint source pollution, this report informs local planning efforts, but ultimately the local partners decide what work will be included in their local plans. The Section 319 Small Watersheds program is working with local governments to develop very detailed nine element plans on a smaller scale to qualify for Section 319 grant funding.

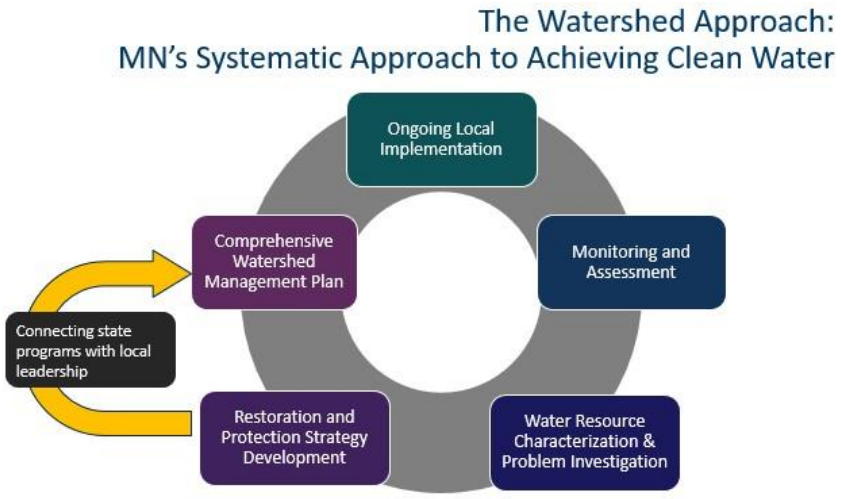


Figure 8: Watershed Approach

Appendix C. Sources of data used for assessment

The assessment process is founded on water quality data about the condition of Minnesota's waters. Generally, the goal of water quality monitoring done in support of the assessment process is to characterize the general concentration of a pollutant in a waterbody or segment of a waterbody. Assessments need to reflect the current conditions of the water and be based on water quality monitoring that gives an unbiased representation of overall conditions through the year. Water quality monitoring once or twice at the conditions that are likely to give the highest (or lowest) levels of pollutants does not give an accurate picture of what the fish, bugs, or plants are being exposed to over time.

Assessment database - CARL

CARL is the name of the tool that MPCA developed and maintains which assists staff in conducting assessments. CARL is able to pull data from multiple resources and calculate averages. CARL also contains the current water quality standards beneficial use on each WID and can calculate summary strings containing information on how many samples collected at each monitoring site, how many samples exceeded the standard at each WID, and more. CARL automates many calculations and prevents errors that may otherwise occur from performing Guidance Manual calculations annually. CARL stores assessment decisions in a digital format to provide ease of reference for future assessment years. The CARL assessment database is not public-facing but is used by MPCA internal staff for assessment decisions on beneficial use or impairment

determinations. CARL has increased the capacity of staff to perform assessments and is a vital component of the assessment process.

The CARL assessment database contains

- EQuIS data
- TEMPO data (an internal MPCA database that contains permittee data
- Water Quality Portal (WQX) data
- MET council data (MCES data)
- Data from the biological database
- Tableau data (continuous data)

EQuIS database

Most of the data and information used in assessments come from MPCA's monitoring programs. These programs take into account the season and weather conditions in order to give an accurate picture of what pollutant exposure levels are like in the water body over time, reflecting an unbiased representation of overall conditions throughout the year. Schedule for MPCA monitoring can be found in Minnesota's Water Quality Monitoring Strategy 2021-2031.
EQuIS contains data from:

- MPCA monitoring programs
  - Air
  - Surface waters
  - Permit-required testing
  - Volunteer monitoring programs
  - Organizations contracted by MPCA for lab data submittal to EQuIS
- Continuous water quality data (e.g., flow, DO, temperature collected internally or by parties outside the MPCA) accessible through the MPCA/DNR's shared database for continuous data
- Minnesota Department of Agriculture's water quality data

Water Quality Portal (WQX)

The MPCA staff pull data available from the federal Water Quality Exchange (WQX) to import into the CARL assessment database for use in assessments. Tribal Nations data submitted to WQX is used in assessments with this method. The federal WQX portal contains USGS data, EPA data, and data from over 400 state, federal, tribal, and local agencies.

WQX contains data from:

- Projects funded by state or federal money
  - Neighboring states funded under the CWA 106 programs
  - Clean Water Partnership
  - National Lake Assessment Program
- Tribal Nations in Minnesota funded under the CWA 106 programs
- United States Geological Survey
  - Surface water data

- Upper Mississippi River Restoration Program Long Term Resource Monitoring, found at https://umesc.usgs.gov/ltrm-home.html

Partner and stakeholder data

Involvement of local units of government, other governmental entities, and volunteer science in the monitoring of water quality is always encouraged. The MPCA actively seeks quality assured data from all sources to be used in the assessment process. A call for data is issued annually through GovDelivery. Any data submitted to MPCA must go through rigorous quality assurance requirements to be submitted to the EQuIS database in order to be used for assessments.

Considerations taken into account to determine if data can be used for assessments

- A major aspect of monitoring that the MPCA must consider when reviewing data for use in assessments is the purpose for which the data were collected. For example, samples collected to characterize "events" such as the effects of storm runoff on a river may not be suitable, if used alone, to characterize the overall water quality of the river.
- A standard operating procedures (SOP) must be in place for field collection. This can include a federally-approved quality assurance project plan (QAPP) or training procedures for volunteer science data.
- Analytical labs providing data must be certified under the lab certification program operated by MDH. The data needs to be sent by LabMN/EDD Excel format to be entered into the MPCA's ambient water quality database, EQuIS.

Getting data to MPCA

Due to the complexities of the assessment methods conducted by MPCA technical staff, and the broad team of staff that is utilized to conduct the assessments, all data must be entered into the MPCA EQuIS database or WQX in order to be used for assessments. EQuIS database flows data to CARL, which pulls together data summaries and analyzes if the parameters are meeting or exceeding the standards/criteria. Due to the efficiency processes and protocol for assessments within the agency, data must be entered into EQuIS or WQX, or it cannot be used for assessments.

Due to the federal guidelines written in statute and imposed on state agencies to submit all integrated reporting and IWL on time, deadlines are set for data to get into EQuIS in order to be used in the assessments to meet project requirements. Technical staff will work with partners to ensure their data are entered into EQuIS. However, that data must be readily available in an electronic format not a PDF as the capacity of hand-entering data into EQuIS is limited. Import configurations can be made however for data submitted in an Excel or other spreadsheet format.

All efforts should be made to submit data to MPCA by the deadline through the call-for-data process. Communication can be established with MPCA technical staff to provide assistance to partners during this process, but providing that one-on-one assistance will depend on the data quality and extent the partner is providing. The MPCA does not have the staff capacity to hand-enter large amounts of data, but can work with partners to establish a procedure whereby data can be utilized on the next go-around of the assessment cycle. Contact the Impaired Waters List Coordinator to assist in this process.

Appendix D. Lake, shallow lake, and wetland differentiation

Table 28: Factors used to separate lakes, shallow lakes, and wetlands

Factor	Lakes	Shallow lakes	Wetlands
Protected Waters Inventory (PWI) Code	Typically coded as "L or LP" in PWI	May be coded as either "L, LP or LW" in PWI	Typically coded as a "LW" in PWI
Depth, maximum	Typically >15 feet	Typically < 15 feet	Typically < 7 feet
Littoral area	Typically <80%	Typically >80%	Typically 100%
Area (minimum)	Typically > 10 acres (NDH)	Typically > 10 acres (NDH)	No minimum
Thermal stratification (summer)	Stratification common but dependent upon depth, size and fetch	Typically do not thermally stratify	Typically do not stratify.
Fetch*	Significant fetch depending on size & shape	Fetch is variable depending on size & shape	Rarely has a significant fetch
Substrate	Consolidated sand/silt/gravel	Consolidated to mucky	Mucky to unconsolidated
Shoreline features	Generally wave formed, often sand, gravel or rock	Generally wave formed, often sand, gravel or rock	Generally dominated by emergents
Emergent vegetation & relative amount of open water*	Shoreline may have ring of emergents; vast majority of basin open water.	Emergents common, may cover much of fringe of lake; basin often has high percentage of open water.	Emergents often dominate much of basin; often minimal open water.
Submergent vegetation	Common in littoral fringe, extent dependent on transparency	Abundant in clear lakes; however may be lacking in algal-dominated turbid lakes.	Common unless dominated by an emergent like cattail.
Dissolved Oxygen	Aerobic epilimnion; hypolimnion often anoxic by midsummer	Aerobic epilimnion but wide diurnal flux possible	Diurnal flux & anaerobic conditions common
Fishery	Typically managed for a sport/game fishery. May be stocked. DNR fishery assessments typically available.	May or may not be managed for a sport fishery. If so, fishery assessment should be available. Winter aeration often used to minimize winterkill potential.	Typically not managed for a sport fishery. Little or no DNR fishery information. Seldom aerated. May be managed to remove fish & promote waterfowl.
Uses	Wide range of uses including boating, swimming, skiing, fishing; boat ramps & beaches common	Boating, fishing, waterfowl production, hunting, aesthetics; limited swimming; may have boat ramp, beaches uncommon	Waterfowl & wildlife production, hunting, aesthetics. Unimproved boat ramp if any. No beaches.

* Fetch and open water play a large role in these determinations.

Appendix E. Assessing and communicating the quality of waters that occur wholly or partially within federally recognized Tribal Nations

Goal: Work with Tribal Nations to monitor, assess, and communicate the quality of waters that are within, or partially within, the boundaries of Tribal Nations.

Several Tribal Nations have received EPA delegated authority of Treatment as a State (TAS) to establish WQS under CWA 303(c). These include Fond du Lac Band of Lake Superior Chippewa, Grand Portage Band of Lake Superior Chippewa, Leech Lake Band of Ojibwe, and Red Lake Band of Chippewa.

The MPCA will not identify on the State's Clean Water Act 303(d) Impaired Waters List submittal to the EPA any surface waterbody or stream section wholly within the exterior boundaries of a federally recognized Indian reservation[3] that meets the criteria for listing as impaired based on any such standard under State law.

The U.S. Census Bureau recognized boundaries are used to determine which waters are partially within reservation boundaries. The MPCA includes fee lands and parcels held in trust (tribal trust lands) in the definition of Indian reservation. The State and Tribal Nations have worked cooperatively on any water quality assessments where bodies of water are partially within Indian reservations, and agreed waters are included on the State's impaired waters list. Any waters that serve as a border between a Indian reservation and Minnesota land are not considered partially within. For the purposes of the 303(d) Impaired Waters List, the assessment of the portion of the water body within the reservation is advisory to EPA only, because EPA has stated that it does not approve the State's impaired waters listings for waters within the boundaries of an Indian reservation.

Table 29: Tribal Nation waters on the MN IWL

Boundaries	Wholly within	Partially within
As determined by the U.S. Census Bureau	Impairment determination not included on the IWL	Impairment determination included on the IWL

[3] *Language from EPA's Approval Letter of MPCA's 2018 Impaired Waters List "EPA's approval of Minnesota's Section 303(d) List extends to all water bodies on the list with the exception of those waters that are within Indian Country, as defined in 18 U.S.C. § 1151. EPA is taking no action to approve or disapprove the State's list with respect to those waters at this time. EPA, or eligible Indian Tribes, as appropriate, will retain responsibilities under CWA Section 303(d) for those waters".*

According to 33 U.S.C. 1377(e)(2) published in 81 FR 30183, 30191, May 16, 2016 "Many named Indian reservations were established through Federal treaties with Tribes, Federal statutes, or Executive orders of the President. Such reservations are often referred to as formal reservations. EPA's longstanding approach under the CWA and other statutes administered by EPA is that, in accordance with judicial precedent, the term "reservation" includes both formal reservations and informal reservations such as trust land that has been validly set apart for use by a Tribe even if such trust land is located outside of the exterior boundaries of a formally designated reservation. See 56 FR 64876, 64881, December 12, 1991; see also Oklahoma Tax Commission v. Citizen Band Potawatomi Indian Tribe of Oklahoma, 508 U.S. 114, 123 (1991) ("Congress has defined Indian country broadly to include formal and informal reservations, dependent Indian communities, and Indian allotments, whether restricted or held in trust by the United States"); HRI v EPA 198 F.3d 1224 (10th Cir. 2000) (same); Arizona Public Service Co. v EPA, 211 F.3d 1280 (D.C. Cir. 2000) (Upholding EPA's interpretation of "reservation" in the Clean Air Act as including tribal trust lands and pueblos, and noting that "[t]his view is consonant with other Federal court holdings that an Indian reservation includes trust lands."). An Indian Tribe that obtains EPA approval for TAS to administer a WQS program over its reservation is referred to as an "authorized Tribe."

The following represents the approach MPCA has taken in developing the 2024 impaired waters list, and will continue to take moving forward. However, MPCA will also consult with any Tribal nation that wishes to discuss whether their waters should be included on the IWL and may make changes to the approach based on the outcome of that consultation. Consultations will be held in accordance with Minnesota Statute 10.65 and agreed upon principles between the State and Tribal Nations.

- The MPCA continues to work with tribes in advance of water quality monitoring to agree on plans that include locations, parameters, roles, responsibilities, and processes.
- The MPCA invites Tribal Nation water resources staff to discuss the assessment results with the MPCA's watershed assessment team (WAT) – which occurs prior to any public notice.
- For waters deemed to be impaired that are partially within the boundaries of a federally recognized Indian reservation (but are not located wholly within a federally recognized Indian reservation, or serve as a border between a federally recognized Indian reservation and Minnesota land), the MPCA will include such waters on Minnesota's Impaired Waters List and include a notation with each that states the waterbody is partially within Indian reservation.
- Prior to putting the draft IWL on public notice, the MPCA will communicate with Tribal Nations any waters that are partially or wholly within reservation boundaries and determined to be impaired using state WQS.
- The MPCA and Tribal representatives will discuss and determine whether there is a mutual desire to cooperatively develop restoration and protection strategies, including TMDLs, for impaired waters that are partially or wholly within reservation boundaries.

Appendix F. Supplemental information on biological assessment in Minnesota

Basis for assessment of biological community

Assessment of the biological community for impairment is based on the narrative water quality standards (WQS) and assessment factors in Minn. R. 7050.0150. The most relevant part, Minn. R. 7050.0150, subp. 6 is quoted below:

Subp. 6. Impairment of biological community and aquatic habitat. In evaluating whether the narrative standards in subpart 3, which prohibit serious impairment of the normal aquatic biota and the use thereof, material alteration of the species composition, material degradation of stream beds, and the prevention or hindrance of the propagation and migration of aquatic biota normally present, are being met, the commissioner will consider all readily available and reliable data and information for the following factors of use impairment:

A. An index of biological integrity calculated from measurements of attributes of the resident fish community, including measurements of:
   1) *species diversity and composition;*
   2) *feeding and reproduction characteristics; and*
   3) *fish abundance and condition.*

B. An index of biological integrity calculated from measurements of attributes of the resident aquatic invertebrate community, including measurements of:
   1) species diversity and composition;
   2) feeding characteristics; and
   3) species abundance and condition.

C. An index of biological integrity calculated from measurements of attributes of the resident aquatic plant community, including measurements of:
   1) *species diversity and composition, including algae; and*

2) species abundance and condition.

D. A quantitative or qualitative assessment of habitat quality, determined by an assessment of:

1) stream morphological features that provide spawning, nursery, and refuge areas for fish and invertebrates;

2) bottom substrate size and variety;

3) variations in water depth;

4) sinuosity of the stream course;

5) physical or hydrological alterations of the stream bed including excessive sedimentation;

6) types of land use in the watershed; and

7) other scientifically accepted and valid factors of habitat quality.

E. Any other scientifically objective, credible, and supportable factors.

Finding an impaired condition must be supported by data for the factors listed in at least one of items A to C. The biological quality of any given surface water body will be assessed by comparison to the biological conditions determined by the commissioner using a biological condition gradient model or a set of reference water bodies which best represents the most natural condition for that surface water body type within a geographic region.

Additional language supporting the use of narrative WQS in wetlands is found in Minn. R. 7050.0222, subp. 6, which defines the protection of Class 2D waters (wetlands) as follow:

"The quality of Class 2D wetlands such as to permit the propagation and maintenance of a healthy community of aquatic and terrestrial species indigenous to wetlands, and their habitats. Wetlands also add to the biological diversity of the landscape. These waters shall be suitable for boating and other forms of aquatic recreation for which the wetland may be usable. This class of surface water is not protected as a source of drinking water. …"

In addition to the narrative language in rule, which supports assessment of biological communities and habitat, Minnesota rules also include numeric biological criteria for assessment of fish and macroinvertebrates in streams and rivers. These biocriteria are found in Minn. R. 7050.0222, subps. 2d, 3d, and 4d (Table 30). This rule language includes biocriteria values for both fish and macroinvertebrates, for different stream types and TALUs. Supporting documentation incorporated by reference into rule for these biocriteria are found in Minn. R. 7050.0222, subps. 2c, 3c, and 4c. These documents include fish and macroinvertebrate data collection protocols, IBI calculation, BCG model development, and biocriteria development for streams.

Table 30: Tiered aquatic life use (TALU) numeric biological criteria for the assessment of fish and macroinvertebrate communities in rivers and streams using the index of biological integrity or IBI

	Class	Class Name	Use Class	General (g) Use IBI Threshold	Exceptional (e) Use IBI Threshold	Modified (m) Use IBI Threshold	90% Confidence Limit (±)
Fish IBI Classes	1	Southern Rivers	2B	49	71		11
	2	Southern Streams	2B	50	66	35	9
	3	Southern Headwaters	2B	55	74	33	7
	4	Northern Rivers	2B	38	67		9
	5	Northern Streams	2B	47	61	35	9
	6	Northern Headwaters	2B	42	68	23	16
	7	Low Gradient	2B	42	70	15	10
	10	Southern Coldwater	2A	50	82		13
	11	Northern Coldwater	2A	35	60		10
Macroinvertebrate IBI Classes	1	Northern Forest Rivers	2B	49	77		10.8
	2	Prairie Forest Rivers	2B	31	63		10.8
	3	Northern Forest Streams RR	2B	53	82		12.6
	4	Northern Forest Streams GP	2B	51	76	37	13.6
	5	Southern Streams RR	2B	37	62	24	12.6
	6	Southern Forest Streams GP	2B	43	66	30	13.6
	7	Prairie Streams GP	2B	41	69	22	13.6
	8	Northern Coldwater	2A	32	52		12.4
	9	Southern Coldwater	2A	43	72		13.8

The aquatic life use-support assessment methodology described in this Guidance Manual fully supports the narrative and numeric standards in Minnesota rule and protects the biological integrity of rivers, streams, and wetlands by:

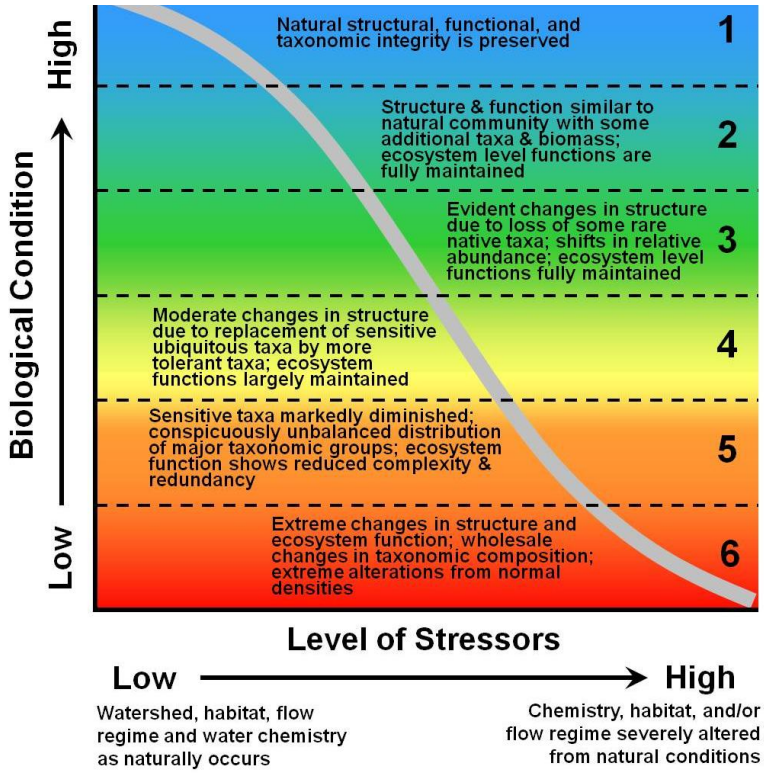
- Measuring attainment directly through sampling of the aquatic biota.
- Controlling biological and sampling variability through regionalization, classification and strict adherence to sampling protocol.
- Establishing impairment thresholds based on data collected from reference (least-disturbed) waters of the same class.
- Incorporating a confidence limit (based on the repeatability of the IBI) to account for variability within the aquatic community because of natural spatial and temporal differences and sampling or method errors.

Biological condition gradient

The Biological Condition Gradient (BCG) is a conceptual model of aggregated biological knowledge used to describe changes in biological communities along a gradient of increasing stress. This model is based on a combination of ecological theory and empirical knowledge. A number of indices have been developed to measure the biological condition in aquatic systems (e.g., IBI, RIVPACS; Karr et al. 1986, Hawkins et al. 2000, Whittier et al. 2007), but these measures are based on the available conditions that are used to develop the models. The BCG differs from these in that it provides a common “yardstick” of biological condition that is rooted in the natural condition. As a result, the BCG can be used to develop biocriteria that are consistent across regions and stream types in Minnesota. This is particularly important for a state such as Minnesota where the range of conditions are regionally distinct and extreme (i.e., relatively pristine to degraded). The BCG divides biological condition into six levels that are intended to be manageable and useful for water quality managers (see BCG model below). More detailed descriptions of the BCG can be found in EPA (2005) and Davies and Jackson (2006).

The development of the BCG models for warm water rivers and streams and lakes involved input from biological experts from the MPCA and DNR familiar with aquatic communities in Minnesota. BCG models were developed for fish and macroinvertebrates for each of the seven warm water stream classes and for four groups of lakes. A cold water BCG for streams was also developed and involved experts from Minnesota, Wisconsin, Michigan, and several tribes. In Minnesota, this included two classes each for fish and macroinvertebrates. Model development for each stream class involved reviewing biological community data from monitoring sites and then assigning that community to a BCG level (1-6). Similar model development was completed for lakes, utilizing the four lake groups. A sufficient number of samples were assessed to develop a model which can duplicate the panel's BCG level assignments. This model (Figure 9) was then used to assign BCG levels to all monitoring sites in MPCA's biological monitoring database for streams and MDNR's Lake Database for lakes.

Figure 9: Model used to assign BCG levels to Minnesota's biological monitoring sites



Selection of reference sites for rivers and streams

Minnesota has developed an index to measure *a priori* the degree of human disturbance at a stream class called the Human Disturbance Score (HDS) (Table 31). The HDS includes both watershed and reach level measures of human disturbance which when combined have a maximum score of 81. Metrics and scoring for Minnesota's Human Disturbance Score see Table 31 below). Reference sites were identified as those with an HDS score of 61 or greater (i.e., a 25% decline from the maximum score). Once sites were selected based on their HDS score, an additional filter was applied to remove sites disparately influenced by nearby stressors. All sites in close proximity to urban areas (site within or adjacent to urban area), feedlots (feedlot at or immediately upstream of site [only streams >50 mi^2]), or point sources (continuous point source <5 mi upstream of site) were removed. The remaining sites (i.e., those meeting the HDS threshold and meeting the proximity criteria) were considered to be minimally or least disturbed and therefore representative of attainment of Minnesota's aquatic life use goals. Reference sites were selected from each of the fish and macroinvertebrate classes and the 25th percentile of IBI scores was determined.

Table 31: Metrics and scoring for Minnesota's Human Disturbance Score

Human Disturbance Score Metric	Scale	Primary Metric or Adjustment	Maximum Score
Number of animal units per sq km	watershed	primary	10
Percent agricultural land use	watershed	primary	10
Number of point sources per square km	watershed	primary	10
Percent impervious surface	watershed	primary	10
Percent channelized stream per stream km	watershed	primary	10
Degree channelized at site	reach	primary	10
Percent disturbed riparian habitat	watershed	primary	10
Condition of riparian zone	reach	primary	10
Number of feedlots per sq km	watershed	adjustment	-1
Percent agricultural land use on >3% slope	watershed	adjustment	-1
Number of road crossings per sq km	watershed	adjustment	-1 or +1
Percent agricultural land use in 100m buffer	watershed	adjustment	-1
Feedlot adjacent to site	reach (proximity)	adjustment	-1
Point source adjacent to site	reach (proximity)	adjustment	-1
Urban land use adjacent to site	reach (proximity)	adjustment	-1
		Maximum	81

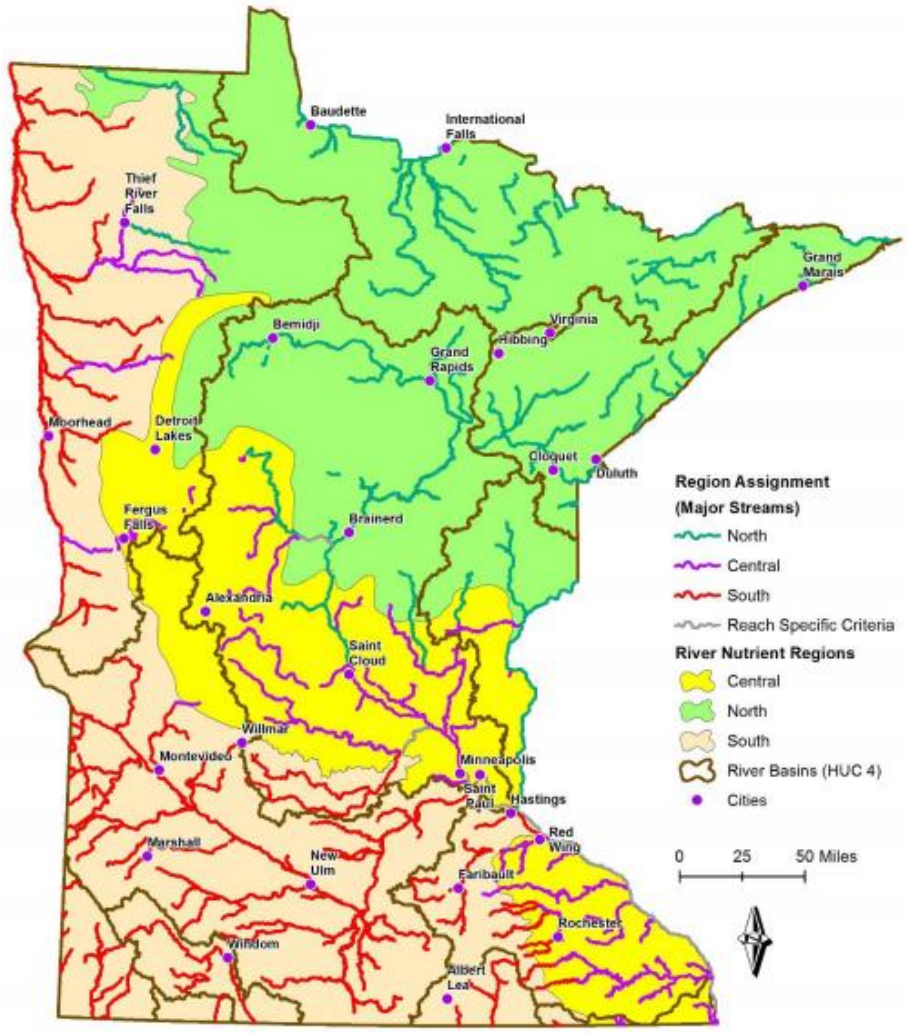
Appendix G. Supplemental information on river eutrophication assessment in Minnesota

The following information is intended to guide the completion of the river eutrophication assessments. This includes determination of the correct regional standard to apply, data requirements and summarization, and guidance for specific situations encountered during the assessments.

Assignment of regional standards

When an HUC-8 watershed is located wholly within a river nutrient region (RNR), or where a vast majority of the watershed is within a single RNR, the RNR assignment is made to the dominant RNR. When a HUC-8 is characterized by multiple RNRs, a closer inspection was required and 11-digit HUCs were incorporated into the mapping coverage to allow for refinement of boundaries to determine the appropriate RNR assignment. In a few instances, where two 8-digit HUCs meet prior to entering the major mainstem river (e.g., North Fork and South Fork Crow Rivers) a site-specific standard was required and these reaches are noted on the RNR map. The MPCA will update the RNR map as needed; Heiskary and Parson (2013) provide further details on the mapping approach.

Figure 10: Statewide River Nutrient Region map



During the assessment, the assigned RNR should be reviewed if there are questions regarding the WID classifications when a river flows from one RNR to the next or where adjacent or upstream/downstream WIDs have different RNR designations.

Minimum data requirements for total phosphorus (TP), chlorophyll-*a* (sestonic, corrected for pheophytin) or BOD_5 pH and periphyton chl-*a* (benthic, corrected for pheophytin)

The rule and the legal documents supporting and explaining the rule (SONAR Book 2, Minn. R. 7050, and Heiskary et. al. 2013) describe the following minimum data parameters:

- **Number of years**. Samples must be collected over a minimum of two years within the most recent 10-year time period (SONAR Book 2).
- **Time of year**. Data used for assessments must be collected from June to September (Minn. R. 7050).
- **Number of TP data points**. Based on a minimum of two years of monitoring, a minimum of six individual data points per summer for the causative variable TP must be collected (as noted in SONAR Book 2, pp. 81).
- **Response variables chlorophyll-a (chl-*a*), BOD5, pH**. In addition, the response variables chl-*a* or BOD5 or pH are collected concurrent with TP. A minimum of 12 measurements considering the above

minimum data requirements for the 10-year assessment period are required for an assessment to be conducted (SONAR Book 2). While this minimum will typically be achieved over two years of sampling, it may also be achieved by multiple years (e.g. three years with four samples per year).

The term "representative" is used repeatedly in these definitions and implies that samples are to be collected across the summer season so they "represent" the entire season. Since river flow varies during individual summers and among summers, it is assumed samples will be collected over a range of flows; hence, the need to collect multiple samples over each summer and the need for two or more years of sample collection. While no specific flows are established for (or prohibited from) sample collection, the river must exhibit some amount of unidirectional flow for samples to be collected. If flows are so low that water is pooled or stagnant at the sample site and there is no evident downstream flow, these conditions must be documented and samples should not be utilized for river eutrophication assessment.

Data requirements specific to diel dissolved oxygen flux assessment

Diel DO flux is measured by means of probes (also referred to as a sonde) that are deployed for a minimum of four consecutive days in the river reach (WID) being assessed. While these measures could be conducted at any time within the June through September timeframe, it is preferred that the measures be taken late summer from mid-July through August. Ideally, flows are relatively stable during the time the sonde is deployed. Due to interannual variability and the varied duration of single-year diel DO deployments, sonde deployments must meet the minimum deployment length and deployments must occur in a minimum of two summers in the assessment period to be considered representative of river conditions. Details on methods for collecting instrumented DO data for the calculation of diel DO flux are provided in technical support documents (Heiskary et al. 2013 and Heiskary and Markus 2003).

Determination of beneficial use assessment

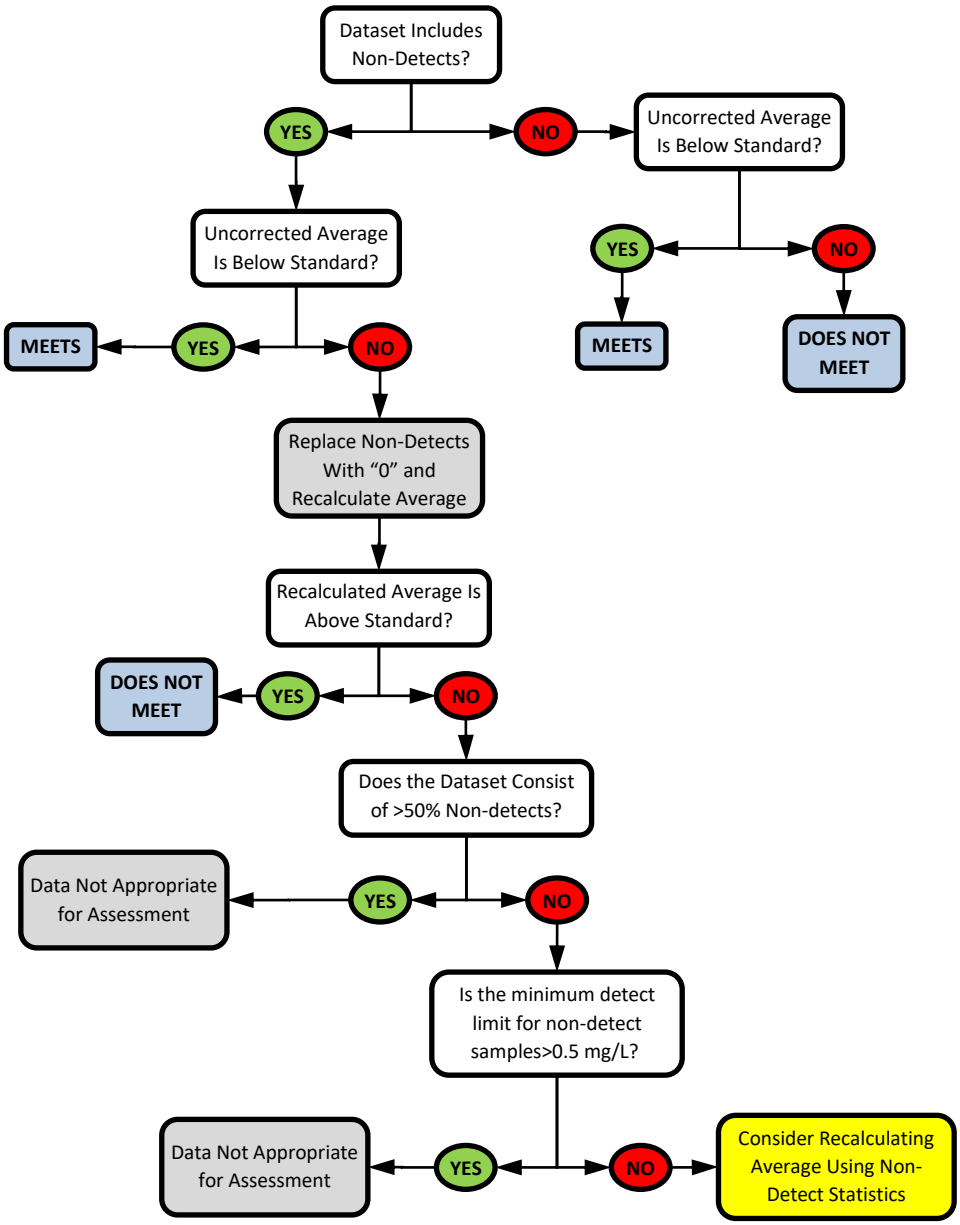
The final step in assessment is determining if the RES has been met or exceeded for the water body based on the data collected. Minnesota's RES is a two-part standard involving a causative variable (TP) and response variables that indicate the presence of eutrophication (i.e., undesirable levels of sestonic or suspended algae, benthic or attached algae, or excessive rooted vegetation). For assessment purposes this means the cause indicator (TP) and response indicators (chl-*a*, BOD_5, diel DO flux, pH, or periphyton) are used in combination and not independently. The eutrophication rule clearly states the requirement that cause and at least one response indicators must both be exceeded to indicate a polluted condition.

Assessment staff should use the following information when assessing water bodies for the river eutrophication standard:

- **Primary and supplementary assessment statistics**. For chl-*a* and BOD_5 data, as with TP data, summer-means for the entire 10-year assessment period are calculated from the available data and considered in the assessment. Supplementary statistics such as number of observations and standard error are also generated. These statistics can aid determinations when an WID is just above or just below the WQS or where stressor and response variables are not in full agreement.
- **Method detection limits (MDL) for BOD_5 data**. For most RES parameters, MDLs will not be an issue during assessments. For example, MDLs for TP (typically <10 µg/L) and chl-*a* (typically <0.5 µg/L) are well below the water quality standards (WQS) and less than values are uncommon. However, BOD_5 MDLs may vary among laboratories. MDL for BOD_5 data used in rule development was 0.5 mg/L (from MDH), which is well below the WQS. In other laboratories, the MDL may be 2.0 mg/L or higher. These MDLs are at or above the WQS for the North and Central RNRs and in some cases the South RNR. Following are cautions and considerations on the use of BOD_5 non-detect data in RES assessment (see also Figure 5). While BOD_5 is referred to specifically these considerations would also be applicable to TP and chl-*a* data where high MDLs were used and numerous non-detects are present in the assessment data.

1. If the BOD_5 average is above the WQS and there are no non-detects, then the parameter does not meet the WQS.
2. If the BOD_5 average is below the WQS, regardless of presence of non-detects, the parameter meets the WQS.
3. If the BOD_5 average is above the WQS and non-detects are present, there are several methods that can be used for assessment depending on the dataset. These methods should be followed in sequence.
4. If the BOD_5 average is above the WQS, but with more than 50% non-detects, the data is considered insufficient information.
5. If the BOD_5 average is above the WQS and 50% or fewer are non-detects then:
    a. Replace non-detects with "0" and recalculate the mean. If the recalculated mean is still above the standard, the concentration can be considered to exceed the standard. [The occurrence of non-detects in a dataset will increase the mean above the true value. This is because the reported non-detect value is higher than the true value. A simple method to determine if non-detects are potentially biasing the assessment is to use a best-case scenario. This is accomplished by replacing non-detects with "0" values. Since the true value is somewhere between the detection limit and "0", this recalculated represents the lowest possible mean value.]
    b. If replacing non-detects with "0" results in a recalculated mean that is below the standard, then more sophisticated mean estimation methods are required. If the BOD_5 data are critical to the assessment, advanced non-detect methods such as NADA in "R" may be required to allow for a more accurate estimate of the mean value. If the minimum detection limit for non-detect samples was greater than 0.5 mg/L, the data should not be used for assessment as such data was not used in the analysis for the WQS development.

Figure 11: Flow chart for addressing dataset containing non-detects



- **pH assessment.** Since pH assessments are based on the existing pH WQS, assessments should be done in accord with the existing methodology (i.e., the variable exceeds the standard if the data show a 10% exceedance of the WQS based on daily minimum and maximum measurements); however, pH data must be collected during the summer index period to be used as a part of RES assessment.
- **Periphyton assessment.** Due to the intensive nature of periphyton data collection it is likely assessment will be based on two sample events over two years. Multiple samples on the same day are averaged. If multiple samples occur on a reach in a given summer, the maximum daily average is used. The standard is exceeded if concentrations exceed 150 mg/m^2 more than one year in ten.
- **Diel DO flux assessment.** Diel DO flux values are calculated based on the difference between the daily maximum DO and the daily minimum DO. These daily flux values are averaged based on the number of days of measurement. Heiskary et al. (2013;) provides an example of how data can be assembled for RES assessment purposes. The resulting average diel DO flux measurement is then compared to the WQS to determine if this response variable is met or exceeded.

- **Exceedances of BOD_5 or diel dissolved oxygen flux caused by other factors.** Indirect response measures can be influenced by other factors, which must be considered during the assessment. As with all assessment parameters, each is individually reviewed to determine if the site location was appropriate, if flow conditions and sampling regime were representative (e.g., not biased by flood or drought), and to ensure that there are no quality assurance issues with the data (e.g., data out of hold time, sonde calibration issues). When reviewing BOD_5 data, the proximity to permitted facilities must be taken into account as data included in the assessment may be within the mixing zone of the facilities discharge. These locations should be reviewed to determine if the discharge is biasing the values. For diel DO flux, flow conditions during deployment should be examined to determine if flow conditions were not typical and impacted diel DO flux measurement.
- **Clear evidence of WQS exceedance.** WIDs exceed the RES if the causative variable (TP) exceeds the standard and one or more of the response variables (chl-*a*, BOD_5, diel DO flux, pH or periphyton) also exceed the standard. Such WIDs are impaired and the WID will be included on Minnesota's IWL. Not all response variables need to be present or in agreement for an exceedance to be determined.
- **Clear evidence of meeting the WQS.** An WID is meeting the RES if total phosphorus is meeting the standard. A determination of full support of the RES does not require response data to be present. However, if response variable data are present and assessable, a determination of full support requires that the response variables also meet the applicable standard. An WID can also be considered fully supporting if total phosphorus exceeds the threshold and all response variables can be assessed and they meet their respective standard.
- **Insufficient information to assess.** A determination of insufficient information will be assigned when:
    1. Insufficient data are present.
        a. Insufficient total phosphorus data available.
        b. Sufficient total phosphorus data are available and indicates exceedance of the standard, but no response variable data are present.
    2. Sufficient data for assessment exists, but there is a lack of confidence in the data (e.g., inappropriate laboratory methods, atypical flow conditions, inappropriate sample location).
- **Average concentrations near the standard.** WIDs where TP or response variable(s) are slightly above or slightly below the WQS require closer scrutiny of the data. A high standard error (SE), indicative of high variability in measurements, suggests the raw data should be reviewed to determine the frequency of elevated values. If TP ± SE is just above the WQS but response WQS are met, the reach is deemed supporting the WQS. If TP ± SE is just above the WQS and mean chl-*a,* BOD_5, diel flux or pH exceeds the WQS, the reach is deemed not supporting aquatic life use due to eutrophication. If the data are not representative, such as poor site placement (i.e., lake outlet, in mixing zone of permitted facility), data skewed by drought- or flood-biased samples, etc. the reach may be considered insufficient information to assess. If flow data are available, this may help place results in perspective. For example, if summer-mean chl-*a* is equal to the response WQS but collections were made only during high flow summers, it is likely chl-*a* would exceed in summers with lower flow and it may be reasonable to recommend listing the WID if TP exceeds as well. A recommendation of not listing may be reasonable if collections were made only during low flow summers.
- **Effect of impoundment (≥14-day residence time) upstream or within the WID.** An impoundment immediately upstream or in the WID may promote excessive algal growth even when TP meets the river eutrophication WQS. In instances like this, a decision may be needed as to whether the lake or river eutrophication WQS is most appropriate to address this situation. In cases where the upstream impoundment has been deemed a reservoir and was assessed as impaired (based on the lake eutrophication standard (LES)), the "assessment status" of the river WID may not affect the TMDL since the TMDL for the impoundment would likely address the river eutrophication issue.
- **Effect of impoundment (<14-day residence time) upstream or within the WID.** Very small or short residence time impoundments or wetland complexes on the mainstem of a river (residence time < 14

days at 122-day one in 10-year low flow) represent a special case and there is a need to determine the status of data collected from reaches affected by these impoundments or wetlands in terms of 1) whether or not the data are assessable, 2) which if any standard is appropriate, and 3) how it may influence a downstream portion of the WID. To determine if a river reach is impounded a review of dam location (DNR GIS layer), river morphology (aerial photos, site visits), water velocity, etc. will be used. The RES and LES standards were developed using data from un-impounded river stations and lakes that met the 14-day residence time threshold, respectively. These datasets did not include naturally or artificially impounded river reaches so the applicability of the either standard needs to be determined on a case-by-case basis. In most instances, best professional judgment will be used and documented to discern which standard is appropriate for the WID in question. However, in some cases there will not be sufficient supporting information to determine an appropriate standard and data from the impounded section will need to be flagged as supporting information only. When an WID includes data from both an impounded and un-impounded reaches, the data from the un-impounded reach may still be assessable against the RES standard.

- **Biased data.** As a part of the data review for assessments, RES datasets should be examined to identify possible biases resulting from irregular timing of sampling (e.g., samples weighted toward part of the year or to high flow events). If the data are not representative of the index period, a time-weighted average can be applied to correct this bias [note this procedure will only be needed when the bias is likely to have a significant impact on the assessment]. In addition to removing within-year temporal biases, the time-weighted average will also weight data from each year equally to reduce weighting toward years with larger sample sizes. However, caution should be used with data from years with few sample events (<4) or with data from only part of the year (e.g., only August samples). Years with only a single sample should be removed from the time-weighted calculation as the temporal weighting cannot be calculated for these years and the single sample would be given too much weight. Years with only two-three sample events should be scrutinized to determine how well the limited sample size reflects average annual conditions. These data may be removed or retained depending on this evaluation. Any data that are removed may still be useful as supporting information.

  A time-weighted average can be calculated using the following equation.

$$TWA = \frac{\sum_1^n c_i * t_i}{\sum_1^n t_i}$$

  where c_i = concentration for the i^{th} sample
  t_i = time window for the i^{th} sample

- **Site-specific standards option.** Sometimes it is more appropriate and information is available to derive standards based on information specific to an WID. Site-specific standards require public comment and must be sent to EPA for approval. Additional data collection work may be required to develop and adopt a proposed site-specific WQS. Once approved, the site-specific standard becomes the basis for assessing the condition of the WID.
- **Use of data near continuous discharging facilities.** BOD_5 and DO flux data from within five miles of a continuously discharging wastewater treatment facility (WWTF) are generally not valid for assessing RES. The intent of these response variables is to identify the presence of eutrophication (i.e., undesirable levels of sestonic or suspended algae, benthic or attached algae, or excessive rooted vegetation). Some river monitoring sites are too close to WWTF outfalls and are biased by dying microbial matter and not algae or rooted vegetation. A 2010 MPCA paper analyzed data and determined that in most instances, data from within five miles downstream of a facility may be

impacted by the effluent. As a result, it would not be appropriate to use these values in a RES assessment.

Mississippi navigational pool assessments

Navigational pool eutrophication assessments on the Mississippi River should be consistent with other 303(d) assessments; whereby the most recent 10 years of data would be used in the assessment. This should minimize the effect of any extreme high or low flow year and allow for a more comprehensive assessment of each assessment reach.

- Assessments will be based on monitoring data collected in the thalweg of the pools just upstream of the dam that forms the pool. The monitoring sites should be consistent with long-term monitoring sites employed by the Metropolitan Council (MCES) and USGS's Long Term Resource Monitoring Program (LTRMP) (see Table 28). The pool is designated as impaired if TP and chl-*a* exceed the WQS as noted in Table 8 of Heiskary and Wasley (2012).

Table 32: Station data used for Mississippi River pools assessments

Pool	WID	Stations used for standard development and assessment
Pool 1	07010206-814	MCES 847.7, EQuIS S004-276
Pool 2	07010206-814	MCES 815.6, EQuIS S000-068
Pool 3	07040001-531	LTRMP M796.9, MCES 796.9, EQuIS S005-179, S000-132
Pool 4/Lake Pepin	25-0001-00	LTRMP M766.0I, 771.2P, 775.6Q, 781.2O
Pool 5	07040003-627	LTRMP M738, EQuIS S000-287
Pool 6	07040003-627	EQuIS S000-095
Pool 7	07040006-515	LTRMP M701.1
Pool 8	07060001-509	LTRMP M679.5, EQuIS S000-094

- **Lake Pepin assessments**. Lake Pepin assessments will be based on fixed site monitoring data and incorporate the most recent 10 years of data. This data is collected at two sites in the upper segment and two sites in the lower segment of the lake and correspond to long-term sites that have been used by LTRMP and MPCA. Data from these four sites were the primary basis for listing Lake Pepin as impaired and supported much of the model development and testing. Data from all four sites are averaged for the assessment. Site maps and further description are found in Heiskary and Wasley (2011).

Special assessment situations related to RNR assignment

When assessments are made or new WIDs are established, there may be a need to assign new RNRs or to change an RNR designation because of new information that is gathered in the assessment process. This may occur as a part of the professional judgment group review, as a result of public comment, or in the course of TMDL development. In some instances, this may require some correction in RNR designation, while in others it may require development of a site-specific standard.

Some stream reaches may require site-specific standards within the context of the RNRs (Table 33). These situations most often occur when two similar order (sized) rivers from two different RNRs join prior to discharging to a major downstream, higher order river. For example, in adoption of the river eutrophication standards Exhibit EU-5 notes: *"In a few instances where two HUC-8s meet prior to entering the major mainstem river (e.g. North Fork and South Fork Crow Rivers) "blended" or site-specific standards are recommended and these reaches are noted on the RNR map."* Where and when such sites are identified in the future, the site-specific WQS for the causative variable (TP) is likely to be based on the midpoint between the values from the two contributing RNRs. The site-specific WQSs for the response variables will be based on

the midpoint between the WQS in Heiskary et al. 2013. This approach and values as noted in Table 24 of Heiskary et al. 2013 should be applicable in other instances where this may occur.

Table 33. Minnesota's site-specific river eutrophication standards

	Causative	Response (stress)		
Region or river	**Total phosphorus µg/L**	**Chlorophyll-*a* (seston) µg/L**	**Diel dissolved oxygen flux mg/L**	**Biological oxygen demand mg/L**
Mississippi River Navigational Pool 1	100	35		
Mississippi River Navigational Pool 2	125	35		
Mississippi River Navigational Pool 3	100	35		
Lake Pepin (Mississippi River Navigational Pool 4)	100	28		
Mississippi River Navigational Pools 5 to 8	100	35		
Crow Wing River from Long Prairie River to the Mouth of the Crow Wing River	75	13	3.5	1.7
Crow River from the confluence of the North Fork and South Fork of the Crow River to the mouth of the Crow River	125	27	4.0	2.5

Appendix H: Waters used for production of wild rice

Introduction

The MPCA recognizes wild rice as a culturally significant resource in Minnesota, especially to the Ojibwe and Dakota people, and acknowledges the need to protect this grain from adverse impacts specifically due to sulfate pollution. The MPCA is committed to identifying wild rice producing waters of the state to better implement state water quality standards and protect this precious resource. Recognizing these waters is a critical aspect in providing clarity as to where the Class 4A wild rice sulfate standard is applicable and determining impacts to permitting and assessment protocols and implementation. The MPCA recognizes the difficulty and costs to control sulfate and wants to ensure that sulfate treatment on discharges is being applied where it is crucial to protect wild rice.

Beneficial use

Even though every water in the state is designated as Class 4A, the 10 mg/L sulfate standard is only "applicable to water used for production of wild rice…" (Minn. R. 7050.0224, subp. 2). This language results in the need for a determination of whether the Class 4A 'water used for production of wild rice' use is applicable, which has been a significant obstacle to appropriately implementing the existing sulfate standard. At this time, MPCA proposes to establish a formal list of approximately 2,400 waters to be recognized as waters used for production of wild rice under Minn. R. 7050.0224, subp. 2.

The MPCA is taking an expansive approach for identifying waters used for production of wild rice, recognizing that water quality standard protections should be extended to more waters than had been previously recognized. Federal regulations state that "a water quality standard defines the water quality *goals* of a water body …" (40 CFR 131.2) and that "designated uses are those specified in water quality standards for each water body or segment *whether or not they are being attained*" (40 CFR 131.3(f)) (*emphasis added*). Consistent with these regulations, MPCA has the authority to define where designated uses should be applied even if the use has yet to be attained. Thus, the list of waters used for production of wild rice includes

waterbodies that we consider to be either an existing wild rice use or those with a demonstrated potential to support sufficient wild rice to attain the beneficial use in the future.

For example, some waterbodies on the waters used for production of wild rice list have extensive harvest records or other data demonstrating sufficient wild rice support for the Class 4A wild rice use to be considered an existing use for CWA purposes, i.e., "uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards" (40 CFR 131.3(e)).

In addition, waterbodies with documentation of minimal stands or sparse rice that have not and are not currently meeting the use could, in the future, be home to sufficient wild rice to attain the Class 4A wild rice use. Thus, these identified waterbodies will also be considered waters used for production of wild rice. Including these waters on the waters used for production of wild rice list furthers MPCA's goals of wild rice protection in the state.

This approach recognizes the often-cyclical pattern of wild rice growth and high degree of natural variability in wild rice population sizes and does not require a specific population-size or -density threshold to be met to include a waterbody in the list of waters used for the production of wild rice. The MPCA has instead determined that documentation of wild rice presence – whether through observations or measurements of spatial extent, history of harvest, or collections of data on other suitable wild rice growth metrics – is sufficient to consider that waterbody a water used for the production of wild rice.

The MPCA is therefore applying the Class 4A wild rice beneficial use to waters with documented wild rice presence, current or historical, because it shows the beneficial use either has occurred and is an existing use or there is a demonstrated potential to support sufficient wild rice for the beneficial use to be met in the future.

Inventory of 'waters used for production of wild rice'

The MPCA chose to include the list here because the Guidance Manual is a key place for discussing beneficial uses, is regularly updated, and goes through public notice and comment, which will also support the addition of future waters.

The list of waters used for production of wild rice are based on an extensive review of primary sources across the state identifying waters with documented wild rice. MPCA is relying on information collected for the 2017 proposed Class 4 sulfate rulemaking and is not attempting to undertake a detailed re-review or develop a new list in its entirety. MPCA is including the full database of potential waters from the 2017 rulemaking as waters used for production of wild rice to which the Class 4A wild rice sulfate standard will apply. Minor changes were made to the list based on comments in the 2017 rulemaking, and those minor changes are carried through.

The MPCA used evidence that demonstrated wild rice presence via written or oral histories, written harvest records, photographs, aerial surveys, field surveys, and other quantitative or qualitative information that provides a reasonable basis to conclude that wild rice has been present and thus should be protected.

The comprehensive waters used for production of wild rice list is based on the following primary sources:

- Natural Wild Rice in Minnesota – A Wild Rice Study Report to the Legislature (2008),
- MDNR Wild Rice Harvester Survey Report (2007),
- Minnesota Wild Rice Management Workgroup List of 350 Important Wild Rice Waters (2010),
- 1854 Treaty Authority List of Wild Rice Waters,
- MDNR Aquatic Plant Management Database,
- MPCA Biomonitoring Field Sites,
- University of MN/MPCA Wild Rice Study Field Survey Sites,

- Minnesota Biological Survey Database,
- MPCA call for data,
- Permittee Monitoring Reports,
- [WR] Waters (Minn. R. 7050.0470),
- Waters identified by MDNR in 2015 as wild rice waters, and
- Waters identified through MPCA review of various water surveys.

Additional information on evidence used to create this inventory is available upon request.

The MPCA recognizes that this list is a starting point and anticipates future requests to include additional waters in the waters used for production of wild rice list. We ask that interested parties submit requests during the public notice period regarding waters they would like to see included along with evidence that would support a decision to apply the waters used for production of wild rice use. Given the time and resources necessary to make those determinations, submitted information will be reviewed during the two years between Guidance Manual publications. Any waters used for production of wild rice list addition requests will be evaluated on a case-by-case basis considering the evidence received and information about the waterbody that demonstrates either an existing use or potential future attainment of the Class 4A wild rice beneficial use. Waterbodies that MPCA determines are appropriate to receive the Class 4A wild rice use will be added to the waters used for production of wild rice list during the 2026 impaired waters list cycle.

Included below is the comprehensive list of waters that MPCA classifies as waters used for production of wild rice. Since this Assessment Guidance Manual outlines how the MPCA assesses waterbodies and discusses beneficial uses, the waters used for production of wild rice inventory will temporarily live in this document. The list of waters used for production of wild rice is also available on MPCA's website at: https://www.pca.state.mn.us/air-water-land-climate/protecting-wild-rice-waters.

Wild rice records on waters that were not able to be linked with a WID were not included in MPCA's inventory. Waters that have shared state and Tribal jurisdiction are labeled as either "wholly" or "partially" within Tribal boundaries. These waters will be included in the waters used for production of wild rice list and considered in relevant program areas.

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
01-0001-00	Pine	Lake	Kettle River	07030003	Aitkin
01-0002-00	Split Rock	Lake	Kettle River	07030003	Aitkin
01-0005-00	Rice	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0009-00	Douglas	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0010-00	Nelson	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0014-00	Savanna	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0016-00	Little Prairie	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0017-00	Stony	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0019-00	Wolf	Lake	St. Louis River	04010201	Aitkin
01-0020-00	Unnamed	Lake	St. Louis River	04010201	Aitkin
01-0023-00	Round	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0029-00	Mud	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0031-00	Anderson	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0033-00	Minnewawa	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0034-00	Horseshoe	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0035-00	Mud	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0040-00	Aitkin	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0042-00	Glacier	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0046-00	Ball Bluff	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0052-00	Little Red Horse	Lake	Mississippi River - Grand Rapids	07010103	Aitkin

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
01-0053-00	Rat House	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0055-00	Boot	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0058-00	Vanduse	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0059-00	Hay	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0060-00	Sandy River	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0061-00	Flowage	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0062-00	Big Sandy	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0064-00	Bear	Lake	Snake River - St. Croix Basin	07030004	Aitkin
01-0065-00	Cedar	Lake	Rum River	07010207	Aitkin
01-0067-00	Rice	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0068-00	Mandy	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0069-00	Portage	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0070-00	Round	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0071-01	Davis (Main Bay)	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0071-02	Steamboat	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0072-00	Rock	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0074-00	Turner	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0076-00	Sanders	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0077-00	Rat	Lake	Mississippi River - Grand Rapids	07010103	Aitkin

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
01-0078-00	Brown	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0084-00	Sugar	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0085-00	Twenty	Lake	Rum River	07010207	Aitkin
01-0086-00	Deer	Lake	Rum River	07010207	Aitkin
01-0087-00	Sugar	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0088-00	Lily	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0089-00	Long	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0092-00	Swamp	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0093-00	Clear	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0096-00	Dam	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0097-00	Newstrom	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0098-00	Camp	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0099-00	Gun	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0100-00	Jenkins	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0101-00	Long	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0102-00	Wilkins	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0105-00	Fleming	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0106-00	Clear	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0107-00	Red	Lake	Mississippi River - Grand Rapids	07010103	Aitkin

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
01-0110-00	Studhorse	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0111-00	Washburn	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0115-00	Section Ten	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0120-00	Section Twelve	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0123-00	Elm Island	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0124-00	Sixteen	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0126-00	Monson	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0127-00	Section 25	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0129-00	Sissabagamah	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0131-00	Johnson	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0134-00	Sitas	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0136-00	Waukenabo	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0137-00	Round	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0138-00	Kingsley Pothole	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0140-00	Moose	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0146-00	Ripple	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0148-00	White Elk	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0149-00	Mallard	Lake	Mississippi River - Brainerd	07010104	Aitkin

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
01-0151-00	Spruce	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0154-00	Horseshoe	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0156-00	Spectacle	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0159-00	Farm Island	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0161-00	Hammal	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0170-00	Hanging Kettle	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0171-00	Diamond	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0174-00	Thornton	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0176-00	Little Pine	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0178-00	Spirit	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0179-00	Hickory	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0188-00	Blind	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0189-00	Cartie	Lake	Mississippi River - Brainerd	07010104	Aitkin; Crow Wing
01-0194-00	Mud	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0197-00	Little McKinney	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0199-00	McKinney	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0200-00	Shovel	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0204-00	Round	Lake	Rum River	07010207	Aitkin; Crow Wing

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
01-0206-00	Birch	Lake	Mississippi River - Brainerd	07010104	Aitkin; Crow Wing
01-0209-01	Cedar (Main Basin)	Lake	Mississippi River - Brainerd	07010104	Aitkin; Crow Wing
01-0209-02	Cedar (N.E. Arm)	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0209-03	Cedar (West Bay)	Lake	Mississippi River - Brainerd	07010104	Crow Wing
01-0212-00	Moulton	Lake	Pine River	07010105	Aitkin; Crow Wing
01-0238-00	Killroy	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0262-00	Unnamed	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0283-00	Krilwitz	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0285-00	Unnamed	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0287-00	West	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0314-00	Unnamed	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0316-00	Sjodin	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0331-00	Upper Blind	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0332-00	Unnamed	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0358-00	Moose River Pool	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0372-00	Unnamed	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0383-00	Jewett WMA Impoundment	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0410-00	Kimberly WMA Impound.	Lake	Mississippi River - Brainerd	07010104	Aitkin

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
01-0411-00	Kimberly WMA Impound.	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0413-00	Unnamed	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0415-00	Salo WMA Impoundment	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0419-00	Unnamed	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0420-00	Unnamed	Lake	Mississippi River - Brainerd	07010104	Aitkin
01-0427-00	Cornish Impoundment	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0431-00	Unnamed	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0433-00	Little Hill Impound.	Lake	Mississippi River - Grand Rapids	07010103	Aitkin
01-0450-00	Unnamed	Lake	Mississippi River - Brainerd	07010104	Aitkin
02-0008-00	Rice	Lake	Mississippi River - Twin Cities	07010206	Anoka
02-0014-00	Amelia	Lake	Mississippi River - Twin Cities	07010206	Anoka
02-0015-00	Rondeau	Lake	Mississippi River - Twin Cities	07010206	Anoka
02-0020-00	East Twin	Lake	Lower St. Croix River	07030005	Anoka
02-0028-00	Boot	Lake	Lower St. Croix River	07030005	Anoka
02-0029-00	Unnamed	Lake	Lower St. Croix River	07030005	Anoka
02-0030-00	Unnamed	Lake	Lower St. Croix River	07030005	Anoka
02-0031-00	Unnamed	Lake	Lower St. Croix River	07030005	Anoka
02-0032-00	Little Coon	Lake	Lower St. Croix River	07030005	Anoka
02-0033-00	West Twin	Lake	Lower St. Croix River	07030005	Anoka
02-0043-00	Rice	Lake	Lower St. Croix River	07030005	Anoka
02-0059-00	Deer	Lake	Rum River	07010207	Anoka
02-0065-00	Fish	Lake	Rum River	07010207	Anoka
02-0092-00	Grass	Lake	Rum River	07010207	Anoka

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
02-0096-00	Hickey	Lake	Rum River	07010207	Anoka
02-0098-00	Swan	Lake	Rum River	07010207	Anoka
02-0101-00	Unnamed	Lake	Rum River	07010207	Anoka
02-0106-00	Norris	Lake	Rum River	07010207	Anoka
02-0113-00	Grass	Lake	Rum River	07010207	Anoka
02-0130-00	Pickerel	Lake	Rum River	07010207	Anoka
02-0493-00	Unnamed	Lake	Lower St. Croix River	07030005	Anoka; Chisago
02-0496-00	Unnamed	Lake	Lower St. Croix River	07030005	Anoka
02-0497-00	Unnamed	Lake	Lower St. Croix River	07030005	Anoka
02-0504-00	Unnamed	Lake	Lower St. Croix River	07030005	Anoka
02-0505-00	Unnamed	Lake	Lower St. Croix River	07030005	Anoka
02-0508-00	Unnamed	Lake	Lower St. Croix River	07030005	Anoka
02-0520-00	Unnamed	Lake	Mississippi River - Twin Cities, Lower St. Croix River	07010206, 07030005	Anoka
02-0529-00	Unnamed	Lake	Mississippi River - Twin Cities	07010206	Anoka
03-0004-00	Knutson	Lake	Crow Wing River	07010106	Becker
03-0005-00	Shipman	Lake	Crow Wing River	07010106	Becker
03-0007-00	Blueberry	Lake	Crow Wing River	07010106	Becker
03-0008-00	Unnamed	Lake	Crow Wing River	07010106	Becker
03-0009-00	Little Long	Lake	Crow Wing River	07010106	Becker
03-0016-00	Mud	Lake	Crow Wing River	07010106	Becker
03-0017-00	Two Inlets	Lake	Crow Wing River	07010106	Becker
03-0022-00	Little Mud	Lake	Crow Wing River	07010106	Becker
03-0023-00	Mud	Lake	Crow Wing River	07010106	Becker
03-0032-00	Hernando DeSoto	Lake	Mississippi River - Headwaters	07010101	Becker
03-0033-00	Twin Island	Lake	Crow Wing River	07010106	Becker
03-0039-00	Abners	Lake	Crow Wing River	07010106	Becker
03-0042-00	Kane	Lake	Crow Wing River	07010106	Becker
03-0044-00	Dinner	Lake	Crow Wing River	07010106	Becker

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
03-0045-00	Little Dinner	Lake	Crow Wing River	07010106	Becker
03-0065-00	Elbow	Lake	Crow Wing River	07010106	Becker
03-0066-00	Gyles	Lake	Crow Wing River	07010106	Becker
03-0067-00	Mud	Lake	Crow Wing River	07010106	Becker
03-0082-00	Wahbegon	Lake	Crow Wing River	07010106	Becker
03-0085-00	Bad Medicine	Lake	Crow Wing River	07010106	Becker
03-0087-00	Unnamed	Lake	Crow Wing River	07010106	Becker
03-0088-00	Bass	Lake	Crow Wing River	07010106	Becker
03-0090-00	Kneebone	Lake	Crow Wing River	07010106	Becker
03-0092-00	Basswood	Lake	Crow Wing River	07010106	Becker
03-0096-00	Big Basswood	Lake	Crow Wing River	07010106	Becker
03-0101-00	Wolf	Lake	Redeye River	07010107	Becker
03-0102-00	Shell	Lake	Crow Wing River	07010106	Becker
03-0103-00	Big Rush	Lake	Crow Wing River	07010106	Becker
03-0104-00	Aspinwall	Lake	Crow Wing River	07010106	Becker
03-0107-00	Toad	Lake	Otter Tail River	09020103	Becker
03-0108-00	Sieverson	Lake	Otter Tail River	09020103	Becker
03-0120-00	Mud	Lake	Crow Wing River	07010106	Becker
03-0123-00	Jones	Lake	Crow Wing River	07010106	Becker
03-0124-00	Dumbbell	Lake	Crow Wing River	07010106	Becker
03-0127-00	Bass	Lake	Crow Wing River	07010106	Becker
03-0136-00	Juggler	Lake	Otter Tail River	09020103	Becker
03-0140-00	Unnamed	Lake	Otter Tail River	09020103	Becker
03-0151-00	Camp Seven	Lake	Otter Tail River	09020103	Becker
03-0153-00	Island	Lake	Otter Tail River	09020103	Becker
03-0155-00	Round	Lake	Otter Tail River	09020103	Becker
03-0157-00	Tea Cracker	Lake	Otter Tail River	09020103	Becker
03-0158-00	Many Point	Lake	Otter Tail River	09020103	Becker
03-0159-00	Elbow	Lake	Otter Tail River	09020103	Becker
03-0160-00	Dead	Lake	Otter Tail River	09020103	Becker; Otter Tail
03-0166-00	Hungry	Lake	Otter Tail River	09020103	Becker

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
03-0173-00	Rice	Lake	Otter Tail River	09020103	Becker
03-0175-00	Unnamed	Lake	Otter Tail River	09020103	Becker
03-0176-00	Unnamed	Lake	Otter Tail River	09020103	Becker
03-0177-00	Hanson	Lake	Otter Tail River	09020103	Becker
03-0184-00	Alvin	Lake	Otter Tail River	09020103	Becker
03-0185-00	Unnamed	Lake	Otter Tail River	09020103	Becker
03-0187-00	Mud	Lake	Otter Tail River	09020103	Becker
03-0188-00	Little Mud	Lake	Otter Tail River	09020103	Becker
03-0189-00	Little Toad	Lake	Otter Tail River	09020103	Becker
03-0195-00	Height of Land	Lake	Otter Tail River	09020103	Becker
03-0196-00	Chippewa	Lake	Otter Tail River	09020103	Becker
03-0197-00	Blackbird	Lake	Otter Tail River	09020103	Becker
03-0198-00	Booth	Lake	Otter Tail River	09020103	Becker
03-0199-00	Johnson	Lake	Otter Tail River	09020103	Becker
03-0200-00	Pine	Lake	Buffalo River	09020106	Becker
03-0201-00	Rice	Lake	Otter Tail River	09020103	Becker
03-0206-00	Upper Egg	Lake	Otter Tail River	09020103	Becker
03-0209-00	Carman	Lake	Otter Tail River	09020103	Becker
03-0210-00	Lower Egg	Lake	Otter Tail River	09020103	Becker
03-0212-00	Bush	Lake	Otter Tail River	09020103	Becker
03-0213-00	Waboose	Lake	Otter Tail River	09020103	Becker
03-0214-00	Spindler	Lake	Otter Tail River	09020103	Becker
03-0216-00	Winter	Lake	Otter Tail River	09020103	Becker
03-0217-00	Little Flat	Lake	Otter Tail River	09020103	Becker
03-0219-00	Equay	Lake	Otter Tail River	09020103	Becker
03-0239-00	Little Rice	Lake	Otter Tail River	09020103	Becker
03-0240-00	Hubbel Pond	Lake	Otter Tail River	09020103	Becker
03-0241-01	South Tamarack	Lake	Buffalo River	09020106	Becker
03-0241-02	North Tamarack	Lake	Buffalo River	09020106	Becker
03-0242-00	Flat	Lake	Otter Tail River	09020103	Becker
03-0243-00	Mary Yellowhead	Lake	Buffalo River	09020106	Becker

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
03-0246-00	Big Rat	Lake	Wild Rice River	09020108	Becker
03-0258-00	Acorn	Lake	Otter Tail River	09020103	Becker
03-0263-00	Trieglaff	Lake	Otter Tail River	09020103	Becker
03-0264-00	Town	Lake	Otter Tail River	09020103	Becker
03-0266-00	Albertson	Lake	Otter Tail River	09020103	Becker
03-0268-00	Unnamed	Lake	Otter Tail River	09020103	Becker
03-0277-00	St. Patrick	Lake	Otter Tail River	09020103	Becker
03-0278-00	Schultz	Lake	Otter Tail River	09020103	Becker
03-0285-00	Rice	Lake	Otter Tail River	09020103	Becker
03-0286-00	Cotton	Lake	Otter Tail River	09020103	Becker
03-0291-00	Rice	Lake	Buffalo River	09020106	Becker
03-0292-00	Balsam	Lake	Buffalo River	09020106	Becker
03-0293-00	Rock	Lake	Buffalo River	09020106	Becker
03-0302-00	Little Round	Lake	Buffalo River	09020106	Becker
03-0304-00	Big Sugar Bush	Lake	Buffalo River	09020106	Becker
03-0312-00	Bullhead	Lake	Buffalo River	09020106	Becker
03-0313-00	Little Sugar Bush	Lake	Buffalo River	09020106	Becker
03-0318-00	Eagen	Lake	Buffalo River	09020106	Becker
03-0323-00	Strawberry	Lake	Wild Rice River	09020108	Becker
03-0328-00	White Earth	Lake	Wild Rice River	09020108	Becker; Mahnomen
03-0332-00	Bass	Lake	Wild Rice River	09020108	Becker
03-0334-00	Net	Lake	Wild Rice River	09020108	Becker
03-0337-00	Little Bass	Lake	Wild Rice River	09020108	Becker
03-0346-00	Cabin	Lake	Wild Rice River	09020108	Becker
03-0350-00	Buffalo	Lake	Buffalo River	09020106	Becker
03-0359-00	Sallie	Lake	Otter Tail River	09020103	Becker
03-0365-00	Senical	Lake	Otter Tail River	09020103	Becker
03-0371-00	Meadow	Lake	Otter Tail River	09020103	Becker
03-0374-01	Johnson	Lake	Otter Tail River	09020103	Becker
03-0374-02	Reeves	Lake	Otter Tail River	09020103	Becker
03-0381-00	Detroit	Lake	Otter Tail River	09020103	Becker

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
03-0383-00	Long	Lake	Otter Tail River	09020103	Becker
03-0386-00	Little Floyd	Lake	Otter Tail River	09020103	Becker
03-0387-01	Mud	Lake	Otter Tail River	09020103	Becker
03-0387-02	Floyd (south bay)	Lake	Otter Tail River	09020103	Becker
03-0388-00	Tamarack	Lake	Otter Tail River	09020103	Becker
03-0411-00	Bean	Lake	Otter Tail River	09020103	Becker
03-0412-00	Halverson	Lake	Otter Tail River	09020103	Becker
03-0419-00	Campbell	Lake	Otter Tail River	09020103	Becker
03-0430-00	St. Clair	Lake	Buffalo River	09020106	Becker
03-0434-00	Unnamed	Lake	Buffalo River	09020106	Becker
03-0475-00	Melissa	Lake	Otter Tail River	09020103	Becker
03-0480-00	Bass	Lake	Otter Tail River	09020103	Becker
03-0486-00	Pearl	Lake	Otter Tail River	09020103	Becker
03-0489-00	Loon	Lake	Otter Tail River	09020103	Becker
03-0500-00	Maud	Lake	Otter Tail River	09020103	Becker
03-0503-00	Eunice	Lake	Otter Tail River	09020103	Becker
03-0575-00	Leif	Lake	Otter Tail River	09020103	Becker
03-0576-00	Big Cormorant	Lake	Otter Tail River	09020103	Becker
03-0577-00	Dahlberg	Lake	Otter Tail River	09020103	Becker
03-0582-00	Ida	Lake	Otter Tail River	09020103	Becker; Otter Tail
03-0588-00	Upper Cormorant	Lake	Otter Tail River	09020103	Becker
03-0598-00	Unnamed	Lake	Otter Tail River	09020103	Becker
03-0599-00	Unnamed	Lake	Otter Tail River	09020103	Becker
03-0600-00	Unnamed	Lake	Otter Tail River	09020103	Becker
03-0638-00	Bijou	Lake	Otter Tail River	09020103	Becker
03-0659-00	Sand	Lake	Buffalo River	09020106	Becker; Clay
03-0660-01	Axberg(Main Basin)	Lake	Buffalo River	09020106	Becker; Clay
03-0660-02	Axberg(West Basin)	Lake	Buffalo River	09020106	Clay

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
03-0716-00	Unnamed	Lake	Otter Tail River	09020103	Becker
03-0776-00	Unnamed	Lake	Otter Tail River	09020103	Becker
03-0786-00	Unnamed	Lake	Crow Wing River	07010106	Becker
03-1093-00	Unnamed	Lake	Otter Tail River	09020103	Becker
03-1284-00	Unnamed - Osprey Pond	Lake	Otter Tail River	09020103	Becker
03-1285-00	Unnamed - Myrel's Pond	Lake	Otter Tail River	09020103	Becker
03-1286-00	Unnamed - Trout Pond	Lake	Otter Tail River	09020103	Becker
03-1287-00	Sexton	Lake	Crow Wing River	07010106	Becker
04-0001-00	Burns	Lake	Mississippi River - Headwaters	07010101	Beltrami; Itasca
04-0002-00	Bullhead	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0007-00	Kitchi	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0009-00	Preston	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0010-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0011-00	Moose	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0015-00	Little Rice	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0016-00	Little Gilstad	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0017-00	Chinaman	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0020-00	Gimmer	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0021-00	Baumgartner	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0023-00	Holland	Lake	Mississippi River - Headwaters	07010101	Beltrami

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
04-0024-00	Gilstad	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0027-00	Borden	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0029-00	Norman	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0030-00	Cass	Lake	Mississippi River - Headwaters	07010101	Beltrami; Cass
04-0031-00	Big Rice	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0032-00	Pimushe	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0033-00	Benjamin	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0034-00	Rabideau	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0035-01	RED (UPPER RED)	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0035-02	RED (LOWER RED)	Lake	Upper/Lower Red Lake	09020302	Beltrami; Clearwater
04-0038-00	Andrusia	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0042-00	Buck	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0049-00	Big	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0050-00	Meadow	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0051-00	Flora	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0052-00	Jessie	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0054-00	Muskrat	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0056-00	Carter	Lake	Mississippi River - Headwaters	07010101	Beltrami

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
04-0057-00	Nelson	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0058-00	Carla	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0059-00	Rice Pond	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0060-00	Fagen	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0064-00	Gull	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0067-00	Dutchman	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0068-01	Erickson (NW Portion)	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0068-02	Erickson (SE Portion)	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0069-00	Blackduck	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0070-00	Crandall	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0073-00	Funk	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0075-00	Roadside	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0079-00	Wolf	Lake	Mississippi River - Headwaters	07010101	Beltrami; Hubbard
04-0080-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0085-00	Swenson	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0089-00	Ose	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0090-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0100-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Beltrami

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
04-0103-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0106-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0111-00	Turtle River	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0112-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0114-00	School	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0117-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0119-00	Peterson	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0120-00	Gull	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0121-00	Rice	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0122-00	Medicine	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0123-00	Cranberry	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0130-01	Stump	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0130-02	Bemidji (main lake)	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0131-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0134-00	Three Island	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0135-00	Beltrami	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0140-00	Irving	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0141-00	Carr	Lake	Mississippi River - Headwaters	07010101	Beltrami

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
04-0142-00	Marquette	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0144-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0146-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0151-00	Alice	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0152-00	Movil	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0153-00	Lindgren	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0155-00	Little Turtle	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0159-00	Turtle	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0162-00	Fox	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0166-00	Julia	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0168-00	Polly Wog	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0170-00	Little Rice	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0174-00	Rice	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0175-00	George	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0177-00	Peterson	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0179-00	Upper Lindgren	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0191-00	Bass	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0196-00	Campbell	Lake	Mississippi River - Headwaters	07010101	Beltrami

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
04-0197-00	Little Puposky	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0198-00	Puposky	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0202-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0203-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0211-00	Bootleg	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0216-00	Grass	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0217-00	Grant	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0220-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0227-00	Long	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0229-00	Erick	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0230-00	Deer	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0232-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0235-00	Peterson	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0240-00	Muskrat	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0241-00	Grenn	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0250-00	Rice	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0253-00	Unnamed	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0265-00	Island	Lake	Upper/Lower Red Lake	09020302	Beltrami

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
04-0267-00	Ten Mile	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0271-00	Heart	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0286-00	Manomin	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0300-00	Whitefish	Lake	Clearwater River	09020305	Beltrami
04-0301-00	Unnamed	Lake	Clearwater River	09020305	Beltrami
04-0309-00	Whitefish	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0327-00	Barr	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0329-00	Balm	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0331-00	Dellwater	Lake	Upper/Lower Red Lake	09020302	Beltrami
04-0342-00	Moose	Lake	Mississippi River - Headwaters	07010101	Beltrami; Clearwater
04-0343-00	Clearwater	Lake	Clearwater River	09020305	Beltrami; Clearwater
04-0359-00	Little Rabideau	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0370-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0460-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Beltrami
04-0657-00	Unnamed (Twin Pothole South)	Lake	Mississippi River - Headwaters	07010101	Beltrami
05-0009-00	Pularskis	Lake	Mississippi River - Sartell	07010201	Benton
06-0001-00	Marsh	Lake	Minnesota River - Headwaters	07020001	Big Stone; Lac Qui Parle; Swift
06-0029-00	Long Tom	Lake	Minnesota River - Headwaters	07020001	Big Stone
06-0147-00	North Rothwell	Lake	Mustinka River	09020102	Big Stone

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
06-0152-00	Big Stone	Lake	Minnesota River - Headwaters	07020001	Big Stone
07-0059-00	Rice	Lake	Le Sueur River	07020011	Blue Earth
08-0035-00	Gilman	Lake	Minnesota River - Mankato	07020007	Brown
08-0054-00	Altermatt	Lake	Cottonwood River	07020008	Brown
09-0009-00	Venoah	Lake	Nemadji River	04010301	Carlton
09-0010-00	Hay	Lake	Nemadji River	04010301	Carlton
09-0023-00	Wild Rice	Lake	Kettle River	07030003	Carlton
09-0026-00	Bob	Lake	Kettle River	07030003	Carlton
09-0027-00	Unnamed	Lake	Kettle River	07030003	Carlton
09-0030-00	Hardwood	Lake	St. Louis River	04010201	Carlton
09-0031-00	Cedar	Lake	St. Louis River	04010201	Carlton
09-0036-00	Perch	Lake	St. Louis River	04010201	Carlton
09-0037-00	Rice Portage	Lake	St. Louis River	04010201	Carlton
09-0041-00	Moosehead	Lake	Kettle River	07030003	Carlton
09-0043-00	Moose	Lake	Kettle River	07030003	Carlton
09-0046-00	Bang	Lake	St. Louis River	04010201	Carlton
09-0049-00	Kettle	Lake	Kettle River	07030003	Carlton
09-0050-00	Jaskari	Lake	St. Louis River	04010201	Carlton
09-0051-00	Dead Fish	Lake	St. Louis River	04010201	Carlton
09-0053-00	Miller	Lake	St. Louis River	04010201	Carlton
09-0057-00	Eagle	Lake	Mississippi River - Grand Rapids	07010103	Carlton
09-0058-00	Merwin	Lake	Kettle River	07030003	Carlton
09-0060-01	Upper (North) Island	Lake	Mississippi River - Grand Rapids	07010103	Carlton
09-0060-02	Lower (South) Island	Lake	Mississippi River - Grand Rapids	07010103	Carlton
09-0062-00	Cross	Lake	Mississippi River - Grand Rapids	07010103	Carlton
09-0063-00	Woodbury	Lake	Mississippi River - Grand Rapids	07010103	Carlton

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
09-0064-00	Flower	Lake	Mississippi River - Grand Rapids	07010103	Carlton
09-0066-00	Long	Lake	Mississippi River - Grand Rapids	07010103	Carlton
09-0067-00	Tamarack	Lake	Mississippi River - Grand Rapids	07010103	Carlton
09-0071-00	Walli	Lake	Kettle River	07030003	Carlton
09-0074-00	Kettle	Lake	Kettle River	07030003	Carlton; Aitkin
09-0077-00	Little Kettle	Lake	Kettle River	07030003	Carlton
09-0145-00	Unnamed	Lake	Kettle River	07030003	Carlton
09-0174-00	Railroad	Lake	Mississippi River - Grand Rapids	07010103	Carlton
09-0178-00	Unnamed	Lake	St. Louis River	04010201	Carlton
09-0187-00	Sterly Pool	Lake	Kettle River	07030003	Carlton
10-0001-00	Rice Marsh	Lake	Lower Minnesota River	07020012	Hennepin; Carver
10-0078-00	Rice	Lake	Lower Minnesota River	07020012	Carver
11-0001-00	Third Guide	Lake	Mississippi River - Grand Rapids	07010103	Cass; Aitkin
11-0002-00	Little Reservoir	Lake	Mississippi River - Grand Rapids	07010103	Cass
11-0003-00	Reservoir	Lake	Mississippi River - Grand Rapids	07010103	Cass
11-0004-00	Schafer	Lake	Pine River	07010105	Cass
11-0009-01	Little Thunder (West Bay)	Lake	Mississippi River - Grand Rapids	07010103	Cass
11-0009-02	Little Thunder (East Bay)	Lake	Mississippi River - Grand Rapids	07010103	Cass
11-0016-00	White Oak	Lake	Mississippi River - Grand Rapids	07010103	Cass
11-0017-00	Birch	Lake	Mississippi River - Grand Rapids	07010103	Cass
11-0018-00	Little Birch	Lake	Mississippi River - Grand Rapids	07010103	Cass

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
11-0019-00	Sailor	Lake	Mississippi River - Grand Rapids	07010103	Cass
11-0020-00	Thiebault	Lake	Mississippi River - Grand Rapids	07010103	Cass
11-0022-00	Spring	Lake	Mississippi River - Headwaters	07010101	Cass
11-0023-00	Long	Lake	Mississippi River - Headwaters	07010101	Cass
11-0027-00	Skunk	Lake	Mississippi River - Headwaters	07010101	Cass
11-0029-00	Vermillion	Lake	Mississippi River - Headwaters	07010101	Cass
11-0030-00	Little Vermillion	Lake	Mississippi River - Headwaters	07010101	Cass
11-0059-00	Washburn	Lake	Pine River	07010105	Cass
11-0062-00	Thunder	Lake	Mississippi River - Grand Rapids	07010103	Cass
11-0073-00	Big Rice	Lake	Mississippi River - Grand Rapids	07010103	Cass
11-0074-00	Ododikossi	Lake	Leech Lake River	07010102	Cass
11-0075-00	Oxbow	Lake	Leech Lake River	07010102	Cass
11-0077-00	Big Sand	Lake	Leech Lake River	07010102	Cass
11-0078-00	Moon	Lake	Leech Lake River	07010102	Cass
11-0080-00	Lower Milton	Lake	Leech Lake River	07010102	Cass
11-0081-00	Upper Milton	Lake	Leech Lake River	07010102	Cass
11-0082-00	Cedar	Lake	Leech Lake River	07010102	Cass
11-0090-00	Grass	Lake	Leech Lake River	07010102	Cass
11-0096-00	Goose	Lake	Leech Lake River	07010102	Cass
11-0100-00	Mud	Lake	Leech Lake River	07010102	Cass
11-0101-00	George	Lake	Pine River	07010105	Cass
11-0102-00	Island	Lake	Pine River	07010105	Cass
11-0104-00	Laura	Lake	Leech Lake River	07010102	Cass
11-0105-00	Upper Trelipe	Lake	Leech Lake River	07010102	Cass

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
11-0120-01	INGUADONA (N. BAY)	Lake	Leech Lake River	07010102	Cass
11-0120-02	INGUADONA (S. BAY)	Lake	Leech Lake River	07010102	Cass
11-0123-00	Twin	Lake	Leech Lake River	07010102	Cass
11-0124-00	Wax	Lake	Leech Lake River	07010102	Cass
11-0125-00	West Twin	Lake	Leech Lake River	07010102	Cass
11-0129-00	Lower Trelipe	Lake	Leech Lake River	07010102	Cass
11-0131-00	Little Swift	Lake	Leech Lake River	07010102	Cass
11-0132-00	Tobique	Lake	Leech Lake River	07010102	Cass
11-0133-00	Swift	Lake	Leech Lake River	07010102	Cass
11-0134-00	Portage	Lake	Leech Lake River	07010102	Cass
11-0135-00	Rabbit	Lake	Leech Lake River	07010102	Cass
11-0136-00	Lomish	Lake	Leech Lake River	07010102	Cass
11-0137-00	Nushka	Lake	Leech Lake River	07010102	Cass
11-0138-00	Rice	Lake	Leech Lake River	07010102	Cass
11-0142-01	Long (South of Main)	Lake	Leech Lake River	07010102	Cass
11-0142-02	LONG (MAIN BASIN)	Lake	Leech Lake River	07010102	Cass
11-0142-03	Long (North of Main)	Lake	Leech Lake River	07010102	Cass
11-0142-04	Long (South West Bay)	Lake	Leech Lake River	07010102	Cass
11-0143-00	Boy	Lake	Leech Lake River	07010102	Cass
11-0144-00	Blacksmith	Lake	Leech Lake River	07010102	Cass
11-0145-00	Drumbeater	Lake	Leech Lake River	07010102	Cass
11-0146-00	Six Mile	Lake	Leech Lake River	07010102	Cass
11-0147-00	Winnibigoshish	Lake	Mississippi River - Headwaters	07010101	Cass; Itasca
11-0149-00	Potshot	Lake	Pine River	07010105	Cass
11-0154-00	Peterson	Lake	Pine River	07010105	Cass
11-0162-00	Rice	Lake	Leech Lake River	07010102	Cass

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
11-0167-00	Little Boy	Lake	Leech Lake River	07010102	Cass
11-0168-00	McCarthey	Lake	Leech Lake River	07010102	Cass
11-0170-00	Hunter	Lake	Leech Lake River	07010102	Cass
11-0171-01	Wabedo (North East Bay)	Lake	Leech Lake River	07010102	Cass
11-0171-02	Wabedo (South West Bay)	Lake	Leech Lake River	07010102	Cass
11-0173-00	Thirty-Six	Lake	Leech Lake River	07010102	Cass
11-0174-00	Girl	Lake	Leech Lake River	07010102	Cass
11-0177-00	Three Island	Lake	Leech Lake River	07010102	Cass
11-0184-00	Bullhead	Lake	Leech Lake River	07010102	Cass
11-0185-00	Gijik	Lake	Leech Lake River	07010102	Cass
11-0189-00	Tamarack	Lake	Leech Lake River	07010102	Cass
11-0193-00	Mad Dog	Lake	Leech Lake River	07010102	Cass
11-0194-00	Iverson	Lake	Leech Lake River	07010102	Cass
11-0197-00	Hole-In-Bog	Lake	Leech Lake River	07010102	Cass
11-0199-00	Hay	Lake	Pine River	07010105	Cass
11-0201-01	Broadwater Bay	Lake	Leech Lake River	07010102	Cass
11-0201-02	Woman (main lake)	Lake	Leech Lake River	07010102	Cass
11-0202-00	Silver	Lake	Leech Lake River	07010102	Cass
11-0203-01	LEECH (MAIN BASIN)	Lake	Leech Lake River	07010102	Cass
11-0203-02	LEECH (KABEKONA BAY)	Lake	Leech Lake River	07010102	Cass; Hubbard
11-0203-03	Leech (Ah-Gwah-Chin)	Lake	Leech Lake River	07010102	Cass
11-0203-04	LEECH (SHINGOBEE BAY)	Lake	Leech Lake River	07010102	Cass
11-0204-00	Portage	Lake	Leech Lake River	07010102	Cass
11-0207-00	Mile	Lake	Crow Wing River	07010106	Cass; Crow Wing

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
11-0209-00	Hardy	Lake	Crow Wing River	07010106	Cass; Crow Wing
11-0213-00	Stephens	Lake	Crow Wing River	07010106	Cass
11-0214-00	Dade	Lake	Crow Wing River	07010106	Cass
11-0218-00	Upper Gull	Lake	Crow Wing River	07010106	Cass
11-0220-00	Ray	Lake	Crow Wing River	07010106	Cass; Crow Wing
11-0221-00	Spider	Lake	Crow Wing River	07010106	Cass
11-0222-00	Margaret	Lake	Crow Wing River	07010106	Cass
11-0225-00	Upper Loon	Lake	Crow Wing River	07010106	Cass
11-0226-00	Loon	Lake	Crow Wing River	07010106	Cass
11-0227-00	Rice	Lake	Pine River	07010105	Cass; Crow Wing
11-0231-00	Lizotte	Lake	Pine River	07010105	Cass
11-0232-00	Hattie	Lake	Pine River	07010105	Cass
11-0232-01	Little Hattie	Lake	Pine River	07010105	Cass
11-0242-00	Hand	Lake	Pine River	07010105	Cass
11-0250-00	Ada	Lake	Pine River	07010105	Cass
11-0251-00	Hand	Lake	Pine River	07010105	Cass
11-0257-00	Island	Lake	Leech Lake River	07010102	Cass
11-0258-00	Long	Lake	Leech Lake River	07010102	Cass
11-0261-00	McKeown	Lake	Leech Lake River	07010102	Cass
11-0262-00	Kid	Lake	Leech Lake River	07010102	Cass
11-0263-00	Child	Lake	Leech Lake River	07010102	Cass
11-0265-00	Little Woman	Lake	Leech Lake River	07010102	Cass
11-0267-00	Pick	Lake	Leech Lake River	07010102	Cass
11-0268-00	Kerr	Lake	Leech Lake River	07010102	Cass
11-0270-00	Trillium	Lake	Leech Lake River	07010102	Cass
11-0273-00	Widow	Lake	Leech Lake River	07010102	Cass
11-0274-00	Blackwater	Lake	Leech Lake River	07010102	Cass
11-0275-00	Sand	Lake	Leech Lake River	07010102	Cass
11-0277-00	Big Deep	Lake	Leech Lake River	07010102	Cass

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
11-0279-00	Sand	Lake	Leech Lake River	07010102	Cass
11-0280-00	Donkey	Lake	Leech Lake River	07010102	Cass
11-0281-00	Barnum	Lake	Leech Lake River	07010102	Cass
11-0283-00	Baby	Lake	Leech Lake River	07010102	Cass
11-0284-00	Horseshoe	Lake	Leech Lake River	07010102	Cass
11-0285-00	Rat	Lake	Leech Lake River	07010102	Cass
11-0289-00	Cedar	Lake	Leech Lake River	07010102	Cass
11-0292-00	Pine	Lake	Leech Lake River	07010102	Cass
11-0304-01	Sylvan (Southwest Bay)	Lake	Crow Wing River	07010106	Cass
11-0304-02	Sylvan (Northeast Bay)	Lake	Crow Wing River	07010106	Cass
11-0305-00	Gull	Lake	Crow Wing River	07010106	Cass; Crow Wing
11-0307-00	Norway	Lake	Pine River	07010105	Cass
11-0308-01	Big Portage (West Bay)	Lake	Pine River	07010105	Cass
11-0308-02	Big Portage (East Bay)	Lake	Pine River	07010105	Cass
11-0309-00	Mud	Lake	Pine River	07010105	Cass
11-0311-00	Webb	Lake	Leech Lake River	07010102	Cass
11-0313-00	Lower Sucker	Lake	Leech Lake River	07010102	Cass
11-0315-00	Grass	Lake	Leech Lake River	07010102	Cass
11-0317-00	Middle Sucker	Lake	Leech Lake River	07010102	Cass
11-0320-00	Pillager	Lake	Crow Wing River	07010106	Cass
11-0321-00	Rice	Lake	Crow Wing River	07010106	Cass
11-0323-00	Little Long	Lake	Crow Wing River	07010106	Cass
11-0324-00	Rock	Lake	Crow Wing River	07010106	Cass
11-0332-00	Hardy	Lake	Crow Wing River	07010106	Cass
11-0347-00	Tamarack	Lake	Pine River	07010105	Cass
11-0350-00	Bowen	Lake	Pine River	07010105	Cass
11-0351-00	Five Point	Lake	Pine River	07010105	Cass
11-0352-00	Pickerel	Lake	Pine River	07010105	Cass

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
11-0353-00	Beuber	Lake	Pine River	07010105	Cass
11-0355-00	Ox Yoke	Lake	Pine River	07010105	Cass
11-0356-00	Rainy	Lake	Pine River	07010105	Cass
11-0358-00	Horseshoe	Lake	Pine River	07010105	Cass
11-0360-00	Island	Lake	Pine River	07010105	Cass
11-0361-00	Sanborn	Lake	Pine River	07010105	Cass
11-0363-00	Johnson	Lake	Pine River	07010105	Cass
11-0366-00	Brockway	Lake	Pine River	07010105	Cass
11-0367-00	Lind	Lake	Pine River	07010105	Cass
11-0369-00	Little Boy	Lake	Leech Lake River	07010102	Cass
11-0371-00	Stony	Lake	Leech Lake River	07010102	Cass
11-0383-00	Pleasant	Lake	Leech Lake River	07010102	Cass
11-0394-00	Hovde	Lake	Leech Lake River	07010102	Cass
11-0397-00	Bluebill	Lake	Leech Lake River	07010102	Cass
11-0400-00	Jack	Lake	Leech Lake River	07010102	Cass
11-0402-00	Rice	Lake	Leech Lake River	07010102	Cass
11-0403-00	Wabegon	Lake	Leech Lake River	07010102	Cass
11-0406-00	Life Raft	Lake	Leech Lake River	07010102	Cass
11-0411-00	Pine Mountain	Lake	Pine River	07010105	Cass
11-0412-00	Birch	Lake	Leech Lake River	07010102	Cass
11-0413-00	Ten Mile	Lake	Leech Lake River	07010102	Cass
11-0424-00	Moose	Lake	Crow Wing River	07010106	Cass
11-0428-00	Kelly	Lake	Crow Wing River	07010106	Cass
11-0441-00	Scribner	Lake	Pine River	07010105	Cass
11-0444-00	Cedar	Lake	Pine River	07010105	Cass
11-0447-00	Bergkeller	Lake	Crow Wing River	07010106	Cass
11-0467-00	Ten	Lake	Leech Lake River	07010102	Cass
11-0474-00	Bass	Lake	Leech Lake River	07010102	Cass
11-0476-00	Portage	Lake	Leech Lake River	07010102	Cass
11-0480-00	Long	Lake	Leech Lake River	07010102	Cass
11-0481-00	Cedar	Lake	Leech Lake River	07010102	Cass

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
11-0483-00	Swamp	Lake	Leech Lake River	07010102	Cass
11-0484-00	Twin	Lake	Leech Lake River	07010102	Cass
11-0487-00	Little Twin	Lake	Leech Lake River	07010102	Cass
11-0489-00	Little Moss	Lake	Leech Lake River	07010102	Cass
11-0490-00	Portage	Lake	Leech Lake River	07010102	Cass
11-0491-00	Steamboat Bay	Lake	Leech Lake River	07010102	Cass
11-0492-00	Faherty	Lake	Leech Lake River	07010102	Cass
11-0493-00	Welch	Lake	Leech Lake River	07010102	Cass
11-0504-00	Steamboat	Lake	Leech Lake River	07010102	Cass; Hubbard
11-0509-00	Cat	Lake	Crow Wing River	07010106	Cass
11-0511-00	Esterday	Lake	Crow Wing River	07010106	Cass
11-0513-00	Farnham	Lake	Crow Wing River	07010106	Wadena; Cass
11-0514-00	Dry Sand	Lake	Crow Wing River	07010106	Cass; Wadena
11-0517-00	Chub	Lake	Leech Lake River	07010102	Cass
11-0565-00	Ding Pot	Lake	Pine River	07010105	Cass
11-0615-00	Unnamed	Lake	Crow Wing River	07010106	Cass
11-0641-00	Fucat	Lake	Crow Wing River	07010106	Cass
11-0698-00	Unnamed	Lake	Pine River	07010105	Cass
11-0714-00	Unnamed	Lake	Pine River	07010105	Cass
11-0720-00	Rice Pad	Lake	Mississippi River - Grand Rapids	07010103	Cass
11-0738-00	Unnamed	Lake	Pine River	07010105	Cass
11-0776-00	Unnamed	Lake	Crow Wing River	07010106	Cass
11-0777-00	Unnamed	Lake	Crow Wing River	07010106	Cass
11-0780-00	Unnamed	Lake	Crow Wing River	07010106	Cass
11-0786-00	Unnamed	Lake	Crow Wing River	07010106	Cass
11-0862-00	Unnamed	Lake	Pine River	07010105	Cass
11-0975-00	Unnamed	Lake	Pine River	07010105	Cass
13-0027-00	South Center	Lake	Lower St. Croix River	07030005	Chisago

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
13-0028-00	South Lindstrom	Lake	Lower St. Croix River	07030005	Chisago
13-0031-00	Sunrise	Lake	Lower St. Croix River	07030005	Chisago
13-0032-01	North Center Lake	Lake	Lower St. Croix River	07030005	Chisago
13-0041-01	Green (Little Green)	Lake	Lower St. Croix River	07030005	Chisago
13-0041-02	GREEN (MAIN BASIN)	Lake	Lower St. Croix River	07030005	Chisago
13-0053-00	Comfort	Lake	Lower St. Croix River	07030005	Chisago
13-0059-01	South Sunrise Pool	Lake	Lower St. Croix River	07030005	Chisago
13-0059-02	Mud Lake	Lake	Lower St. Croix River	07030005	Chisago
13-0059-03	North Sunrise Pool	Lake	Lower St. Croix River	07030005	Chisago
13-0060-00	Peterson Slough	Lake	Lower St. Croix River	07030005	Chisago
13-0068-00	Fish	Lake	Lower St. Croix River	07030005	Chisago
13-0069-01	East Rush	Lake	Lower St. Croix River	07030005	Chisago
13-0073-00	Horseshoe	Lake	Lower St. Croix River	07030005	Chisago
13-0080-00	Little Horseshoe	Lake	Lower St. Croix River	07030005	Chisago
13-0083-01	GOOSE (NORTH BAY)	Lake	Lower St. Croix River	07030005	Chisago
13-0083-02	GOOSE (SOUTH BAY)	Lake	Lower St. Croix River	07030005	Chisago
14-0004-00	Tilde	Lake	Wild Rice River	09020108	Clay; Becker
14-0103-00	Cromwell	Lake	Buffalo River	09020106	Clay
14-0336-00	Hartke	Lake	Buffalo River	09020106	Clay
15-0002-00	Haggerty	Lake	Upper/Lower Red Lake	09020302	Clearwater; Beltrami
15-0010-00	Elk	Lake	Mississippi River - Headwaters	07010101	Clearwater
15-0014-00	Whipple	Lake	Mississippi River - Headwaters	07010101	Clearwater
15-0016-00	Itasca	Lake	Mississippi River - Headwaters	07010101	Clearwater

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
15-0018-00	Mallard	Lake	Mississippi River - Headwaters	07010101	Clearwater
15-0019-00	Gill	Lake	Mississippi River - Headwaters	07010101	Clearwater
15-0020-00	Sucker	Lake	Mississippi River - Headwaters	07010101	Clearwater
15-0021-00	Unnamed	Lake	Wild Rice River	09020108	Clearwater
15-0024-00	Duncan	Lake	Mississippi River - Headwaters	07010101	Clearwater
15-0025-00	Berg	Lake	Mississippi River - Headwaters	07010101	Clearwater
15-0028-01	West Four-Legged (Northeast Portion)	Lake	Clearwater River	09020305	Clearwater
15-0035-00	Spike	Lake	Clearwater River	09020305	Clearwater
15-0038-00	Falk	Lake	Clearwater River	09020305	Clearwater
15-0040-00	Bagley	Lake	Clearwater River	09020305	Clearwater
15-0049-00	Unnamed	Lake	Clearwater River	09020305	Clearwater
15-0056-00	Tamarack	Lake	Mississippi River - Headwaters	07010101	Clearwater
15-0059-00	Upper Rice	Lake	Wild Rice River	09020108	Clearwater
15-0060-00	Walker Brook	Lake	Clearwater River	09020305	Clearwater
15-0061-00	Mud	Lake	Wild Rice River	09020108	Clearwater
15-0074-00	Anderson	Lake	Wild Rice River	09020108	Clearwater
15-0075-00	Rockstad	Lake	Wild Rice River	09020108	Clearwater
15-0079-00	Minerva	Lake	Wild Rice River	09020108	Clearwater
15-0081-00	Lomond	Lake	Clearwater River	09020305	Clearwater
15-0083-00	Peterson	Lake	Clearwater River	09020305	Clearwater
15-0091-00	Second	Lake	Clearwater River	09020305	Clearwater
15-0114-00	Kibbee	Lake	Otter Tail River	09020103	Clearwater
15-0130-00	Lower Rice	Lake	Wild Rice River	09020108	Clearwater
15-0136-00	Tamarack	Lake	Wild Rice River	09020108	Clearwater
15-0137-00	Minnow	Lake	Clearwater River	09020305	Clearwater

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
15-0139-00	First	Lake	Clearwater River	09020305	Clearwater
15-0140-00	Second	Lake	Clearwater River	09020305	Clearwater
15-0141-00	Third	Lake	Clearwater River	09020305	Clearwater
15-0144-00	Lindberg	Lake	Clearwater River	09020305	Clearwater
15-0149-00	Pine	Lake	Clearwater River	09020305	Clearwater
15-0202-00	Unnamed	Lake	Red Lake River	09020303	Clearwater
15-0293-00	Unnamed	Lake	Clearwater River	09020305	Clearwater
15-0483-00	Floating Moss	Lake	Mississippi River - Headwaters	07010101	Clearwater
16-0003-00	Teal	Lake	Lake Superior - North	04010101	Cook
16-0006-00	Cuffs	Lake	Lake Superior - North	04010101	Cook
16-0009-00	Swamp	Lake	Lake Superior - North	04010101	Cook
16-0013-00	Prout	Lake	Lake Superior - North	04010101	Cook
16-0025-00	Royal	Lake	Lake Superior - North	04010101	Cook
16-0026-00	Little John	Lake	Lake Superior - North	04010101	Cook
16-0032-00	Otter	Lake	Lake Superior - North	04010101	Cook
16-0033-00	Chester	Lake	Lake Superior - North	04010101	Cook
16-0034-00	South Fowl	Lake	Lake Superior - North	04010101	Cook
16-0035-00	John	Lake	Lake Superior - North	04010101	Cook
16-0036-00	North Fowl	Lake	Lake Superior - North	04010101	Cook
16-0043-00	Moose	Lake	Lake Superior - North	04010101	Cook
16-0048-00	Marsh	Lake	Lake Superior - North	04010101	Cook
16-0089-00	Northern Light	Lake	Lake Superior - North	04010101	Cook
16-0096-00	Elbow	Lake	Lake Superior - North	04010101	Cook
16-0107-00	Merganser	Lake	Lake Superior - North	04010101	Cook
16-0114-00	Alder	Lake	Lake Superior - North	04010101	Cook
16-0146-00	East Bearskin	Lake	Lake Superior - North	04010101	Cook
16-0147-00	Flour	Lake	Lake Superior - North	04010101	Cook
16-0156-00	Two Island	Lake	Lake Superior - North	04010101	Cook
16-0157-00	Dick	Lake	Lake Superior - North	04010101	Cook
16-0175-00	Bower Trout	Lake	Lake Superior - North	04010101	Cook
16-0196-00	Wampus	Lake	Lake Superior - North	04010101	Cook

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
16-0228-00	Bearskin	Lake	Lake Superior - North	04010101	Cook
16-0250-00	Mark	Lake	Lake Superior - North	04010101	Cook
16-0251-00	Turtle	Lake	Lake Superior - North	04010101	Cook
16-0252-00	Pike	Lake	Lake Superior - North	04010101	Cook
16-0253-00	Deer Yard	Lake	Lake Superior - North	04010101	Cook
16-0256-00	Swamp	Lake	Lake Superior - North	04010101	Cook
16-0328-00	Iron	Lake	Rainy River - Headwaters	09030001	Cook
16-0331-00	North	Lake	Rainy River - Headwaters	09030001	Cook
16-0344-00	Bigsby	Lake	Lake Superior - North	04010101	Cook
16-0355-00	Little Iron	Lake	Rainy River - Headwaters	09030001	Cook
16-0358-00	Barker	Lake	Lake Superior - North	04010101	Cook
16-0360-00	Caribou	Lake	Lake Superior - North	04010101	Cook
16-0366-00	Holly	Lake	Lake Superior - North	04010101	Cook
16-0368-00	Mistletoe	Lake	Lake Superior - North	04010101	Cook
16-0369-00	White Pine	Lake	Lake Superior - North	04010101	Cook
16-0370-00	Strobus	Lake	Lake Superior - North	04010101	Cook
16-0373-00	Christine	Lake	Lake Superior - North	04010101	Cook
16-0380-00	Gust	Lake	Lake Superior - North	04010101	Cook
16-0384-00	Tait	Lake	Lake Superior - North	04010101	Cook
16-0386-00	East Pipe	Lake	Lake Superior - North	04010101	Cook
16-0390-00	Grassy	Lake	Lake Superior - North	04010101	Cook
16-0405-00	Star	Lake	Lake Superior - North	04010101	Cook
16-0409-00	Vern	Lake	Lake Superior - North	04010101	Cook
16-0416-00	Unnamed	Lake	Rainy River - Headwaters	09030001	Cook
16-0417-00	Tucker	Lake	Rainy River - Headwaters	09030001	Cook
16-0448-00	Loon	Lake	Rainy River - Headwaters	09030001	Cook
16-0453-00	Rice	Lake	Lake Superior - North	04010101	Cook

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
16-0476-00	Kelly	Lake	Lake Superior - North	04010101	Cook
16-0478-00	Peterson	Lake	Lake Superior - North	04010101	Cook
16-0486-00	Baker	Lake	Lake Superior - North	04010101	Cook
16-0488-00	Marsh	Lake	Lake Superior - North	04010101	Cook
16-0489-00	Moore	Lake	Lake Superior - North	04010101	Cook
16-0521-00	Jack	Lake	Lake Superior - North	04010101	Cook
16-0544-00	Rib	Lake	Rainy River - Headwaters	09030001	Cook
16-0569-00	Gordon	Lake	Rainy River - Headwaters	09030001	Cook
16-0639-00	Four Mile	Lake	Lake Superior - North	04010101	Cook
16-0643-00	Richey	Lake	Lake Superior - North	04010101	Cook
16-0645-00	Toohey	Lake	Lake Superior - North	04010101	Cook
16-0664-00	Wonder	Lake	Lake Superior - North	04010101	Cook
16-0706-00	Kelso	Lake	Lake Superior - North	04010101	Cook
16-0741-00	Fente	Lake	Rainy River - Headwaters	09030001	Cook
16-0804-00	North Wigwam	Lake	Lake Superior - North	04010101	Cook; Lake
16-0807-00	Knight	Lake	Rainy River - Headwaters	09030001	Cook; Lake
16-0808-00	Phoebe	Lake	Rainy River - Headwaters	09030001	Cook; Lake
16-0901-00	Swamp River Reservoir	Lake	Lake Superior - North	04010101	Cook
16-0914-00	Mt Maud Wetland	Lake	Lake Superior - North	04010101	Cook
18-0001-00	Whitefish	Lake	Rum River	07010207	Crow Wing; Mille Lacs
18-0008-00	Twenty Two	Lake	Mississippi River - Sartell	07010201	Crow Wing
18-0009-00	Erskine	Lake	Mississippi River - Sartell	07010201	Crow Wing
18-0011-00	Bass	Lake	Mississippi River - Sartell	07010201	Crow Wing

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
18-0014-00	Bulldog	Lake	Mississippi River - Sartell	07010201	Crow Wing
18-0016-00	Rock	Lake	Mississippi River - Sartell	07010201	Crow Wing
18-0018-00	Camp	Lake	Rum River	07010207	Crow Wing
18-0020-00	Borden	Lake	Rum River	07010207	Crow Wing
18-0023-00	Jack Pine	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0024-00	Williams	Lake	Rum River	07010207	Crow Wing
18-0026-00	Bassett	Lake	Rum River	07010207	Crow Wing
18-0028-00	Smith	Lake	Rum River	07010207	Crow Wing
18-0029-00	Holt	Lake	Rum River	07010207	Crow Wing
18-0031-00	Long	Lake	Rum River	07010207	Crow Wing
18-0032-00	Round	Lake	Rum River	07010207	Crow Wing
18-0033-00	Scott	Lake	Mississippi River - Brainerd, Rum River	07010104, 07010207	Crow Wing
18-0034-00	Bay	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0038-00	Clearwater	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0039-00	Coffee	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0045-00	Maple	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0049-00	Wilson	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0052-00	Island	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0053-00	Rice	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0055-00	Unnamed	Lake	Rum River	07010207	Crow Wing
18-0067-00	Reno	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0068-00	Rice	Lake	Mississippi River - Brainerd	07010104	Crow Wing

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
18-0082-00	Rushmeyer	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0088-00	Platte	Lake	Mississippi River - Sartell	07010201	Crow Wing; Morrison
18-0091-00	Olander	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0093-01	Rabbit (East Portion)	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0094-00	Mud	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0096-00	Upper South Long	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0101-00	Happy	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0104-00	Nokay	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0105-00	Pointon	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0106-00	Twin Island	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0107-00	Dog	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0110-00	Grave	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0111-00	Loon	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0112-00	Wolf	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0120-00	Hay	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0121-00	Rice	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0126-01	East Mahnomen	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0126-02	Middle Mahnomen	Lake	Mississippi River - Brainerd	07010104	Crow Wing

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
18-0127-00	Cole	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0136-00	South Long	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0137-00	Mud	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0139-00	Little Rabbit	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0140-00	Black Bear	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0147-00	Round	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0148-02	East Twin	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0152-00	Buffalo	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0154-00	Unnamed	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0155-00	Crow Wing	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0161-00	Sebie	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0162-00	Terry	Lake	Mississippi River - Brainerd	07010104	Crow Wing; Aitkin
18-0164-00	Nelson	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0170-00	Upper Dean	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0171-00	Olson	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0172-00	Thompson	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0175-00	Birchdale	Wetland	Pine River	07010105	Crow Wing
18-0176-00	Little Pine	Lake	Pine River	07010105	Crow Wing
18-0178-00	Duck	Wetland	Pine River	07010105	Crow Wing
18-0179-00	Caraway	Lake	Pine River	07010105	Crow Wing

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
18-0180-00	Lows	Lake	Pine River	07010105	Crow Wing
18-0181-00	Lower Dean	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0182-00	Deer	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0184-00	Rogers	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0187-00	Rice Bed	Lake	Pine River	07010105	Crow Wing
18-0188-00	Deadman's	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0198-00	Mud	Lake	Pine River	07010105	Crow Wing
18-0201-00	Unnamed	Lake	Pine River	07010105	Crow Wing
18-0202-00	Eastham	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0203-00	Emily	Lake	Pine River	07010105	Crow Wing
18-0204-00	Dahler	Lake	Pine River	07010105	Crow Wing
18-0212-00	Ruth	Lake	Pine River	07010105	Crow Wing
18-0223-00	Goggle	Lake	Pine River	07010105	Crow Wing
18-0226-00	Goodrich	Lake	Pine River	07010105	Crow Wing
18-0228-00	Unnamed	Lake	Pine River	07010105	Crow Wing
18-0229-00	Bass	Lake	Pine River	07010105	Crow Wing
18-0230-00	Grass	Lake	Pine River	07010105	Crow Wing
18-0231-00	Butterfield	Lake	Pine River	07010105	Crow Wing
18-0233-00	Green	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0237-00	Faupel	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0238-00	Half Moon	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0242-00	Upper Mission	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0243-00	Lower Mission	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0247-00	Flanders	Lake	Mississippi River - Brainerd	07010104	Crow Wing

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
18-0259-00	Bonnie	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0261-00	Pine	Lake	Pine River	07010105	Crow Wing
18-0266-00	Little Pine	Lake	Pine River	07010105	Crow Wing
18-0275-00	Lily Pad	Lake	Pine River	07010105	Crow Wing
18-0284-00	Velvet	Lake	Pine River	07010105	Crow Wing
18-0285-00	Big Bird	Lake	Pine River	07010105	Crow Wing
18-0287-00	Greer	Lake	Pine River	07010105	Crow Wing
18-0294-00	Mitchell	Lake	Pine River	07010105	Crow Wing
18-0296-01	Eagle (Main Bay)	Lake	Pine River	07010105	Crow Wing
18-0296-02	Eagle (West Bay)	Lake	Pine River	07010105	Crow Wing
18-0296-03	Eagle (East Bay)	Lake	Pine River	07010105	Crow Wing
18-0304-00	Perch	Lake	Crow Wing River	07010106	Crow Wing
18-0308-00	Pelican	Lake	Pine River	07010105	Crow Wing
18-0310-00	Whitefish	Lake	Pine River	07010105	Crow Wing
18-0311-00	Rush	Lake	Pine River	07010105	Crow Wing
18-0312-01	Cross Lake Reservoir (Main Basin)	Lake	Pine River	07010105	Crow Wing
18-0312-02	Cross Lake Reservoir (Southeast Bay)	Lake	Pine River	07010105	Crow Wing
18-0312-03	Cross Lake Reservoir (Unnamed Bay)	Lake	Pine River	07010105	Crow Wing
18-0314-00	Duck	Lake	Pine River	07010105	Crow Wing
18-0315-00	Big Trout	Lake	Pine River	07010105	Crow Wing
18-0316-00	Rice	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0317-00	Horseshoe	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0318-00	Tamarack	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0320-01	GILBERT (EAST BAY)	Lake	Mississippi River - Brainerd	07010104	Crow Wing

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
18-0320-02	GILBERT (WEST BAY)	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0320-03	Gilbert (South Bay)	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0326-00	Mud	Lake	Crow Wing River	07010106	Crow Wing
18-0327-00	Rice	Lake	Crow Wing River	07010106	Crow Wing
18-0328-00	Johnson	Lake	Crow Wing River	07010106	Crow Wing
18-0329-00	Garden	Lake	Crow Wing River	07010106	Crow Wing
18-0334-00	Mallard	Lake	Crow Wing River	07010106	Crow Wing
18-0335-00	Mollie	Lake	Crow Wing River	07010106	Crow Wing
18-0338-00	Gladstone	Lake	Crow Wing River	07010106	Crow Wing
18-0351-00	Little Pelican	Lake	Pine River	07010105	Crow Wing
18-0352-00	Ossawinnamakee	Lake	Pine River	07010105	Crow Wing
18-0359-00	Star	Lake	Pine River	07010105	Crow Wing
18-0362-00	Grass	Lake	Pine River	07010105	Crow Wing
18-0366-00	Arrowhead	Lake	Pine River	07010105	Crow Wing
18-0367-00	Stewart	Lake	Pine River	07010105	Crow Wing
18-0372-00	North Long	Lake	Crow Wing River	07010106	Crow Wing
18-0373-00	Round	Lake	Crow Wing River	07010106	Crow Wing
18-0374-00	Clark	Lake	Crow Wing River	07010106	Crow Wing
18-0375-00	Hubert	Lake	Crow Wing River	07010106	Crow Wing
18-0376-00	Upper Cullen	Lake	Crow Wing River	07010106	Crow Wing
18-0377-00	Middle Cullen	Lake	Crow Wing River	07010106	Crow Wing
18-0378-00	Lower Hay	Lake	Pine River	07010105	Crow Wing
18-0382-00	Unnamed	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0383-00	Island	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0386-00	Red Sand	Lake	Crow Wing River	07010106	Crow Wing
18-0387-01	Upper Whipple	Lake	Crow Wing River	07010106	Crow Wing
18-0387-02	Middle Whipple	Lake	Crow Wing River	07010106	Crow Wing
18-0387-03	Lower Whipple	Lake	Crow Wing River	07010106	Crow Wing

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
18-0388-00	Love	Lake	Crow Wing River	07010106	Crow Wing
18-0395-00	Carlson	Lake	Crow Wing River	07010106	Crow Wing
18-0398-00	Roy	Lake	Crow Wing River	07010106	Crow Wing; Cass
18-0399-00	Nisswa	Lake	Crow Wing River	07010106	Crow Wing
18-0401-00	Hole-in-the-Day	Lake	Crow Wing River	07010106	Crow Wing
18-0403-00	Lower Cullen	Lake	Crow Wing River	07010106	Crow Wing
18-0404-00	Sibley	Lake	Crow Wing River	07010106	Crow Wing; Cass
18-0405-00	Rice	Lake	Crow Wing River	07010106	Crow Wing
18-0408-00	Mayo	Lake	Crow Wing River	07010106	Cass; Crow Wing
18-0410-00	Rat	Lake	Pine River	07010105	Crow Wing
18-0412-00	Upper Hay	Lake	Pine River	07010105	Crow Wing
18-0413-00	Unnamed	Lake	Pine River	07010105	Crow Wing
18-0414-00	Clough	Lake	Pine River	07010105	Crow Wing
18-0415-00	Jail	Lake	Pine River	07010105	Crow Wing; Cass
18-0416-00	Lizzie	Lake	Pine River	07010105	Crow Wing; Cass
18-0422-00	Unnamed	Lake	Mississippi River - Sartell	07010201	Crow Wing
18-0424-00	Unnamed	Lake	Rum River	07010207	Crow Wing
18-0444-00	Hay	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0446-00	Sewells Pond	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0485-00	Unnamed	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0504-00	Unnamed	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0510-00	Unnamed	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0543-00	Unnamed	Lake	Crow Wing River	07010106	Crow Wing
18-0544-00	Unnamed	Lake	Crow Wing River	07010106	Crow Wing

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
18-0550-00	Unnamed	Lake	Mississippi River - Brainerd	07010104	Crow Wing
18-0556-00	Unnamed	Lake	Crow Wing River	07010106	Crow Wing
19-0020-00	Chub	Lake	Cannon River	07040002	Dakota
19-0059-00	Blackhawk	Lake	Lower Minnesota River	07020012	Dakota
21-0034-00	Mill Pond	Lake	Long Prairie River	07010108	Douglas
21-0041-00	Union	Lake	Long Prairie River	07010108	Douglas
21-0055-00	Jessie	Lake	Long Prairie River	07010108	Douglas
21-0057-00	Carlos	Lake	Long Prairie River	07010108	Douglas
21-0058-00	Hidden	Lake	Long Prairie River	07010108	Douglas
21-0075-00	Unnamed	Lake	Long Prairie River	07010108	Douglas
21-0076-00	Irene	Lake	Long Prairie River	07010108	Douglas
21-0083-00	Miltona	Lake	Long Prairie River	07010108	Douglas
21-0092-00	Mary	Lake	Long Prairie River	07010108	Douglas
21-0094-00	Louise	Lake	Long Prairie River	07010108	Douglas
21-0095-00	North Union	Lake	Long Prairie River	07010108	Douglas
21-0101-00	Stony	Lake	Long Prairie River	07010108	Douglas
21-0102-00	Brophy	Lake	Long Prairie River	07010108	Douglas
21-0105-00	Lottie	Lake	Long Prairie River	07010108	Douglas
21-0106-01	LATOKA (NORTH BAY)	Lake	Long Prairie River	07010108	Douglas
21-0106-02	LATOKA (SOUTH BAY)	Lake	Long Prairie River	07010108	Douglas
21-0108-00	Mina	Lake	Long Prairie River	07010108	Douglas
21-0123-00	Ida	Lake	Long Prairie River	07010108	Douglas
21-0136-00	Indian	Lake	Chippewa River	07020005	Douglas
21-0162-00	Freeborn	Lake	Chippewa River	07020005	Douglas
21-0212-00	Little Chippewa	Lake	Chippewa River	07020005	Douglas
21-0236-00	Mud	Lake	Chippewa River	07020005	Douglas
21-0264-00	Stowe	Lake	Chippewa River	07020005	Douglas
21-0343-00	Long	Lake	Chippewa River	07020005	Douglas

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
21-0353-00	Anka	Lake	Pomme de Terre River	07020002	Douglas
21-0355-00	Ina	Lake	Pomme de Terre River	07020002	Douglas
21-0375-00	Christina	Lake	Pomme de Terre River	07020002	Douglas; Grant
21-0416-00	Mork Pond	Lake	Long Prairie River	07010108	Douglas
22-0007-00	Rice	Lake	Blue Earth River	07020009	Faribault
22-0033-00	Minnesota	Lake	Le Sueur River	07020011	Faribault; Blue Earth
22-0075-00	Rice	Lake	Le Sueur River	07020011	Faribault
24-0027-00	Lower Twin	Lake	Shell Rock River	07080202	Freeborn
24-0028-00	Bear	Lake	Winnebago River	07080203	Freeborn
24-0045-00	Spicer	Lake	Le Sueur River	07020011	Freeborn
24-0049-00	Trenton	Lake	Le Sueur River	07020011	Freeborn; Waseca
25-0016-00	Larson	Lake	Mississippi River - Lake Pepin	07040001	Goodhue
25-0017-01	Sturgeon	Lake	Mississippi River - Lake Pepin	07040001	Goodhue
25-0017-02	Nelson	Lake	Mississippi River - Lake Pepin	07040001	Goodhue
26-0002-00	Pelican	Lake	Pomme de Terre River	07020002	Grant; Douglas
26-0040-00	Elk	Lake	Pomme de Terre River	07020002	Grant
27-0080-00	Grass	Lake	Lower Minnesota River	07020012	Hennepin
27-0116-01	Rice Main Lake	Lake	Mississippi River - Twin Cities	07010206	Hennepin
27-0116-02	Rice - West Bay	Lake	Mississippi River - Twin Cities	07010206	Hennepin
27-0116-03	Rice - South Marsh	Lake	Mississippi River - Twin Cities	07010206	Hennepin
27-0116-04	Rice - Outlet Bay	Lake	Mississippi River - Twin Cities	07010206	Hennepin
27-0132-00	Rice	Lake	Lower Minnesota River	07020012	Carver; Hennepin; Scott

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
27-0135-00	Grass	Lake	Mississippi River - Twin Cities	07010206	Hennepin
27-0179-01	North Little Long	Lake	South Fork Crow River	07010205	Hennepin
27-0179-02	South Little Long	Lake	South Fork Crow River	07010205	Hennepin
28-0005-01	Lawrence	Lake	Mississippi River - Reno	07060001	Houston
28-0005-02	Target	Lake	Mississippi River - La Crescent, Root River	07040006, 07040008	Houston
28-0005-03	Blue	Lake	Mississippi River - La Crescent	07040006	Houston
29-0005-00	Tripp	Lake	Crow Wing River	07010106	Hubbard
29-0006-00	Oelschlager Slough	Lake	Crow Wing River	07010106	Hubbard
29-0019-00	Unnamed	Lake	Crow Wing River	07010106	Hubbard
29-0020-00	Loon	Lake	Crow Wing River	07010106	Hubbard
29-0021-00	Unnamed	Lake	Crow Wing River	07010106	Hubbard
29-0025-00	Ninth Crow Wing	Lake	Crow Wing River	07010106	Hubbard
29-0034-00	Upper Bass	Lake	Crow Wing River	07010106	Hubbard
29-0036-01	Eleventh Crow Wing (Main)	Lake	Crow Wing River	07010106	Hubbard
29-0036-02	Eleventh Crow Wing (East)	Lake	Crow Wing River	07010106	Hubbard
29-0043-00	Shingobee	Lake	Leech Lake River	07010102	Hubbard
29-0045-00	Tenth Crow Wing	Lake	Crow Wing River	07010106	Hubbard
29-0054-00	Spring	Lake	Leech Lake River	07010102	Hubbard
29-0057-00	Unnamed	Lake	Leech Lake River	07010102	Hubbard
29-0059-00	Horseshoe	Lake	Leech Lake River	07010102	Hubbard
29-0060-00	Oak	Lake	Leech Lake River	07010102	Hubbard
29-0061-00	Garfield	Lake	Leech Lake River	07010102	Hubbard
29-0063-00	Hart	Lake	Leech Lake River	07010102	Hubbard
29-0065-00	Mud	Lake	Mississippi River - Headwaters	07010101	Hubbard
29-0066-00	Midge	Lake	Mississippi River - Headwaters	07010101	Hubbard

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
29-0072-00	Eighth Crow Wing	Lake	Crow Wing River	07010106	Hubbard
29-0075-00	Kabekona	Lake	Leech Lake River	07010102	Hubbard
29-0077-00	Third Crow Wing	Lake	Crow Wing River	07010106	Hubbard
29-0078-00	Fourth Crow Wing	Lake	Crow Wing River	07010106	Hubbard
29-0079-00	Unnamed	Lake	Crow Wing River	07010106	Hubbard
29-0080-00	Little Stony	Lake	Crow Wing River	07010106	Hubbard
29-0082-00	Unnamed	Lake	Crow Wing River	07010106	Hubbard
29-0084-00	Unnamed	Lake	Crow Wing River	07010106	Hubbard
29-0085-00	Second Crow Wing	Lake	Crow Wing River	07010106	Hubbard
29-0086-00	First Crow Wing	Lake	Crow Wing River	07010106	Hubbard
29-0088-00	Island	Lake	Crow Wing River	07010106	Hubbard
29-0089-00	Shallow	Lake	Crow Wing River	07010106	Hubbard
29-0090-00	Deer	Lake	Crow Wing River	07010106	Hubbard
29-0091-00	Seventh Crow Wing	Lake	Crow Wing River	07010106	Hubbard
29-0092-00	Fifth Crow Wing	Lake	Crow Wing River	07010106	Hubbard
29-0093-00	Sixth Crow Wing	Lake	Crow Wing River	07010106	Hubbard
29-0094-00	Tamarack	Lake	Crow Wing River	07010106	Hubbard
29-0095-00	Holland-Lucy	Lake	Crow Wing River	07010106	Hubbard
29-0097-00	Clausens	Lake	Crow Wing River	07010106	Hubbard
29-0098-00	Waboose	Lake	Crow Wing River	07010106	Hubbard
29-0099-00	Unnamed	Lake	Crow Wing River	07010106	Hubbard
29-0114-00	Unnamed	Lake	Crow Wing River	07010106	Hubbard
29-0115-00	Unnamed	Lake	Crow Wing River	07010106	Hubbard
29-0116-00	Crow Wing	Lake	Crow Wing River	07010106	Hubbard
29-0117-01	SPIDER (NE/SW BAY)	Lake	Crow Wing River	07010106	Hubbard
29-0117-02	SPIDER (EAST BAY)	Lake	Crow Wing River	07010106	Hubbard
29-0118-00	Unnamed	Lake	Crow Wing River	07010106	Hubbard

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
29-0119-00	Mud	Lake	Crow Wing River	07010106	Hubbard
29-0123-00	2nd Little Gulch	Lake	Leech Lake River	07010102	Hubbard
29-0132-00	Bass	Lake	Leech Lake River	07010102	Hubbard
29-0142-00	Duck	Lake	Crow Wing River	07010106	Hubbard; Wadena
29-0144-00	Sunday	Lake	Crow Wing River	07010106	Hubbard
29-0146-00	Belle Taine	Lake	Crow Wing River	07010106	Hubbard
29-0148-00	Upper Bottle	Lake	Crow Wing River	07010106	Hubbard
29-0150-00	Little Sand	Lake	Crow Wing River	07010106	Hubbard
29-0151-01	MANTRAP (EAST BASIN)	Lake	Crow Wing River	07010106	Hubbard
29-0151-02	Mantrap (Middle Basin	Lake	Crow Wing River	07010106	Hubbard
29-0151-03	MANTRAP (MIRROR BAY)	Lake	Crow Wing River	07010106	Hubbard
29-0151-04	MANTRAP (WEST ARM)	Lake	Crow Wing River	07010106	Hubbard
29-0151-05	MANTRAP (HOME BAY)	Lake	Crow Wing River	07010106	Hubbard
29-0156-00	Plantagenet	Lake	Mississippi River - Headwaters	07010101	Hubbard; Beltrami
29-0157-00	Upper Twin	Lake	Crow Wing River	07010106	Hubbard; Wadena
29-0158-00	Unnamed	Lake	Crow Wing River	07010106	Hubbard
29-0177-00	Rice	Lake	Crow Wing River	07010106	Hubbard
29-0179-00	Unnamed	Lake	Crow Wing River	07010106	Hubbard
29-0180-00	Lower Bottle	Lake	Crow Wing River	07010106	Hubbard
29-0183-00	Little Rice	Lake	Crow Wing River	07010106	Hubbard
29-0185-00	Big Sand	Lake	Crow Wing River	07010106	Hubbard
29-0186-00	Emma	Lake	Crow Wing River	07010106	Hubbard
29-0197-00	Pine	Lake	Mississippi River - Headwaters	07010101	Hubbard
29-0215-00	Schoolcraft	Lake	Mississippi River - Headwaters	07010101	Hubbard

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
29-0216-00	George	Lake	Mississippi River - Headwaters	07010101	Hubbard
29-0217-00	Paine	Lake	Mississippi River - Headwaters	07010101	Hubbard
29-0220-00	Halverson	Lake	Leech Lake River	07010102	Hubbard
29-0227-00	Evergreen	Lake	Mississippi River - Headwaters	07010101	Hubbard
29-0231-00	Twenty	Lake	Mississippi River - Headwaters	07010101	Hubbard
29-0241-00	Frontenac	Lake	Mississippi River - Headwaters	07010101	Hubbard
29-0242-00	Fish Hook	Lake	Crow Wing River	07010106	Hubbard
29-0243-00	Potato	Lake	Crow Wing River	07010106	Hubbard
29-0249-00	Hinds	Lake	Crow Wing River	07010106	Hubbard
29-0250-00	Portage	Lake	Crow Wing River	07010106	Hubbard
29-0254-00	Island	Lake	Crow Wing River	07010106	Hubbard
29-0256-00	Eagle	Lake	Crow Wing River	07010106	Hubbard
29-0257-00	Many Arm	Lake	Crow Wing River	07010106	Hubbard
29-0263-00	Unnamed	Lake	Crow Wing River	07010106	Hubbard
29-0265-00	Beden	Lake	Crow Wing River	07010106	Hubbard
29-0267-00	Lower Mud	Lake	Crow Wing River	07010106	Hubbard
29-0284-00	Upper Mud	Lake	Crow Wing River	07010106	Hubbard
29-0286-00	Alice	Lake	Mississippi River - Headwaters	07010101	Hubbard
29-0289-00	Mary	Lake	Mississippi River - Headwaters	07010101	Hubbard; Clearwater
29-0292-00	Beauty	Lake	Mississippi River - Headwaters	07010101	Hubbard
29-0293-00	Twin	Lake	Mississippi River - Headwaters	07010101	Hubbard
29-0300-00	Hattie	Lake	Mississippi River - Headwaters	07010101	Hubbard
29-0554-00	Unnamed	Lake	Crow Wing River	07010106	Hubbard
29-0608-00	Unnamed	Lake	Crow Wing River	07010106	Hubbard

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
30-0004-00	Twin	Lake	Lower St. Croix River	07030005	Isanti
30-0009-00	Typo	Lake	Lower St. Croix River	07030005	Anoka; Isanti
30-0017-00	Grass	Lake	Lower St. Croix River	07030005	Chisago; Isanti
30-0018-00	Rice	Lake	Lower St. Croix River	07030005	Isanti
30-0020-00	Krans	Lake	Rum River	07010207	Isanti; Chisago
30-0023-00	Linderman	Lake	Rum River	07010207	Chisago; Isanti
30-0026-00	Athens WMA	Lake	Rum River	07010207	Isanti
30-0044-00	Little Stanchfield	Lake	Rum River	07010207	Isanti
30-0046-00	Twin	Lake	Rum River	07010207	Isanti
30-0056-00	Long	Lake	Rum River	07010207	Isanti
30-0057-00	Upper Rice	Lake	Snake River - St. Croix Basin	07030004	Isanti
30-0060-00	Section	Lake	Rum River	07010207	Isanti
30-0063-00	Unnamed	Lake	Rum River	07010207	Isanti
30-0065-00	Mud	Lake	Rum River	07010207	Isanti
30-0070-00	Marget	Lake	Rum River	07010207	Isanti
30-0083-00	Elizabeth	Lake	Rum River	07010207	Isanti
30-0094-00	Olson Impoundment	Lake	Rum River	07010207	Isanti
30-0100-00	German	Lake	Rum River	07010207	Isanti
30-0106-00	Mud	Lake	Rum River	07010207	Isanti
30-0116-00	Unnamed	Lake	Rum River	07010207	Isanti
30-0117-00	Mud	Lake	Rum River	07010207	Isanti
30-0138-00	South Stanchfield	Lake	Rum River	07010207	Isanti
30-0140-00	Krone	Lake	Rum River	07010207	Isanti
30-0141-00	Matson	Lake	Rum River	07010207	Isanti
30-0142-00	Grass	Lake	Rum River	07010207	Isanti
30-0143-00	North Stanchfield	Lake	Rum River	07010207	Isanti

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
30-0144-00	Lindgren	Lake	Rum River	07010207	Isanti; Kanabec
30-0267-00	Mimi's Pond	Lake	Snake River - St. Croix Basin	07030004	Isanti
31-0032-01	O'Brien (north portion)	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0032-02	O'Brien (south portion)	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0037-00	Hay	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0053-00	Prairie	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0066-00	Unnamed	Lake	Little Fork River	09030005	Itasca
31-0067-03	Swan Lake Southwest Bay	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0074-00	Reed	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0094-00	Unnamed	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0096-00	Lammon Aid	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0106-00	Ox Hide	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0121-00	Moose	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0122-00	Third Sucker	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0124-00	Big Sucker	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0142-00	Unnamed	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0144-00	Grass	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0152-00	Wolf	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0154-00	Hartley	Lake	Mississippi River - Grand Rapids	07010103	Itasca

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
31-0157-00	Bear	Lake	Little Fork River	09030005	Itasca
31-0174-00	Herrigan	Lake	Little Fork River	09030005	Itasca
31-0179-00	Trible	Lake	Big Fork River	09030006	Itasca
31-0190-00	North Twin	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0193-00	Crooked	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0198-00	Little Cowhorn	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0201-00	Rice	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0203-00	Crooked	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0204-00	Unnamed	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0206-00	Mud	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0210-00	Blackberry	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0216-00	Trout	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0229-00	Unnamed	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0231-00	Lawrence	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0242-00	Moose	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0265-00	Bluebill	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0266-01	Long (Main Bay)	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0267-00	Gunny Sack	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0271-00	Marble	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0272-00	Buckman	Lake	Mississippi River - Grand Rapids	07010103	Itasca

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
31-0276-00	Someman	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0288-00	Unnamed	Lake	Little Fork River	09030005	Itasca
31-0289-00	Lost	Lake	Little Fork River	09030005	Itasca
31-0291-00	Kelly	Lake	Little Fork River	09030005	Itasca
31-0294-00	Crescent	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0298-00	Walters	Lake	Little Fork River	09030005	Itasca
31-0301-00	Otter	Lake	Little Fork River	09030005	Itasca
31-0303-00	O'Donnell	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0305-00	Ann	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0315-00	Rice	Lake	Big Fork River	09030006	Itasca
31-0317-00	Larson	Lake	Big Fork River	09030006	Itasca
31-0320-00	Wilson	Lake	Little Fork River	09030005	Itasca
31-0322-00	Unnamed	Lake	Little Fork River	09030005	Itasca
31-0334-00	Deer	Lake	Big Fork River	09030006	Itasca
31-0337-00	Unnamed	Lake	Big Fork River	09030006	Itasca
31-0340-00	Buck	Lake	Big Fork River	09030006	Itasca
31-0341-00	Little Split Hand	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0347-00	Spruce	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0360-00	Munzer	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0377-00	Nagel	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0384-01	Lower Prairie	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0384-02	Prairie (main bay)	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0384-03	Upper Prairie	Lake	Mississippi River - Grand Rapids	07010103	Itasca

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
31-0392-00	Wabana	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0394-00	Little Trout	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0395-00	Bluewater	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0402-00	Clearwater	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0403-00	Bosley	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0410-00	Trout	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0413-00	Burrows	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0422-00	Ruby	Lake	Big Fork River	09030006	Itasca
31-0450-00	Hunters	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0507-00	Marie	Lake	Big Fork River	09030006	Itasca
31-0519-00	Unnamed	Lake	Big Fork River	09030006	Itasca
31-0527-00	Grass	Lake	Big Fork River	09030006	Itasca
31-0532-01	POKEGAMA (MAIN BAY)	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0532-02	POKEGAMA (WENDIGO)	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0534-00	Shoal	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0539-00	Copenhagen	Lake	Big Fork River	09030006	Itasca
31-0540-00	Clubhouse	Lake	Big Fork River	09030006	Itasca
31-0544-00	Cameron	Lake	Big Fork River	09030006	Itasca
31-0547-00	Smith	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0561-00	Blackwater	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0565-00	Jay Gould	Lake	Mississippi River - Headwaters	07010101	Itasca

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
31-0570-00	Long	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0576-00	Bass	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0594-00	Cottonwood	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0609-00	Fawn	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0610-00	Little Moose	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0622-00	Dead Horse	Lake	Big Fork River	09030006	Itasca
31-0624-01	North Grave	Lake	Big Fork River	09030006	Itasca
31-0624-02	South Grave	Lake	Big Fork River	09030006	Itasca
31-0634-00	Irma	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0637-00	Day	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0663-00	Forest	Lake	Big Fork River	09030006	Itasca
31-0690-00	Aspen	Lake	Big Fork River	09030006	Itasca
31-0692-00	Lauchoh	Lake	Big Fork River	09030006	Itasca
31-0704-00	Batson	Lake	Big Fork River	09030006	Itasca
31-0707-00	Rice	Lake	Big Fork River	09030006	Itasca
31-0708-00	Logging Slough	Lake	Big Fork River	09030006	Itasca
31-0716-00	Little Rice	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0717-00	Rice	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0718-00	Stevens	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0726-00	Bello	Lake	Big Fork River	09030006	Itasca
31-0727-00	Grass	Lake	Big Fork River	09030006	Itasca
31-0740-00	Little White Oak	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0741-00	Little Drum	Lake	Mississippi River - Headwaters	07010101	Itasca

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
31-0750-00	Mud	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0754-00	Island	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0758-00	Little Bowstring	Lake	Big Fork River	09030006	Itasca
31-0775-00	No-ta-she-bun	Lake	Mississippi River - Grand Rapids	07010103	Itasca; Cass
31-0776-00	White Oak	Lake	Mississippi River - Headwaters	07010101	Itasca; Cass
31-0777-00	Round	Lake	Big Fork River	09030006	Itasca
31-0786-00	Jessie	Lake	Big Fork River	09030006	Itasca
31-0795-00	South Ackerman	Lake	Big Fork River	09030006	Itasca
31-0797-00	Little Spring	Lake	Big Fork River	09030006	Itasca
31-0798-00	East	Lake	Big Fork River	09030006	Itasca
31-0813-00	Bowstring	Lake	Mississippi River - Headwaters, Big Fork River	07010101, 09030006	Itasca
31-0815-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0817-00	Egg	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0818-00	First River	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0821-00	Tuttle	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0822-00	Little Ball Club	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0826-00	Sand	Lake	Big Fork River	09030006	Itasca
31-0828-00	Stone Axe	Lake	Big Fork River	09030006	Itasca
31-0834-00	Bird's Eye	Lake	Big Fork River	09030006	Itasca
31-0840-00	Helen	Lake	Big Fork River	09030006	Itasca
31-0843-00	Whitefish	Lake	Big Fork River	09030006	Itasca
31-0852-00	Little Cut Foot Sioux	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0853-00	Little Sand	Lake	Big Fork River	09030006	Itasca

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
31-0857-01	Cut Foot Sioux(Main Bay)	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0857-02	Cut Foot Sioux(East Bay)	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0857-03	Deer	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0859-00	Wart	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0860-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0861-00	Mosomo	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0867-00	Simpson	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0869-00	Dry Creek	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0876-00	Rice	Lake	Big Fork River	09030006	Itasca
31-0877-00	Natures	Lake	Big Fork River	09030006	Itasca
31-0878-00	Irene	Lake	Big Fork River	09030006	Itasca
31-0882-00	Dora	Lake	Big Fork River	09030006	Itasca
31-0883-00	Coddington	Lake	Big Fork River	09030006	Itasca
31-0884-00	Big Calf	Lake	Big Fork River	09030006	Itasca
31-0892-00	Middle Pigeon	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0893-00	Lower Pigeon	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0894-00	Pigeon Dam	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0900-00	Lost	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0901-00	Wilderness	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0902-00	Farley	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0904-00	Dunbar	Lake	Big Fork River	09030006	Itasca

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
31-0907-00	Sioux	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0908-00	Upper Pigeon	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0910-00	Shallow Pond	Lake	Big Fork River	09030006	Itasca
31-0911-00	Hamrey	Lake	Big Fork River	09030006	Itasca
31-0912-00	Wagner	Lake	Big Fork River	09030006	Itasca
31-0918-00	Fiske	Lake	Big Fork River	09030006	Itasca
31-0919-00	Bluerock	Lake	Big Fork River	09030006	Itasca
31-0921-00	Dixon	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0923-00	Rabbits	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0925-00	Raven	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0926-00	Sugar	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0928-00	Kenogama	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0929-00	Morph	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0934-00	Decker	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0936-00	Little Dixon	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0937-00	Marie	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0939-00	Skimerhorn	Lake	Mississippi River - Headwaters	07010101	Itasca
31-0942-00	Rice	Lake	Mississippi River - Headwaters	07010101	Itasca; Beltrami
31-0943-00	Coleman	Lake	Mississippi River - Headwaters	07010101	Itasca; Beltrami
31-0944-00	Damon	Lake	Mississippi River - Headwaters	07010101	Itasca; Beltrami
31-0961-00	Unnamed	Lake	Little Fork River	09030005	Itasca

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
31-0991-00	Pothole	Lake	Mississippi River - Grand Rapids	07010103	Itasca
31-0992-00	Dishpan	Lake	Big Fork River	09030006	Itasca
31-1209-00	Unnamed	Lake	Big Fork River	09030006	Itasca
31-1210-00	Unnamed	Lake	Big Fork River	09030006	Itasca
31-1223-00	Unnamed	Lake	Mississippi River - Headwaters	07010101	Itasca
33-0001-00	Eleven	Lake	Kettle River	07030003	Kanabec
33-0008-00	White Lily	Lake	Kettle River	07030003	Kanabec
33-0009-00	Pomroy	Lake	Snake River - St. Croix Basin	07030004	Kanabec
33-0011-00	Rice	Lake	Snake River - St. Croix Basin	07030004	Isanti; Kanabec
33-0012-00	Unnamed	Lake	Snake River - St. Croix Basin	07030004	Kanabec
33-0013-00	Grass	Lake	Snake River - St. Croix Basin	07030004	Kanabec
33-0014-00	Unnamed	Lake	Snake River - St. Croix Basin	07030004	Kanabec
33-0015-00	Quamba	Lake	Snake River - St. Croix Basin	07030004	Kanabec
33-0018-00	Sells	Lake	Snake River - St. Croix Basin	07030004	Kanabec
33-0019-00	Twin or East	Lake	Snake River - St. Croix Basin	07030004	Kanabec
33-0028-00	Knife	Lake	Snake River - St. Croix Basin	07030004	Kanabec
33-0029-00	Unnamed	Lake	Snake River - St. Croix Basin	07030004	Kanabec
33-0030-00	Pennington	Lake	Snake River - St. Croix Basin	07030004	Kanabec
33-0031-00	Erickson	Lake	Snake River - St. Croix Basin	07030004	Kanabec
33-0033-00	Devils	Lake	Snake River - St. Croix Basin	07030004	Kanabec

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
33-0035-00	Kent	Lake	Snake River - St. Croix Basin	07030004	Kanabec
33-0036-00	Fish	Lake	Snake River - St. Croix Basin	07030004	Kanabec
33-0040-00	Ann	Lake	Snake River - St. Croix Basin	07030004	Kanabec
33-0072-00	Unnamed	Lake	Snake River - St. Croix Basin	07030004	Kanabec
33-0111-00	Unnamed	Lake	Snake River - St. Croix Basin	07030004	Kanabec
34-0022-02	Elizabeth (Main Lake)	Lake	South Fork Crow River	07010205	Kandiyohi
34-0044-00	Diamond	Lake	North Fork Crow River	07010204	Kandiyohi
34-0062-00	Calhoun	Lake	North Fork Crow River	07010204	Kandiyohi
34-0072-00	Lillian	Lake	South Fork Crow River	07010205	Kandiyohi
34-0079-00	Green	Lake	North Fork Crow River	07010204	Kandiyohi
34-0119-00	Elkhorn	Lake	North Fork Crow River	07010204	Kandiyohi
34-0143-00	Unnamed	Lake	North Fork Crow River	07010204	Kandiyohi
34-0146-00	Eight	Lake	North Fork Crow River	07010204	Kandiyohi
34-0148-00	Bear	Lake	North Fork Crow River	07010204	Kandiyohi
34-0150-01	Holstad	Lake	North Fork Crow River	07010204	Kandiyohi
34-0154-00	Nest	Lake	North Fork Crow River	07010204	Kandiyohi
34-0158-01	Lake Monongalia - main basin	Lake	North Fork Crow River	07010204	Kandiyohi
34-0158-02	Lake Monongalia - Middle Fork Crow River	Lake	North Fork Crow River	07010204	Kandiyohi
34-0158-03	Crow River Mill Pond (East)	Lake	North Fork Crow River	07010204	Kandiyohi
34-0158-04	Crow River Mill Pond(Middle)	Lake	North Fork Crow River	07010204	Kandiyohi
34-0158-05	Crow River Mill Pond (West)	Lake	North Fork Crow River	07010204	Kandiyohi
34-0169-01	Wakanda, Lake (Far East)	Lake	South Fork Crow River	07010205	Kandiyohi

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
34-0169-02	Wakanda, Lake (East Bay)	Lake	South Fork Crow River	07010205	Kandiyohi
34-0169-03	Wakanda, Lake (Main Basin	Lake	South Fork Crow River	07010205	Kandiyohi
34-0169-04	Wakanda, Lake (West Bay)	Lake	South Fork Crow River	07010205	Kandiyohi
34-0169-05	Wakanda, Lake (Far West)	Lake	South Fork Crow River	07010205	Kandiyohi
34-0172-00	Ringo	Lake	Minnesota River - Yellow Medicine River	07020004	Kandiyohi
34-0181-00	Foot	Lake	Minnesota River - Yellow Medicine River	07020004	Kandiyohi
34-0206-00	Andrew	Lake	Chippewa River	07020005	Kandiyohi
34-0224-00	Games	Lake	Chippewa River	07020005	Kandiyohi
34-0236-00	Unnamed	Lake	Chippewa River	07020005	Kandiyohi
34-0246-00	East Solomon	Lake	Minnesota River - Yellow Medicine River	07020004	Kandiyohi
34-0251-01	Norway (Northwest)	Lake	Chippewa River	07020005	Kandiyohi
34-0251-02	Norway (Southern)	Lake	Chippewa River	07020005	Kandiyohi
34-0339-00	Brenner	Lake	Chippewa River	07020005	Kandiyohi
34-0342-00	Ole	Lake	Chippewa River	07020005	Kandiyohi
34-0344-00	Deer	Lake	Chippewa River	07020005	Kandiyohi
34-0345-00	Blaamyhre	Lake	Chippewa River	07020005	Kandiyohi
34-0352-00	Glesne	Lake	Chippewa River	07020005	Kandiyohi
34-0353-00	Unnamed	Lake	Chippewa River	07020005	Kandiyohi
34-0357-00	Crook	Lake	Chippewa River	07020005	Kandiyohi; Pope
34-0391-00	Unnamed	Lake	North Fork Crow River	07010204	Kandiyohi
34-0611-00	Unnamed	Lake	North Fork Crow River	07010204	Kandiyohi
34-0652-00	Andrea	Lake	Chippewa River	07020005	Kandiyohi
35-0003-00	Bronson	Lake	Two Rivers	09020312	Kittson
36-0001-00	Nett	Lake	Little Fork River	09030005	Koochiching; St. Louis

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
36-0006-00	Rat Root	Lake	Rainy River - Rainy Lake	09030003	Koochiching
36-0008-00	Moose	Lake	Rainy River - Rainy Lake	09030003	Koochiching
36-0009-00	Seretha	Lake	Big Fork River	09030006	Koochiching
36-0018-00	Bartlett	Lake	Upper/Lower Red Lake	09020302	Koochiching
36-0019-00	Teufer	Lake	Big Fork River	09030006	Koochiching
36-0024-00	Battle	Lake	Upper/Lower Red Lake	09020302	Koochiching
37-0046-01	Lac Qui Parle (SE Bay)	Lake	Minnesota River - Headwaters	07020001	Chippewa; Lac Qui Parle
37-0046-02	Lac Qui Parle (NW Bay)	Lake	Minnesota River - Headwaters	07020001	Chippewa; Lac Qui Parle; Swift
38-0001-00	South Wigwam	Lake	Lake Superior - North	04010101	Lake; Cook
38-0002-00	Cross River	Lake	Lake Superior - North	04010101	Lake; Cook
38-0004-00	Cook	Lake	Rainy River - Headwaters	09030001	Lake; Cook
38-0014-00	Cramer	Lake	Lake Superior - North	04010101	Lake
38-0016-00	Kowalski	Lake	Lake Superior - North	04010101	Lake
38-0024-01	CROOKED (EAST BAY)	Lake	Lake Superior - North	04010101	Lake
38-0024-02	CROOKED (WEST BAY)	Lake	Lake Superior - North	04010101	Lake
38-0036-00	Moose	Lake	Lake Superior - North	04010101	Lake
38-0042-00	Wye	Lake	Rainy River - Headwaters	09030001	Lake
38-0047-00	Wilson	Lake	Lake Superior - North	04010101	Lake
38-0048-00	Harriet	Lake	Rainy River - Headwaters	09030001	Lake
38-0049-00	Wanless	Lake	Rainy River - Headwaters	09030001	Lake
38-0055-00	Charity	Lake	Rainy River - Headwaters	09030001	Lake

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
38-0058-00	Scarp	Lake	Rainy River - Headwaters	09030001	Lake
38-0074-00	Square	Lake	Rainy River - Headwaters	09030001	Lake
38-0079-00	Watonwan	Lake	Rainy River - Headwaters	09030001	Lake
38-0080-00	Kawishiwi	Lake	Rainy River - Headwaters	09030001	Lake
38-0085-00	Bill	Lake	Rainy River - Headwaters	09030001	Lake
38-0104-00	Polly	Lake	Rainy River - Headwaters	09030001	Lake
38-0139-00	Roe	Lake	Rainy River - Headwaters	09030001	Lake
38-0219-00	Silver Island	Lake	Rainy River - Headwaters	09030001	Lake
38-0220-00	Perent	Lake	Rainy River - Headwaters	09030001	Lake
38-0233-00	Micmac	Lake	Lake Superior - North	04010101	Lake
38-0246-00	Cramer Homestead	Lake	Lake Superior - North	04010101	Lake
38-0247-00	Twenty Three	Lake	Lake Superior - North	04010101	Lake
38-0248-00	Sonju	Lake	Lake Superior - North	04010101	Lake
38-0251-00	Hoist	Lake	Lake Superior - North	04010101	Lake
38-0254-00	Unnamed	Lake	Rainy River - Headwaters	09030001	Lake
38-0260-00	Cabin	Lake	Lake Superior - North	04010101	Lake
38-0261-00	Bluebill	Lake	Lake Superior - North	04010101	Lake
38-0264-00	Green Wing	Lake	Rainy River - Headwaters	09030001	Lake
38-0265-00	Folly	Lake	Rainy River - Headwaters	09030001	Lake
38-0269-00	Homestead	Lake	Rainy River - Headwaters	09030001	Lake
38-0270-00	Dumbbell	Lake	Rainy River - Headwaters	09030001	Lake

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
38-0271-00	Scott	Lake	Rainy River - Headwaters	09030001	Lake
38-0285-00	Swamp	Lake	Rainy River - Headwaters	09030001	Lake
38-0289-00	Island River	Lake	Rainy River - Headwaters	09030001	Lake
38-0290-00	Comfort	Lake	Rainy River - Headwaters	09030001	Lake
38-0292-00	Section 29	Lake	Rainy River - Headwaters	09030001	Lake
38-0293-00	Bunny	Lake	Rainy River - Headwaters	09030001	Lake
38-0393-00	Dumbbell	Lake	Rainy River - Headwaters	09030001	Lake
38-0395-00	Sylvania	Lake	Rainy River - Headwaters	09030001	Lake
38-0396-00	Isabella	Lake	Rainy River - Headwaters	09030001	Lake
38-0406-00	Lax	Lake	Lake Superior - South	04010102	Lake
38-0417-00	Round Island	Lake	Lake Superior - North	04010101	Lake
38-0419-00	Crown	Lake	Lake Superior - North	04010101	Lake
38-0420-00	Osier	Lake	Rainy River - Headwaters	09030001	Lake
38-0425-00	Tommy	Lake	Rainy River - Headwaters	09030001	Lake
38-0432-00	Eighteen	Lake	Rainy River - Headwaters	09030001	Lake
38-0440-00	Memegwesi	Lake	Rainy River - Headwaters	09030001	Lake
38-0441-00	Jack	Lake	Rainy River - Headwaters	09030001	Lake
38-0445-00	Nine A.M.	Lake	Rainy River - Headwaters	09030001	Lake
38-0446-00	Sapphire	Lake	Rainy River - Headwaters	09030001	Lake
38-0455-00	Pose	Lake	Rainy River - Headwaters	09030001	Lake

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
38-0458-00	Wager	Lake	Rainy River - Headwaters	09030001	Lake
38-0459-00	Diana	Lake	Rainy River - Headwaters	09030001	Lake
38-0465-00	Rice	Lake	Rainy River - Headwaters	09030001	Lake
38-0491-00	Vera	Lake	Rainy River - Headwaters	09030001	Lake
38-0529-00	Snowbank	Lake	Rainy River - Headwaters	09030001	Lake
38-0538-00	Katherine	Lake	Cloquet River	04010202	Lake
38-0539-00	Cloquet	Lake	Cloquet River	04010202	Lake
38-0540-00	Sink	Lake	Cloquet River	04010202	Lake
38-0550-00	Surprise	Lake	Rainy River - Headwaters	09030001	Lake
38-0552-00	Dragon	Lake	Rainy River - Headwaters	09030001	Lake
38-0553-00	Hide	Lake	Rainy River - Headwaters	09030001	Lake
38-0557-00	Grouse	Lake	Rainy River - Headwaters	09030001	Lake
38-0559-00	Kitigan	Lake	Rainy River - Headwaters	09030001	Lake
38-0561-00	Mitawan	Lake	Rainy River - Headwaters	09030001	Lake
38-0567-00	Rat	Lake	Rainy River - Headwaters	09030001	Lake
38-0568-00	Flat Horn	Lake	Rainy River - Headwaters	09030001	Lake
38-0573-00	Gegoka	Lake	Rainy River - Headwaters	09030001	Lake
38-0616-00	Manomin	Lake	Rainy River - Headwaters	09030001	Lake
38-0619-00	Newfound	Lake	Rainy River - Headwaters	09030001	Lake
38-0635-00	Grass	Lake	Rainy River - Headwaters	09030001	Lake

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
38-0637-00	Bald Eagle	Lake	Rainy River - Headwaters	09030001	Lake
38-0642-00	Wind	Lake	Rainy River - Headwaters	09030001	Lake
38-0644-00	Moose	Lake	Rainy River - Headwaters	09030001	Lake
38-0645-00	Basswood	Lake	Rainy River - Headwaters	09030001	Lake
38-0647-00	Clark	Lake	Cloquet River	04010202	Lake
38-0648-00	Langley	Lake	Cloquet River	04010202	Lake
38-0649-00	Legler	Lake	Cloquet River	04010202	Lake
38-0652-00	Driller	Lake	Cloquet River	04010202	Lake
38-0653-00	Phantom	Lake	Rainy River - Headwaters	09030001	Lake
38-0654-00	Source	Lake	Rainy River - Headwaters	09030001	Lake
38-0655-00	Railroad	Lake	Rainy River - Headwaters	09030001	Lake
38-0656-00	Greenwood	Lake	Rainy River - Headwaters	09030001	Lake
38-0657-00	Fourth McDougal	Lake	Rainy River - Headwaters	09030001	Lake
38-0658-00	Middle McDougal	Lake	Rainy River - Headwaters	09030001	Lake
38-0659-00	South McDougal	Lake	Rainy River - Headwaters	09030001	Lake
38-0660-00	Stony	Lake	Rainy River - Headwaters	09030001	Lake
38-0664-00	Dunnigan	Lake	Rainy River - Headwaters	09030001	Lake
38-0666-00	Slate	Lake	Rainy River - Headwaters	09030001	Lake
38-0668-00	Deep	Lake	Rainy River - Headwaters	09030001	Lake
38-0674-00	East Chub	Lake	Rainy River - Headwaters	09030001	Lake

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
38-0675-00	West Chub	Lake	Rainy River - Headwaters	09030001	Lake
38-0679-00	Campers	Lake	Rainy River - Headwaters	09030001	Lake
38-0684-00	Little Wampus	Lake	Rainy River - Headwaters	09030001	Lake
38-0685-00	Wampus	Lake	Rainy River - Headwaters	09030001	Lake
38-0686-00	North McDougal	Lake	Rainy River - Headwaters	09030001	Lake
38-0691-00	August	Lake	Rainy River - Headwaters	09030001	Lake
38-0701-00	Gabbro	Lake	Rainy River - Headwaters	09030001	Lake
38-0703-00	Little Gabbro	Lake	Rainy River - Headwaters	09030001	Lake
38-0708-00	Sourdough	Lake	Rainy River - Headwaters	09030001	Lake
38-0726-00	Good	Lake	Rainy River - Headwaters	09030001	Lake
38-0727-00	Ella Hall	Lake	Rainy River - Headwaters	09030001	Lake
38-0728-00	Hula	Lake	Rainy River - Headwaters	09030001	Lake
38-0729-00	Wood	Lake	Rainy River - Headwaters	09030001	Lake
38-0735-00	Sand	Lake	Rainy River - Headwaters	09030001	Lake
38-0736-00	Harris	Lake	Rainy River - Headwaters	09030001	Lake
38-0739-00	Pea Soup	Lake	Rainy River - Headwaters	09030001	Lake
38-0742-00	Mud	Lake	Rainy River - Headwaters	09030001	Lake
38-0750-00	Christianson	Lake	Lake Superior - South	04010102	Lake
38-0755-00	Sullivan	Lake	Cloquet River	04010202	Lake
38-0756-00	Upland	Lake	Cloquet River	04010202	Lake

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
38-0758-00	Hjalmer	Lake	Cloquet River	04010202	Lake
38-0761-00	Fools	Lake	Rainy River - Headwaters	09030001	Lake
38-0762-00	Bonga	Lake	Rainy River - Headwaters	09030001	Lake
38-0766-00	Lobo	Lake	St. Louis River	04010201	Lake
38-0767-00	Cougar	Lake	Rainy River - Headwaters	09030001	Lake
38-0773-00	Denley	Lake	Rainy River - Headwaters	09030001	Lake
38-0778-00	South Farm	Lake	Rainy River - Headwaters	09030001	Lake
38-0779-00	Farm	Lake	Rainy River - Headwaters	09030001	Lake
38-0782-00	Garden	Lake	Rainy River - Headwaters	09030001	Lake
38-0784-00	Newton	Lake	Rainy River - Headwaters	09030001	Lake
38-0788-00	Muskeg	Lake	Rainy River - Headwaters	09030001	Lake
38-0810-00	Cedar	Lake	Rainy River - Headwaters	09030001	Lake; St. Louis
38-0811-00	Fall	Lake	Rainy River - Headwaters	09030001	Lake; St. Louis
38-0817-00	Crooked	Lake	Rainy River - Headwaters	09030001	Lake; St. Louis
38-0818-00	Papoose	Lake	Rainy River - Headwaters	09030001	Lake; St. Louis
38-0842-00	Island River	Lake	Rainy River - Headwaters	09030001	Lake
38-0909-00	Jouppi	Lake	Rainy River - Headwaters	09030001	Lake
39-0002-01	Lake of the Woods (Main)	Lake	Lake of the Woods	09030009	Lake of the Woods; Roseau

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
39-0002-02	LAKE OF THE WOODS(4 MI BAY)	Lake	Lake of the Woods	09030009	Lake of the Woods
39-0009-00	North Unit	Lake	Roseau River	09020314	Lake of the Woods
40-0016-00	Rice	Lake	Lower Minnesota River	07020012	Le Sueur
40-0037-00	Rice	Lake	Cannon River	07040002	Le Sueur
40-0051-00	Fish	Lake	Cannon River	07040002	Le Sueur
40-0114-01	Rice (North portion)	Lake	Lower Minnesota River	07020012	Le Sueur
40-0114-02	Rice (South portion)	Lake	Lower Minnesota River	07020012	Le Sueur
41-0045-00	Hawksnest	Lake	Minnesota River - Yellow Medicine River	07020004	Lincoln
41-0062-00	Oak	Lake	Minnesota River - Yellow Medicine River	07020004	Lincoln
41-0067-00	Perch	Lake	Minnesota River - Yellow Medicine River	07020004	Lincoln
41-0082-00	Steep Bank	Lake	Minnesota River - Yellow Medicine River	07020004	Lincoln
41-0109-00	Unnamed	Lake	Lac Qui Parle River	07020003	Lincoln; Yellow Medicine
42-0020-00	Lady Slipper	Lake	Minnesota River - Yellow Medicine River	07020004	Lyon
43-0013-00	Grass	Lake	South Fork Crow River	07010205	McLeod
43-0020-00	Coon	Lake	South Fork Crow River	07010205	McLeod; Wright
43-0042-00	Rice	Lake	South Fork Crow River	07010205	McLeod
43-0168-00	Dagger Slough	Lake	South Fork Crow River	07010205	McLeod
44-0001-00	Roy	Lake	Wild Rice River	09020108	Clearwater; Mahnomen
44-0002-00	Lone	Lake	Wild Rice River	09020108	Mahnomen; Clearwater
44-0003-00	Tulaby	Lake	Wild Rice River	09020108	Becker; Mahnomen

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
44-0006-00	Bass	Lake	Wild Rice River	09020108	Mahnomen
44-0011-00	Little Elbow	Lake	Wild Rice River	09020108	Mahnomen
44-0014-00	South Twin	Lake	Wild Rice River	09020108	Mahnomen
44-0024-00	Rice	Lake	Wild Rice River	09020108	Mahnomen
44-0047-00	Grass	Lake	Wild Rice River	09020108	Mahnomen
44-0054-00	Unnamed	Lake	Wild Rice River	09020108	Mahnomen
44-0080-00	McCraney	Lake	Wild Rice River	09020108	Mahnomen
44-0108-00	Sargent	Lake	Wild Rice River	09020108	Mahnomen
44-0121-00	Snetsinger	Lake	Wild Rice River	09020108	Mahnomen
44-0122-00	Wakefield	Lake	Wild Rice River	09020108	Mahnomen
44-0169-00	Little Vanose	Lake	Wild Rice River	09020108	Mahnomen
44-0572-00	Mahn	Lake	Wild Rice River	09020108	Mahnomen
44-0573-00	Peabody	Lake	Wild Rice River	09020108	Mahnomen
47-0002-00	Francis	Lake	North Fork Crow River	07010204	Meeker; Wright
47-0015-00	Jennie	Lake	North Fork Crow River	07010204	Meeker
47-0032-00	Spring	Lake	North Fork Crow River	07010204	Meeker
47-0046-00	Washington	Lake	North Fork Crow River	07010204	Meeker
47-0068-00	Stella	Lake	North Fork Crow River	07010204	Meeker
47-0076-00	Darwin	Lake	North Fork Crow River	07010204	Meeker
47-0087-00	Rice	Lake	North Fork Crow River	07010204	Meeker
47-0118-00	Evenson	Lake	South Fork Crow River	07010205	Meeker
47-0134-01	Ripley (east portion)	Lake	North Fork Crow River	07010204	Meeker
47-0134-02	Ripley (west portion)	Lake	North Fork Crow River	07010204	Meeker
47-0154-00	Thoen	Lake	North Fork Crow River	07010204	Meeker
48-0002-00	Mille Lacs	Lake	Rum River	07010207	Aitkin; Crow Wing; Mille Lacs
48-0007-00	Cranberry	Lake	Snake River - St. Croix Basin	07030004	Mille Lacs
48-0009-00	Onamia	Lake	Rum River	07010207	Mille Lacs

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
48-0010-00	Rice	Lake	Mississippi River - St. Cloud	07010203	Mille Lacs; Sherburne
48-0012-00	Shakopee	Lake	Rum River	07010207	Mille Lacs
48-0014-00	Ogechie	Lake	Rum River	07010207	Mille Lacs
48-0016-00	Bass	Lake	Rum River	07010207	Mille Lacs
48-0017-00	Bass	Lake	Rum River	07010207	Mille Lacs
48-0018-00	Bass	Lake	Rum River	07010207	Mille Lacs
48-0020-00	Dewitt Marsh	Lake	Snake River - St. Croix Basin	07030004	Mille Lacs
48-0035-00	Korsness Pool	Lake	Rum River	07010207	Mille Lacs
48-0036-00	Ernst Pool	Lake	Snake River - St. Croix Basin	07030004	Mille Lacs
48-0043-00	Unnamed	Lake	Snake River - St. Croix Basin	07030004	Mille Lacs
48-0044-00	Unnamed	Lake	Rum River, Snake River - St. Croix Basin	07010207, 07030004	Mille Lacs
48-0047-00	Unnamed	Lake	Snake River - St. Croix Basin	07030004	Mille Lacs
48-0054-00	Unnamed	Lake	Snake River - St. Croix Basin	07030004	Kanabec; Mille Lacs
48-0074-00	Olson Pool	Lake	Snake River - St. Croix Basin	07030004	Mille Lacs
48-0077-00	Rum River State Forest Large Pool	Lake	Snake River - St. Croix Basin	07030004	Mille Lacs
48-0078-00	Townhall Pool	Lake	Snake River - St. Croix Basin	07030004	Mille Lacs
49-0005-00	Peavy	Lake	Mississippi River - Sartell	07010201	Morrison
49-0006-00	Twelve	Lake	Rum River	07010207	Morrison
49-0007-00	Skunk	Lake	Mississippi River - Sartell	07010201	Morrison
49-0014-00	Hannah	Lake	Mississippi River - Sartell	07010201	Crow Wing; Morrison
49-0015-00	Long	Lake	Mississippi River - Sartell	07010201	Crow Wing; Morrison

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
49-0016-00	Sullivan	Lake	Mississippi River - Sartell	07010201	Morrison
49-0018-00	Mud	Lake	Mississippi River - Sartell	07010201	Morrison
49-0019-00	Round	Lake	Mississippi River - Sartell	07010201	Morrison; Crow Wing
49-0020-00	Coon	Lake	Mississippi River - Sartell	07010201	Morrison
49-0024-00	Pierz	Lake	Mississippi River - Sartell	07010201	Morrison
49-0025-00	Rice	Lake	Mississippi River - Sartell	07010201	Morrison
49-0026-00	Skunk	Lake	Mississippi River - Sartell	07010201	Morrison
49-0027-00	Mud	Lake	Mississippi River - Sartell	07010201	Morrison
49-0030-00	Pelkey	Lake	Mississippi River - Sartell	07010201	Morrison
49-0033-00	Popple	Lake	Mississippi River - Sartell	07010201	Morrison
49-0035-00	Green Prairie Fish	Lake	Mississippi River - Brainerd	07010104	Morrison
49-0036-01	Sylvan (Main Basin)	Lake	Crow Wing River	07010106	Cass; Morrison
49-0036-02	Sylvan (North Basin)	Lake	Crow Wing River	07010106	Cass
49-0051-00	Miller	Lake	Mississippi River - Brainerd	07010104	Morrison
49-0072-00	Mud	Lake	Long Prairie River	07010108	Morrison
49-0079-00	Alexander	Lake	Long Prairie River	07010108	Morrison
49-0080-00	Placid	Lake	Crow Wing River	07010106	Cass; Morrison
49-0081-00	Pine	Lake	Mississippi River - Brainerd	07010104	Morrison
49-0095-00	Mud	Lake	Mississippi River - Brainerd	07010104	Morrison
49-0101-00	Madaline	Lake	Long Prairie River	07010108	Morrison

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
49-0104-00	Longs	Lake	Long Prairie River	07010108	Morrison
49-0118-00	Stanchfield	Lake	Crow Wing River	07010106	Morrison
49-0127-00	Shamineau	Lake	Long Prairie River	07010108	Morrison
49-0133-00	Crookneck	Lake	Long Prairie River	07010108	Morrison
49-0135-00	Bernhart	Lake	Long Prairie River	07010108	Morrison
49-0136-00	Ham	Lake	Long Prairie River	07010108	Morrison
49-0137-00	Fish Trap	Lake	Long Prairie River	07010108	Morrison
49-0140-00	Cedar	Lake	Mississippi River - Sartell	07010201	Morrison; Todd
52-0033-00	Rice	Lake	Lower Minnesota River	07020012	Nicollet; Sibley
52-0034-00	Swan	Lake	Minnesota River - Mankato	07020007	Nicollet
56-0001-00	East Annalaide	Lake	Redeye River	07010107	Otter Tail; Todd
56-0004-00	South Maple	Lake	Redeye River	07010107	Otter Tail
56-0006-00	Rice	Lake	Redeye River	07010107	Otter Tail
56-0013-00	North Maple	Lake	Redeye River	07010107	Otter Tail
56-0024-00	Unnamed	Lake	Redeye River	07010107	Otter Tail
56-0043-00	Wing River	Lake	Redeye River	07010107	Otter Tail
56-0069-00	Bear	Lake	Redeye River	07010107	Otter Tail
56-0094-00	Unnamed	Lake	Redeye River	07010107	Otter Tail
56-0100-00	Sixteen	Lake	Otter Tail River	09020103	Otter Tail
56-0101-00	Unnamed	Lake	Otter Tail River	09020103	Otter Tail
56-0110-00	Snow	Lake	Redeye River	07010107	Otter Tail
56-0114-00	West Leaf	Lake	Redeye River	07010107	Otter Tail
56-0115-00	Grass	Lake	Redeye River	07010107	Otter Tail
56-0116-01	Middle Leaf	Lake	Redeye River	07010107	Otter Tail
56-0116-02	East Leaf	Lake	Redeye River	07010107	Otter Tail
56-0126-00	Nitche	Lake	Otter Tail River	09020103	Otter Tail
56-0130-00	Big Pine	Lake	Otter Tail River	09020103	Otter Tail
56-0132-00	Mud	Lake	Redeye River	07010107	Otter Tail

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
56-0138-00	East Battle	Lake	Otter Tail River	09020103	Otter Tail
56-0139-00	Gourd	Lake	Redeye River	07010107	Otter Tail
56-0140-01	Portage (main bay)	Lake	Redeye River	07010107	Otter Tail
56-0140-02	Mack	Lake	Redeye River	07010107	Otter Tail
56-0141-00	Rush	Lake	Otter Tail River	09020103	Otter Tail
56-0143-00	Unnamed	Lake	Otter Tail River	09020103	Otter Tail
56-0160-00	Spitzer	Lake	Pomme de Terre River	07020002	Otter Tail
56-0178-00	Ellingson	Lake	Otter Tail River	09020103	Otter Tail
56-0191-01	STUART (MAIN BASIN)	Lake	Otter Tail River	09020103	Otter Tail
56-0191-02	Stuart (Little West Bay)	Lake	Otter Tail River	09020103	Otter Tail
56-0192-00	Tamarack	Lake	Redeye River	07010107	Otter Tail
56-0194-00	Emma	Lake	Otter Tail River	09020103	Otter Tail
56-0195-00	Beauty Shore	Lake	Otter Tail River	09020103	Otter Tail
56-0198-00	Unnamed	Lake	Otter Tail River	09020103	Otter Tail
56-0210-00	Long	Lake	Otter Tail River	09020103	Otter Tail
56-0211-00	Rice	Lake	Otter Tail River	09020103	Otter Tail
56-0212-00	Boedigheimer	Lake	Otter Tail River	09020103	Otter Tail
56-0213-00	Head	Lake	Otter Tail River	09020103	Otter Tail
56-0215-00	Mud (McGowan)	Lake	Otter Tail River	09020103	Otter Tail
56-0222-00	Mud	Lake	Otter Tail River	09020103	Otter Tail
56-0229-00	Murphy	Lake	Otter Tail River	09020103	Otter Tail; Becker
56-0239-00	West Battle	Lake	Otter Tail River	09020103	Otter Tail
56-0242-00	Otter Tail	Lake	Otter Tail River	09020103	Otter Tail
56-0243-00	Marion	Lake	Otter Tail River	09020103	Otter Tail
56-0284-00	Unnamed	Lake	Otter Tail River	09020103	Otter Tail
56-0293-00	Crane	Lake	Otter Tail River	09020103	Otter Tail
56-0298-00	Deer	Lake	Otter Tail River	09020103	Otter Tail
56-0306-00	Elbow	Lake	Otter Tail River	09020103	Otter Tail

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
56-0310-00	Walker	Lake	Otter Tail River	09020103	Otter Tail
56-0311-00	Davies	Lake	Otter Tail River	09020103	Otter Tail
56-0315-00	Brown	Lake	Otter Tail River	09020103	Otter Tail
56-0318-00	Bolton	Lake	Otter Tail River	09020103	Otter Tail
56-0328-00	Little McDonald	Lake	Otter Tail River	09020103	Otter Tail
56-0335-00	Paul	Lake	Otter Tail River	09020103	Otter Tail
56-0349-00	North Rice	Lake	Otter Tail River	09020103	Otter Tail
56-0352-00	South Rice	Lake	Otter Tail River	09020103	Otter Tail
56-0353-00	Gray	Lake	Otter Tail River	09020103	Otter Tail
56-0358-00	Scalp	Lake	Otter Tail River	09020103	Otter Tail
56-0360-00	Rose	Lake	Otter Tail River	09020103	Otter Tail
56-0363-00	Rice	Lake	Otter Tail River	09020103	Otter Tail
56-0364-00	Jim	Lake	Otter Tail River	09020103	Otter Tail
56-0377-00	South Turtle	Lake	Pomme de Terre River	07020002	Otter Tail
56-0378-01	East Lost (North Bay)	Lake	Otter Tail River	09020103	Otter Tail
56-0378-02	East Lost (South Bay)	Lake	Otter Tail River	09020103	Otter Tail
56-0379-00	North Turtle	Lake	Pomme de Terre River	07020002	Otter Tail
56-0381-01	Amor	Lake	Otter Tail River	09020103	Otter Tail
56-0381-02	Mud	Lake	Otter Tail River	09020103	Otter Tail
56-0383-00	Dead	Lake	Otter Tail River	09020103	Otter Tail
56-0385-00	Star	Lake	Otter Tail River	09020103	Otter Tail
56-0387-00	Sybil	Lake	Otter Tail River	09020103	Otter Tail
56-0388-00	Long	Lake	Otter Tail River	09020103	Otter Tail
56-0433-00	Tamarack	Lake	Pomme de Terre River	07020002	Otter Tail
56-0436-00	Unnamed	Lake	Pomme de Terre River	07020002	Otter Tail
56-0437-00	Stalker	Lake	Pomme de Terre River	07020002	Otter Tail
56-0471-00	Peterson	Lake	Otter Tail River	09020103	Otter Tail
56-0472-00	Bray	Lake	Otter Tail River	09020103	Otter Tail
56-0481-00	West Lost	Lake	Otter Tail River	09020103	Otter Tail
56-0482-00	Sharp	Lake	Otter Tail River	09020103	Otter Tail

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
56-0483-00	Duck	Lake	Otter Tail River	09020103	Otter Tail
56-0484-00	Mud	Lake	Otter Tail River	09020103	Otter Tail
56-0497-00	Zorns	Lake	Otter Tail River	09020103	Otter Tail
56-0498-00	Maria	Lake	Otter Tail River	09020103	Otter Tail
56-0519-00	West Silent	Lake	Otter Tail River	09020103	Otter Tail
56-0523-00	East Loon	Lake	Otter Tail River	09020103	Otter Tail
56-0532-01	Trowbridge	Lake	Otter Tail River	09020103	Otter Tail
56-0532-02	Leek	Lake	Otter Tail River	09020103	Otter Tail
56-0559-00	Clear	Lake	Pomme de Terre River	07020002	Otter Tail
56-0571-00	Fogard	Lake	Otter Tail River	09020103	Otter Tail
56-0573-00	East Red River	Lake	Otter Tail River	09020103	Otter Tail
56-0613-00	Ten Mile	Lake	Pomme de Terre River	07020002	Otter Tail
56-0620-00	Rose	Lake	Pomme de Terre River	07020002	Otter Tail
56-0695-00	Heilberger	Lake	Otter Tail River	09020103	Otter Tail
56-0702-00	Rice	Lake	Otter Tail River	09020103	Otter Tail
56-0711-00	Otter Tail River(Red Rive	Lake	Otter Tail River	09020103	Otter Tail
56-0717-00	Grass	Lake	Otter Tail River	09020103	Otter Tail
56-0723-00	Grass	Lake	Otter Tail River	09020103	Otter Tail
56-0724-00	Beers	Lake	Otter Tail River	09020103	Otter Tail
56-0727-00	Fladmark	Lake	Otter Tail River	09020103	Otter Tail
56-0747-01	North Lida	Lake	Otter Tail River	09020103	Otter Tail
56-0749-00	Crystal	Lake	Otter Tail River	09020103	Otter Tail
56-0760-01	Lizzie (north portion)	Lake	Otter Tail River	09020103	Otter Tail
56-0768-00	Fish	Lake	Otter Tail River	09020103	Otter Tail
56-0782-00	Hoot	Lake	Otter Tail River	09020103	Otter Tail
56-0783-00	Wright	Lake	Otter Tail River	09020103	Otter Tail
56-0784-00	Long	Lake	Otter Tail River	09020103	Otter Tail
56-0786-00	Pelican	Lake	Otter Tail River	09020103	Otter Tail
56-0876-00	Reed	Lake	Otter Tail River	09020103	Otter Tail
56-0925-00	Duck	Lake	Otter Tail River	09020103	Otter Tail

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
56-0927-00	Unnamed	Lake	Otter Tail River	09020103	Otter Tail
56-0935-00	Rankle	Lake	Buffalo River	09020106	Otter Tail
56-0945-00	Orwell	Lake	Otter Tail River	09020103	Otter Tail
56-1031-00	Unnamed	Lake	Buffalo River	09020106	Otter Tail
56-1083-00	Unnamed	Lake	Pomme de Terre River	07020002	Otter Tail
56-1126-00	Unnamed	Lake	Otter Tail River	09020103	Otter Tail
56-1148-00	Mud	Lake	Otter Tail River	09020103	Otter Tail
56-1149-00	Berger	Lake	Otter Tail River	09020103	Otter Tail
56-1259-00	Unnamed	Lake	Chippewa River	07020005	Otter Tail
56-1273-00	Unnamed	Lake	Otter Tail River	09020103	Otter Tail
56-1517-00	Unnamed	Lake	Otter Tail River	09020103	Otter Tail
56-1550-00	Unnamed	Lake	Otter Tail River	09020103	Otter Tail
56-1554-00	Unnamed	Lake	Otter Tail River	09020103	Otter Tail
56-1578-00	Unnamed	Lake	Otter Tail River	09020103	Otter Tail
56-1627-00	Hoffman	Lake	Otter Tail River	09020103	Otter Tail
56-1641-00	Rusch	Lake	Otter Tail River	09020103	Otter Tail
56-1787-00	East Wing Pond	Lake	Otter Tail River	09020103	Otter Tail
57-0051-00	Red Lake River Reservoir	Lake	Red Lake River, Thief River	09020303, 09020304	Pennington
58-0005-00	Hay Creek Flowage	Lake	Upper St. Croix River	07030001	Pine
58-0013-00	Greigs	Lake	Upper St. Croix River	07030001	Pine
58-0026-00	Crooked	Lake	Upper St. Croix River	07030001	Pine
58-0028-00	Little Tamarack	Lake	Upper St. Croix River	07030001	Pine
58-0029-00	Grace	Lake	Upper St. Croix River	07030001	Pine
58-0038-00	Net	Lake	Nemadji River	04010301	Carlton; Pine
58-0044-00	Olive	Lake	Upper St. Croix River	07030001	Pine
58-0048-00	Oak	Lake	Kettle River	07030003	Pine
58-0058-00	McCormick	Lake	Kettle River	07030003	Pine
58-0061-00	Unnamed	Lake	Kettle River	07030003	Pine

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
58-0066-00	Little North Sturgeon	Lake	Kettle River	07030003	Pine
58-0067-00	Sturgeon	Lake	Kettle River	07030003	Pine
58-0071-00	Close	Lake	Kettle River	07030003	Pine
58-0076-00	Passenger	Lake	Kettle River	07030003	Pine
58-0078-00	Rush	Lake	Kettle River	07030003	Pine
58-0081-00	Sand	Lake	Kettle River	07030003	Carlton; Pine
58-0089-00	Cedar	Lake	Kettle River	07030003	Pine
58-0102-00	Fox	Lake	Kettle River	07030003	Pine
58-0106-00	Little Mud	Lake	Kettle River	07030003	Pine
58-0111-00	Stanton	Lake	Kettle River	07030003	Pine
58-0125-00	Grass	Lake	Kettle River	07030003	Pine
58-0138-00	Big Pine	Lake	Kettle River	07030003	Aitkin; Pine
58-0142-00	Pokegama	Lake	Snake River - St. Croix Basin	07030004	Pine
58-0170-00	Unnamed	Lake	Upper St. Croix River	07030001	Pine
60-0012-00	Spring	Lake	Clearwater River	09020305	Polk
60-0027-01	Cross (North East Bay)	Lake	Clearwater River	09020305	Polk
60-0027-02	Cross (Main Basin)	Lake	Clearwater River	09020305	Polk
60-0027-03	CROSS (EAST BAY)	Lake	Clearwater River	09020305	Polk
60-0192-00	Bee	Lake	Clearwater River	09020305	Polk
60-0199-00	Eighteen	Lake	Clearwater River	09020305	Polk
60-0217-00	Union	Lake	Red River of the North - Sandhill River	09020301	Polk
60-0220-00	Unnamed	Lake	Clearwater River	09020305	Polk
60-0247-00	Unnamed	Lake	Clearwater River	09020305	Polk
60-0721-00	Unnamed	Lake	Clearwater River	09020305	Polk
61-0002-00	East Johanna	Lake	Chippewa River	07020005	Pope; Kandiyohi
61-0007-00	Unnamed	Lake	Chippewa River	07020005	Pope

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
61-0023-00	Grove	Lake	North Fork Crow River	07010204	Pope
61-0029-00	Westport	Lake	Sauk River	07010202	Pope
61-0069-00	Rice	Lake	Chippewa River	07020005	Pope
61-0072-00	Gilchrist	Lake	Chippewa River	07020005	Pope
61-0086-00	Rasmuson	Lake	Chippewa River	07020005	Pope
61-0091-00	Unnamed	Lake	Chippewa River	07020005	Pope
61-0149-00	Signalness	Lake	Chippewa River	07020005	Pope
61-0180-00	Emily	Lake	Chippewa River	07020005	Pope
61-0186-00	Unnamed	Lake	Chippewa River	07020005	Pope
61-0287-00	Unnamed	Lake	Chippewa River	07020005	Pope
61-0417-00	Unnamed	Lake	Chippewa River	07020005	Pope
62-0074-00	Grass	Lake	Mississippi River - Twin Cities	07010206	Ramsey
65-0002-00	Preston	Lake	South Fork Crow River	07010205	Renville
66-0014-00	Dudley	Lake	Cannon River	07040002	Rice
66-0015-00	Kelly	Lake	Cannon River	07040002	Rice
66-0041-00	Weinberger	Lake	Cannon River	07040002	Rice
66-0046-00	Pooles	Lake	Cannon River	07040002	Rice
66-0047-00	Hunt	Lake	Cannon River	07040002	Rice
66-0048-00	Rice	Lake	Cannon River	07040002	Rice
66-0051-00	Willing	Lake	Cannon River	07040002	Rice
66-0052-00	Cedar	Lake	Cannon River	07040002	Rice
66-0054-00	Mud	Lake	Cannon River	07040002	Rice
66-0063-00	Hatch	Lake	Lower Minnesota River	07020012	Rice
66-0103-00	Unnamed	Lake	Cannon River	07040002	Rice
68-0002-00	Marvin	Lake	Roseau River	09020314	Roseau
68-0004-00	Hayes	Lake	Roseau River	09020314	Roseau
68-0005-00	Pool I	Lake	Roseau River	09020314	Roseau
68-0006-00	Pool II	Lake	Roseau River	09020314	Roseau
68-0007-00	Pool III	Lake	Roseau River	09020314	Roseau
68-0150-00	Bednar	Lake	Lake of the Woods	09030009	Roseau

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
69-0001-00	Pine	Lake	St. Louis River	04010201	Lake; St. Louis
69-0002-00	Seven Beaver	Lake	St. Louis River	04010201	St. Louis; Lake
69-0003-00	Birch	Lake	Rainy River - Headwaters	09030001	Lake; St. Louis
69-0004-00	White Iron	Lake	Rainy River - Headwaters	09030001	Lake; St. Louis
69-0008-00	King	Lake	Cloquet River	04010202	St. Louis
69-0009-00	Kookoosh	Lake	Cloquet River	04010202	St. Louis
69-0014-00	Ruth	Lake	Cloquet River	04010202	St. Louis
69-0015-00	Joker	Lake	Cloquet River	04010202	St. Louis
69-0017-00	Warren	Lake	Cloquet River	04010202	St. Louis
69-0023-00	Indian	Lake	Cloquet River	04010202	St. Louis
69-0024-00	Papoose	Lake	Cloquet River	04010202	St. Louis
69-0027-01	North Stone	Lake	Cloquet River	04010202	St. Louis
69-0027-02	South Stone	Lake	Cloquet River	04010202	St. Louis
69-0028-00	Little Stone	Lake	Cloquet River	04010202	St. Louis
69-0030-00	White	Lake	Cloquet River	04010202	St. Louis
69-0034-00	Kylen	Lake	Cloquet River	04010202	St. Louis
69-0035-00	Tommila	Lake	Cloquet River	04010202	St. Louis
69-0037-00	Breda	Lake	Cloquet River	04010202	St. Louis
69-0040-00	George	Lake	Cloquet River	04010202	St. Louis
69-0041-00	Bassett	Lake	Cloquet River	04010202	St. Louis
69-0044-00	Butterball	Lake	St. Louis River	04010201	St. Louis
69-0046-00	Stone	Lake	St. Louis River	04010201	St. Louis
69-0047-00	Black Mallard	Lake	St. Louis River	04010201	St. Louis
69-0048-00	Round	Lake	St. Louis River	04010201	St. Louis
69-0054-00	Blueberry	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0055-00	Canary	Lake	Rainy River - Headwaters	09030001	St. Louis

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
69-0057-00	Kangas	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0061-00	One Pine	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0070-00	Low	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0079-00	Picket	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0080-00	Nels	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0082-00	Grassy	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0089-00	Bear Trap	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0092-00	Gull	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0111-00	Smith	Lake	Cloquet River	04010202	St. Louis
69-0112-00	Bear	Lake	Cloquet River	04010202	St. Louis
69-0115-00	Bear Island	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0117-00	Johnson	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0118-00	Burntside	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0123-00	Lieung	Lake	Cloquet River	04010202	St. Louis
69-0131-00	Alden	Lake	Cloquet River	04010202	St. Louis
69-0132-00	Barrs	Lake	Cloquet River	04010202	St. Louis
69-0143-00	Wolf	Lake	Cloquet River	04010202	St. Louis
69-0147-00	Cranberry	Lake	St. Louis River	04010201	St. Louis
69-0150-00	Hay	Lake	St. Louis River	04010201	St. Louis
69-0151-00	Mud	Lake	St. Louis River	04010201	St. Louis
69-0161-00	Wolf	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0163-01	East Twin	Lake	Rainy River - Headwaters	09030001	St. Louis

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
69-0163-02	West Twin	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0165-00	Meadow	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0174-00	East Twin	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0177-00	La Pond	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0178-00	Big Rice	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0180-00	Little Rice	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0190-00	Big	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0191-00	Duck	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0199-00	Ed Shave	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0216-00	Beaver	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0232-00	Horseshoe	Lake	Cloquet River	04010202	St. Louis
69-0238-00	Eagle	Lake	Lake Superior - South	04010102	St. Louis
69-0246-00	Sullivan	Lake	St. Louis River	04010201	St. Louis
69-0255-00	Horseshoe	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0267-00	Comet	Lake	St. Louis River	04010201	St. Louis
69-0270-00	Fishing	Lake	St. Louis River	04010201	St. Louis
69-0271-00	Little Birch	Lake	St. Louis River	04010201	St. Louis
69-0280-00	Gafvert	Lake	Vermilion River	09030002	St. Louis
69-0281-00	Four Mile	Lake	Vermilion River	09030002	St. Louis
69-0283-00	Six Mile	Lake	Vermilion River	09030002	St. Louis
69-0285-03	Eagles Nest #3	Lake	Vermilion River	09030002	St. Louis
69-0288-00	Five Mile	Lake	Vermilion River	09030002	St. Louis
69-0371-00	Wild Rice	Lake	Cloquet River	04010202	St. Louis

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
69-0372-01	Island Lake Rsvr(W.Basin)	Lake	Cloquet River	04010202	St. Louis
69-0372-02	Island Lake Rsvr(E.Basin)	Lake	Cloquet River	04010202	St. Louis
69-0375-00	Whiteface Reservoir	Lake	St. Louis River	04010201	St. Louis
69-0376-00	Whitewater	Lake	St. Louis River	04010201	St. Louis
69-0378-01	East Vermilion	Lake	Vermilion River	09030002	St. Louis
69-0378-02	West Vermilion	Lake	Vermilion River	09030002	St. Louis
69-0378-03	Vermilion - Pike Bay	Lake	Vermilion River	09030002	St. Louis
69-0391-00	Mogie	Lake	St. Louis River	04010201	St. Louis
69-0406-00	Upper Bug	Lake	St. Louis River	04010201	St. Louis
69-0408-00	Wabuse	Lake	St. Louis River	04010201	St. Louis
69-0409-00	Washusk #1	Lake	St. Louis River	04010201	St. Louis
69-0410-00	Washusk #2	Lake	St. Louis River	04010201	St. Louis
69-0417-00	Hay	Lake	St. Louis River	04010201	St. Louis
69-0419-00	North Twin	Lake	St. Louis River	04010201	St. Louis
69-0427-00	Turpela	Lake	St. Louis River	04010201	St. Louis
69-0434-01	Sabin	Lake	St. Louis River	04010201	St. Louis
69-0434-02	Wynne	Lake	St. Louis River	04010201	St. Louis
69-0435-00	Hay	Lake	St. Louis River	04010201	St. Louis
69-0436-00	Little Mesaba	Lake	St. Louis River	04010201	St. Louis
69-0439-00	Hay	Lake	St. Louis River	04010201	St. Louis
69-0441-00	Hay	Lake	St. Louis River	04010201	St. Louis
69-0442-00	Moose	Lake	St. Louis River	04010201	St. Louis
69-0452-00	Bootleg	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0456-00	Jeanette	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0464-00	Lower Pauness	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0465-00	Upper Pauness	Lake	Rainy River - Headwaters	09030001	St. Louis

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
69-0489-00	Caribou	Lake	Cloquet River	04010202	St. Louis
69-0491-01	Fish Lk Flowage(Main Bay)	Lake	Cloquet River	04010202	St. Louis
69-0491-02	Fish Lk Flowage(East Bay)	Lake	Cloquet River	04010202	St. Louis
69-0494-00	Mud Hen	Lake	St. Louis River	04010201	St. Louis
69-0495-00	Long	Lake	St. Louis River	04010201	St. Louis
69-0496-00	Embarrass	Lake	St. Louis River	04010201	St. Louis
69-0498-00	Trout	Lake	Vermilion River	09030002	St. Louis
69-0504-00	Twin	Lake	St. Louis River	04010201	St. Louis
69-0505-00	Twin	Lake	St. Louis River	04010201	St. Louis
69-0511-00	Grand	Lake	Cloquet River	04010202	St. Louis
69-0521-00	Leora	Lake	Cloquet River	04010202	St. Louis
69-0531-00	Whitchel	Lake	St. Louis River	04010201	St. Louis
69-0534-00	Dollar	Lake	St. Louis River	04010201	St. Louis
69-0565-00	Esquagama	Lake	St. Louis River	04010201	St. Louis
69-0568-01	Cedar Island (N.Portion)	Lake	St. Louis River	04010201	St. Louis
69-0568-02	Cedar Island (S.Portion)	Lake	St. Louis River	04010201	St. Louis
69-0571-00	White	Lake	St. Louis River	04010201	St. Louis
69-0573-00	Fourth	Lake	St. Louis River	04010201	St. Louis
69-0578-00	Rice	Lake	Vermilion River	09030002	St. Louis
69-0579-00	Hay	Lake	Vermilion River	09030002	St. Louis
69-0587-00	Oriniack	Lake	Vermilion River	09030002	St. Louis
69-0589-00	Astrid	Lake	Vermilion River	09030002	St. Louis
69-0594-00	Unnamed	Lake	Vermilion River	09030002	St. Louis
69-0608-00	Little Vermilion	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0612-00	Little Rice	Lake	Little Fork River	09030005	St. Louis
69-0613-00	Vermilion River	Lake	Vermilion River	09030002	St. Louis

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
69-0615-00	Echo	Lake	Vermilion River	09030002	St. Louis
69-0616-00	Crane	Lake	Rainy River - Headwaters, Vermilion River	09030001, 09030002	St. Louis
69-0617-00	Sand Point	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0618-00	Andy	Lake	St. Louis River	04010201	St. Louis
69-0619-00	Simian	Lake	St. Louis River	04010201	St. Louis
69-0623-00	Artichoke	Lake	St. Louis River	04010201	St. Louis
69-0624-00	Schelins	Lake	Cloquet River	04010202	St. Louis
69-0627-00	Nichols	Lake	St. Louis River	04010201	St. Louis
69-0634-00	Unnamed	Lake	St. Louis River	04010201	St. Louis
69-0637-00	Central	Lake	St. Louis River	04010201	St. Louis
69-0638-00	East Stone	Lake	St. Louis River	04010201	St. Louis
69-0640-00	Unnamed	Lake	St. Louis River	04010201	St. Louis
69-0641-00	Anchor	Lake	St. Louis River	04010201	St. Louis
69-0642-00	Elliot	Lake	St. Louis River	04010201	St. Louis
69-0646-00	Murphy	Lake	St. Louis River	04010201	St. Louis
69-0649-00	Round	Lake	St. Louis River	04010201	St. Louis
69-0651-00	St. Mary's	Lake	St. Louis River	04010201	St. Louis
69-0652-00	Mud	Lake	St. Louis River	04010201	St. Louis
69-0653-00	Long	Lake	St. Louis River	04010201	St. Louis
69-0655-00	Pleasant	Lake	St. Louis River	04010201	St. Louis
69-0660-00	Ely	Lake	St. Louis River	04010201	St. Louis
69-0667-00	Gill	Lake	St. Louis River	04010201	St. Louis
69-0669-00	Big Rice	Lake	Little Fork River	09030005	St. Louis
69-0679-00	Kabustasa	Lake	Vermilion River	09030002	St. Louis
69-0684-00	Mukooda	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0686-00	Stone	Lake	St. Louis River	04010201	St. Louis
69-0688-00	Perch	Lake	St. Louis River	04010201	St. Louis

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
69-0694-00	Rainy	Lake	Rainy River - Rainy Lake, Lower Rainy River	09030003, 09030008	Koochiching; St. Louis
69-0695-00	East Twin	Lake	St. Louis River	04010201	St. Louis
69-0699-00	Side	Lake	St. Louis River	04010201	St. Louis
69-0729-00	Little Sandy	Lake	Vermilion River	09030002	St. Louis
69-0730-00	Sandy	Lake	Vermilion River	09030002	St. Louis
69-0731-00	Auto	Lake	Little Fork River	09030005	St. Louis
69-0734-00	James	Lake	Little Fork River	09030005	St. Louis
69-0735-00	Wheel	Lake	Little Fork River	09030005	St. Louis
69-0736-00	Sand	Lake	Little Fork River	09030005	St. Louis
69-0737-00	Jamer	Lake	Little Fork River	09030005	St. Louis
69-0740-00	Black	Lake	Vermilion River	09030002	St. Louis
69-0741-00	Susan	Lake	Vermilion River	09030002	St. Louis
69-0742-00	Ban	Lake	Vermilion River	09030002	St. Louis
69-0744-00	Elbow	Lake	Vermilion River	09030002	St. Louis
69-0749-00	Myrtle	Lake	Vermilion River	09030002	St. Louis
69-0755-00	Marion	Lake	Vermilion River	09030002	St. Louis
69-0764-00	Sunset	Lake	Vermilion River	09030002	St. Louis
69-0765-00	Long	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0766-00	Headquarters	Lake	St. Louis River	04010201	St. Louis
69-0768-00	Martin	Lake	St. Louis River	04010201	St. Louis
69-0771-00	Kingberg	Lake	St. Louis River	04010201	St. Louis
69-0776-00	Grass	Lake	St. Louis River	04010201	St. Louis
69-0790-00	Dark	Lake	Little Fork River	09030005	St. Louis
69-0797-00	Watercress	Lake	Little Fork River	09030005	St. Louis
69-0798-00	Moose	Lake	Little Fork River	09030005	St. Louis
69-0800-00	Mud	Lake	Little Fork River	09030005	St. Louis
69-0802-00	Hoodoo	Lake	Vermilion River	09030002	St. Louis
69-0803-00	Rice	Lake	Vermilion River	09030002	St. Louis
69-0806-00	Moose	Lake	Vermilion River	09030002	St. Louis

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
69-0807-00	South Bog	Lake	Vermilion River	09030002	St. Louis
69-0810-00	Elephant	Lake	Vermilion River	09030002	St. Louis
69-0811-00	Bog	Lake	Vermilion River	09030002	St. Louis
69-0837-00	Beast	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0841-00	Pelican	Lake	Vermilion River	09030002	St. Louis
69-0842-00	Black Duck	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0848-00	Prairie	Lake	Mississippi River - Grand Rapids	07010103	St. Louis
69-0849-00	Hockey	Lake	Mississippi River - Grand Rapids	07010103	St. Louis
69-0850-00	Blackwood	Lake	Mississippi River - Grand Rapids	07010103	St. Louis
69-0854-00	Thirty-Six	Lake	Mississippi River - Grand Rapids	07010103	St. Louis
69-0857-01	Longyear (North)	Lake	St. Louis River	04010201	St. Louis
69-0857-02	Longyear (South)	Lake	St. Louis River	04010201	St. Louis
69-0860-00	Balkan	Lake	Little Fork River	09030005	St. Louis
69-0863-00	Swan	Lake	Vermilion River	09030002	St. Louis
69-0864-00	Ash	Lake	Rainy River - Headwaters	09030001	St. Louis
69-0875-00	Leeman	Lake	St. Louis River	04010201	St. Louis
69-0876-00	Vang	Lake	St. Louis River	04010201	St. Louis
69-0901-00	Kelly	Lake	St. Louis River	04010201	St. Louis
69-0913-00	Gansey	Lake	Little Fork River	09030005	St. Louis
69-0922-00	Rat	Lake	Little Fork River	09030005	St. Louis
69-0925-00	Shannon	Lake	Little Fork River	09030005	St. Louis
69-0936-00	Locator	Lake	Rainy River - Rainy Lake	09030003	St. Louis
69-0939-01	Sturgeon	Lake	Little Fork River	09030005	St. Louis; Itasca
69-0939-02	Middle Sturgeon	Lake	Little Fork River	09030005	St. Louis; Itasca

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
69-0988-00	Hush	Lake	St. Louis River	04010201	St. Louis
69-1291-02	St. Louis Bay	Lake	St. Louis River	04010201	St. Louis
69-1291-03	Spirit Lake	Lake	St. Louis River	04010201	St. Louis
69-1291-04	Upper Estuary	Lake	St. Louis River	04010201	St. Louis
69-1291-05	St Louis River - Upper Estuary Channel	Lake	St. Louis River	04010201	St. Louis
69-1345-00	Golf Course Pond	Lake	St. Louis River	04010201	St. Louis
69-1454-00	Unnamed	Lake	St. Louis River	04010201	St. Louis
69-1463-00	Pat Zakovec Impoundment	Lake	Vermilion River	09030002	St. Louis
69-1466-00	Canosia Wma	Lake	Cloquet River	04010202	St. Louis
69-1482-00	Trettel Pool	Lake	Cloquet River	04010202	St. Louis
69-1489-00	Unnamed (Deadman)	Lake	Rainy River - Headwaters	09030001	St. Louis
70-0001-00	Rice	Lake	Mississippi River - Lake Pepin	07040001	Dakota; Scott
70-0025-00	Rice	Lake	Lower Minnesota River	07020012	Scott
70-0060-00	Rice	Lake	Lower Minnesota River	07020012	Scott
70-0085-00	Unnamed	Lake	Lower Minnesota River	07020012	Scott
70-0087-00	Fisher	Lake	Lower Minnesota River	07020012	Scott
70-0088-00	Blue	Lake	Lower Minnesota River	07020012	Scott
71-0003-00	Kliever Marsh	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0015-00	Rice	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0016-00	Fremont	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0025-00	Unnamed	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0036-00	Long Pond	Lake	Rum River	07010207	Sherburne

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
71-0040-00	Sandy	Lake	Rum River	07010207	Sherburne
71-0057-00	Birch	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0068-00	Josephine	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0069-00	Ann	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0078-00	Rice	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0081-00	Mitchell	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0084-00	Johnson Slough	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0085-00	Big Mud	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0109-00	Lundberg Slough	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0111-00	Jim	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0116-00	Clitty	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0118-00	Boyd	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0141-00	Elk	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0142-00	Rice	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0147-00	Rush	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0148-00	Unnamed	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0154-00	Unnamed	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0155-00	Unnamed	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0187-00	Unnamed	Lake	Mississippi River - St. Cloud	07010203	Sherburne

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
71-0216-00	Unnamed	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0296-00	Unnamed	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0297-00	Unnamed	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0375-00	Upper Roadside Pool	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0376-00	Lower Roadside Pool	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0387-00	East Carpenter Pool	Lake	Mississippi River - St. Cloud	07010203	Sherburne
71-0404-00	Vision Pool	Lake	Mississippi River - St. Cloud	07010203	Sherburne
72-0042-00	Titlow	Lake	Lower Minnesota River	07020012	Sibley
73-0014-00	Marie	Lake	Mississippi River - St. Cloud	07010203	Stearns; Wright
73-0015-00	Otter	Lake	Mississippi River - St. Cloud	07010203	Stearns
73-0017-00	Unnamed	Lake	Mississippi River - St. Cloud	07010203	Stearns
73-0020-00	Laura	Lake	Mississippi River - St. Cloud	07010203	Stearns
73-0023-00	Beaver	Lake	Mississippi River - St. Cloud	07010203	Stearns
73-0037-00	Pearl	Lake	Sauk River	07010202	Stearns
73-0055-00	Grand	Lake	Sauk River	07010202	Stearns
73-0069-00	Swamp	Lake	Mississippi River - Sartell	07010201	Stearns
73-0076-00	Goodners	Lake	Sauk River	07010202	Stearns
73-0077-00	Unnamed	Lake	Mississippi River - Sartell	07010201	Stearns
73-0083-00	Great Northern	Lake	Sauk River	07010202	Stearns
73-0089-00	Zumwalde	Lake	Sauk River	07010202	Stearns

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
73-0092-00	Sagatagan	Lake	Mississippi River - Sartell	07010201	Stearns
73-0104-00	Island	Lake	Mississippi River - Sartell	07010201	Stearns
73-0105-00	Long	Lake	Mississippi River - Sartell	07010201	Stearns
73-0117-00	Big Spunk	Lake	Mississippi River - Sartell	07010201	Stearns
73-0118-00	Pelican	Lake	Mississippi River - Sartell	07010201	Stearns
73-0122-00	Ochotto	Lake	Mississippi River - Sartell	07010201	Stearns
73-0123-00	Lower Spunk	Lake	Mississippi River - Sartell	07010201	Stearns
73-0125-00	Achman	Lake	Mississippi River - Sartell	07010201	Stearns
73-0126-00	Anna	Lake	Mississippi River - Sartell	07010201	Stearns
73-0127-00	Linneman	Lake	Mississippi River - Sartell	07010201	Stearns
73-0128-00	Middle Spunk	Lake	Mississippi River - Sartell	07010201	Stearns
73-0133-01	Cedar Island (Main Bay)	Lake	Sauk River	07010202	Stearns
73-0133-02	Cedar Island (Mud Lk)	Lake	Sauk River	07010202	Stearns
73-0133-03	Cedar Island (Koetter Lk)	Lake	Sauk River	07010202	Stearns
73-0133-04	Cedar Island (East Lk)	Lake	Sauk River	07010202	Stearns
73-0133-05	Cedar Island (Little)	Lake	Sauk River	07010202	Stearns
73-0139-00	Long	Lake	Sauk River	07010202	Stearns
73-0147-00	North Brown's	Lake	Sauk River	07010202	Stearns
73-0159-00	Big	Lake	Sauk River	07010202	Stearns
73-0160-00	Henry	Lake	Mississippi River - Sartell	07010201	Stearns

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
73-0161-00	Mud	Lake	Mississippi River - Sartell	07010201	Stearns
73-0167-00	Little Rice	Lake	Mississippi River - Sartell	07010201	Stearns
73-0168-00	Big Rice	Lake	Mississippi River - Sartell, Sauk River	07010201, 07010202	Stearns
73-0180-00	Fifth	Lake	Mississippi River - Sartell	07010201	Stearns
73-0196-00	Rice	Lake	North Fork Crow River	07010204	Stearns
73-0200-01	Mud	Lake	North Fork Crow River	07010204	Stearns; Meeker
73-0201-00	Schultz Slough	Lake	North Fork Crow River	07010204	Stearns
73-0204-00	Gravel	Lake	Mississippi River - Sartell	07010201	Stearns
73-0226-00	Cedar	Lake	Sauk River	07010202	Stearns
73-0237-00	Henry	Lake	Sauk River	07010202	Stearns
73-0255-00	Cedar	Lake	Sauk River	07010202	Stearns
73-0273-00	McCormic	Lake	Sauk River	07010202	Stearns
73-0274-00	Unnamed	Lake	Sauk River	07010202	Stearns
73-0276-00	South Twin	Lake	Sauk River	07010202	Stearns; Todd
73-0277-00	Unnamed	Lake	North Fork Crow River	07010204	Stearns
73-0278-00	Tamarack	Lake	North Fork Crow River	07010204	Stearns
73-0279-00	Crow	Lake	North Fork Crow River	07010204	Stearns
73-0281-00	Fish	Lake	North Fork Crow River	07010204	Stearns
73-0285-00	Raymond	Lake	Sauk River, North Fork Crow River	07010202, 07010204	Stearns
73-0294-00	Grass	Lake	North Fork Crow River	07010204	Pope; Stearns
73-0343-00	Unnamed	Lake	Sauk River	07010202	Stearns
73-0449-00	Raush Marsh	Lake	Sauk River	07010202	Stearns
74-0001-00	Rice	Lake	Zumbro River	07040004	Steele; Dodge
74-0004-01	Oak Glen (Main Bay)	Lake	Cannon River	07040002	Steele

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
74-0004-02	Oak Glen (East Bay)	Lake	Cannon River	07040002	Steele
75-0013-00	Unnamed	Lake	Pomme de Terre River	07020002	Stevens
76-0038-00	Unnamed	Lake	Chippewa River	07020005	Swift
76-0045-00	Unnamed	Lake	Chippewa River	07020005	Swift
77-0004-00	Cass County	Lake	Long Prairie River	07010108	Morrison; Todd
77-0005-00	West Nelson	Lake	Long Prairie River	07010108	Morrison; Todd
77-0021-00	Twin	Lake	Mississippi River - Brainerd	07010104	Todd
77-0023-00	Big Swan	Lake	Mississippi River - Brainerd	07010104	Todd
77-0027-00	Long	Lake	Mississippi River - Brainerd	07010104	Todd
77-0032-00	Lady	Lake	Mississippi River - Brainerd	07010104	Todd
77-0034-00	Little Swan	Lake	Mississippi River - Brainerd	07010104	Todd
77-0035-00	Beauty	Lake	Mississippi River - Brainerd	07010104	Todd
77-0042-00	Little Pine	Lake	Mississippi River - Brainerd	07010104	Todd
77-0046-00	Coal	Lake	Long Prairie River	07010108	Todd
77-0050-00	Mill	Lake	Long Prairie River	07010108	Todd
77-0054-00	Little Rice	Lake	Long Prairie River	07010108	Todd
77-0055-00	Peat	Lake	Long Prairie River	07010108	Todd
77-0056-00	Beck	Lake	Long Prairie River	07010108	Todd
77-0061-00	Rice	Lake	Long Prairie River	07010108	Todd
77-0063-00	Big	Lake	Mississippi River - Brainerd	07010104	Todd
77-0066-00	Thunder	Lake	Long Prairie River	07010108	Todd
77-0069-00	Long	Lake	Long Prairie River	07010108	Todd
77-0070-00	Mud	Lake	Long Prairie River	07010108	Todd
77-0073-00	Rogers	Lake	Long Prairie River	07010108	Todd

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
77-0074-00	Little Fishtrap	Lake	Long Prairie River	07010108	Todd
77-0075-00	Jaeger	Lake	Long Prairie River	07010108	Todd
77-0077-00	Pine Island	Lake	Long Prairie River	07010108	Todd
77-0080-00	Hayden	Lake	Crow Wing River	07010106	Todd
77-0081-00	Stones	Lake	Crow Wing River	07010106	Todd
77-0083-00	Lawrence	Lake	Long Prairie River	07010108	Todd
77-0084-01	Big Birch (NE portion)	Lake	Sauk River	07010202	Todd
77-0084-02	Big Birch (S portion)	Lake	Sauk River	07010202	Stearns; Todd
77-0087-00	Mud	Lake	Long Prairie River	07010108	Todd
77-0088-00	Turtle	Lake	Long Prairie River	07010108	Todd
77-0089-00	Little Birch	Lake	Sauk River	07010202	Stearns; Todd
77-0120-00	Charlotte	Lake	Long Prairie River	07010108	Todd
77-0122-01	Sheets (North)	Lake	Long Prairie River	07010108	Todd
77-0122-02	Sheets (Middle)	Lake	Long Prairie River	07010108	Todd
77-0122-03	Sheets (South)	Lake	Long Prairie River	07010108	Todd
77-0134-00	Little Pine	Lake	Long Prairie River	07010108	Todd
77-0139-00	Tucker	Lake	Long Prairie River	07010108	Todd
77-0140-00	Unnamed	Lake	Long Prairie River	07010108	Todd
77-0143-00	Jacobson	Lake	Long Prairie River	07010108	Todd
77-0148-00	Spier	Lake	Sauk River	07010202	Todd
77-0149-01	LONG (MAIN BASIN)	Lake	Sauk River	07010202	Todd
77-0149-02	LONG (SOUTH BAY)	Lake	Sauk River	07010202	Todd
77-0154-00	Fairy	Lake	Sauk River	07010202	Todd
77-0158-00	North Twin	Lake	Sauk River	07010202	Todd
77-0176-00	Unnamed	Lake	Long Prairie River	07010108	Todd
77-0178-00	Unnamed	Lake	Long Prairie River	07010108	Todd
77-0180-00	William	Lake	Sauk River	07010202	Todd
77-0197-00	Unnamed	Lake	Long Prairie River	07010108	Todd

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
77-0201-00	Little Osakis	Lake	Sauk River	07010202	Todd
77-0202-00	Unnamed	Lake	Sauk River	07010202	Todd
77-0207-00	Pendergast	Lake	Crow Wing River	07010106	Todd
77-0215-00	Osakis	Lake	Sauk River	07010202	Douglas; Todd
77-0235-00	Rice	Lake	Long Prairie River	07010108	Todd
77-0259-00	Unnamed	Lake	Sauk River	07010202	Todd
77-0357-00	Long	Lake	Sauk River	07010202	Todd
77-0358-00	Lily	Lake	Sauk River	07010202	Todd
77-0378-00	Kominek Pond	Lake	Mississippi River - Brainerd	07010104	Todd
79-0001-03	Maloney	Lake	Mississippi River - Winona	07040003	Wabasha
79-0005-02	Robinson	Lake	Mississippi River - Winona	07040003	Wabasha
79-0006-00	McCarthy	Lake	Mississippi River - Winona	07040003	Wabasha
79-0012-00	Unnamed	Lake	Mississippi River - Winona	07040003	Wabasha
79-0052-00	Unnamed	Lake	Mississippi River - Winona	07040003	Wabasha
80-0007-00	Unnamed	Lake	Crow Wing River	07010106	Wadena
80-0012-00	Granning	Lake	Crow Wing River	07010106	Wadena
80-0013-00	Strike	Lake	Crow Wing River	07010106	Wadena
80-0018-00	Burgen	Lake	Crow Wing River	07010106	Wadena
80-0019-00	Round	Lake	Crow Wing River	07010106	Hubbard; Wadena
80-0022-00	Yaeger	Lake	Crow Wing River	07010106	Wadena
80-0024-00	Rice	Lake	Crow Wing River	07010106	Wadena
80-0027-02	Jim Cook (east)	Lake	Crow Wing River	07010106	Wadena
80-0028-00	Finn	Lake	Crow Wing River	07010106	Wadena
80-0030-00	Lower Twin	Lake	Crow Wing River	07010106	Wadena
80-0034-00	Blueberry	Lake	Crow Wing River	07010106	Wadena
80-0037-00	Stocking	Lake	Crow Wing River	07010106	Wadena

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
81-0016-00	Goose	Lake	Cannon River	07040002	Waseca
81-0022-00	Rice	Lake	Cannon River	07040002	Waseca
81-0027-00	Everson	Lake	Cannon River	07040002	Waseca
81-0067-00	Lily	Lake	Le Sueur River	07020011	Waseca; Le Sueur
81-0088-00	Rice	Lake	Le Sueur River	07020011	Waseca
82-0146-00	Rice	Lake	Mississippi River - Twin Cities	07010206	Washington
82-0168-00	Mud	Lake	Mississippi River - Twin Cities	07010206	Anoka; Washington
82-0333-00	Unnamed	Lake	Lower St. Croix River	07030005	Washington
86-0002-00	Rice	Lake	North Fork Crow River	07010204	Wright
86-0019-00	Gonz	Lake	North Fork Crow River	07010204	Wright
86-0025-00	School	Lake	Mississippi River - St. Cloud	07010203	Wright
86-0026-00	Hunters	Lake	Mississippi River - St. Cloud	07010203	Wright
86-0031-00	Pelican	Lake	North Fork Crow River	07010204	Wright
86-0032-00	Rice	Lake	South Fork Crow River	07010205	Wright; Carver
86-0034-00	Cedar	Lake	South Fork Crow River	07010205	Wright
86-0049-00	Mary	Lake	North Fork Crow River	07010204	Wright
86-0064-00	Gilchrist	Lake	North Fork Crow River	07010204	Wright
86-0097-00	Carrigan	Lake	North Fork Crow River	07010204	Wright
86-0102-00	Pooles	Lake	North Fork Crow River	07010204	Wright
86-0112-00	Malardi	Lake	North Fork Crow River	07010204	Wright
86-0139-02	Little Mary (North Bay)	Lake	Mississippi River - St. Cloud	07010203	Wright
86-0152-00	Millstone	Lake	Mississippi River - St. Cloud	07010203	Wright
86-0157-00	Maple Unit	Lake	Mississippi River - St. Cloud	07010203	Wright
86-0164-00	Rice	Lake	Mississippi River - St. Cloud	07010203	Wright

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
86-0180-00	School Section	Lake	North Fork Crow River	07010204	Wright
86-0182-00	Rock	Lake	North Fork Crow River	07010204	Wright
86-0183-00	Fish	Lake	Mississippi River - St. Cloud	07010203	Wright
86-0185-00	Mallard Pass	Lake	North Fork Crow River	07010204	Wright
86-0194-00	Long	Lake	North Fork Crow River	07010204	Wright
86-0197-00	Maple	Lake	South Fork Crow River	07010205	Wright
86-0198-00	Butler	Lake	South Fork Crow River	07010205	Wright
86-0200-00	Spring	Lake	North Fork Crow River	07010204	Wright
86-0204-00	Taylor	Lake	North Fork Crow River	07010204	Wright
86-0209-00	Willima	Lake	North Fork Crow River	07010204	Wright
86-0212-00	Albion	Lake	Mississippi River - St. Cloud	07010203	Wright
86-0213-00	Henshaw	Lake	Mississippi River - St. Cloud	07010203	Wright
86-0214-00	White	Lake	North Fork Crow River	07010204	Wright
86-0219-00	Mud	Lake	North Fork Crow River	07010204	Wright
86-0223-00	Indian	Lake	Mississippi River - St. Cloud	07010203	Wright
86-0224-00	Sandy	Lake	Mississippi River - St. Cloud	07010203	Wright
86-0229-00	Mink	Lake	Mississippi River - St. Cloud	07010203	Wright
86-0231-00	Unnamed	Lake	Mississippi River - St. Cloud	07010203	Wright
86-0233-00	Sugar	Lake	Mississippi River - St. Cloud	07010203	Wright
86-0238-00	Nixon	Lake	Mississippi River - St. Cloud	07010203	Wright
86-0243-00	Grass	Lake	Mississippi River - St. Cloud	07010203	Wright
86-0244-00	Unnamed	Lake	Mississippi River - St. Cloud	07010203	Wright
86-0246-00	Long	Lake	Mississippi River - St. Cloud	07010203	Wright

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
86-0250-00	Smith	Lake	North Fork Crow River	07010204	Wright
86-0252-01	Clearwater (East)	Lake	Mississippi River - St. Cloud	07010203	Stearns; Wright
86-0252-02	Clearwater (West)	Lake	Mississippi River - St. Cloud	07010203	Stearns; Wright
86-0253-00	Butternut	Lake	South Fork Crow River	07010205	McLeod; Wright
86-0255-00	Shakopee	Lake	North Fork Crow River	07010204	Wright; McLeod
86-0257-00	Grass	Lake	North Fork Crow River	07010204	Wright
86-0258-00	Unnamed	Lake	North Fork Crow River	07010204	Wright
86-0279-00	West Lake Sylvia	Lake	North Fork Crow River	07010204	Wright
86-0282-00	Louisa	Lake	Mississippi River - St. Cloud	07010203	Stearns; Wright
86-0296-00	Beaver Dam	Lake	North Fork Crow River	07010204	Meeker; Wright
04010101-501	Pigeon River	Stream	Lake Superior - North	04010101	Cook
04010101-502	Brule River	Stream	Lake Superior - North	04010101	Cook
04010101-543	Swamp River	Stream	Lake Superior - North	04010101	Cook
04010101-610	Temperance River	Stream	Lake Superior - North	04010101	Cook
04010101-757	Unnamed creek (Grand Portage Creek)	Stream	Lake Superior - North	04010101	Cook
04010101-D75	Royal River	Stream	Lake Superior - North	04010101	Cook
04010101-D81	Hoist Creek	Stream	Lake Superior - North	04010101	Lake
04010101-E12	Vern River	Stream	Lake Superior - North	04010101	Cook
04010201-545	Bug Creek	Stream	St. Louis River	04010201	St. Louis
04010201-552	Partridge River	Stream	St. Louis River	04010201	St. Louis
04010201-579	Embarrass River	Stream	St. Louis River	04010201	St. Louis
04010201-631	St Louis River	Stream	St. Louis River	04010201	St. Louis
04010201-644	St Louis River	Stream	St. Louis River	04010201	St. Louis

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
04010201-952	Second Creek (First Creek)	Stream	St. Louis River	04010201	St. Louis
04010201-A37	Shiver Creek	Stream	St. Louis River	04010201	St. Louis
04010201-A99	Embarrass River	Stream	St. Louis River	04010201	St. Louis
04010201-B00	Embarrass River	Stream	St. Louis River	04010201	St. Louis
04010201-B66	St Louis River	Stream	St. Louis River	04010201	St. Louis
04010202-590	Little Cloquet River	Stream	Cloquet River	04010202	St. Louis
04010202-664	Petrel Creek	Stream	Cloquet River	04010202	St. Louis
04010202-669	Cloquet River	Stream	Cloquet River	04010202	Lake
04010202-671	Cloquet River	Stream	Cloquet River	04010202	St. Louis
07010101-510	Turtle River	Stream	Mississippi River - Headwaters	07010101	Beltrami
07010101-517	Little Mississippi River	Stream	Mississippi River - Headwaters	07010101	Beltrami
07010101-521	Vermillion River	Stream	Mississippi River - Headwaters	07010101	Cass; Itasca
07010101-526	Third River	Stream	Mississippi River - Headwaters	07010101	Itasca
07010101-546	Grant Creek	Stream	Mississippi River - Headwaters	07010101	Beltrami
07010101-570	North Turtle River	Stream	Mississippi River - Headwaters	07010101	Beltrami
07010101-573	Birch Creek	Stream	Mississippi River - Headwaters	07010101	Hubbard
07010101-600	Pigeon River	Stream	Mississippi River - Headwaters	07010101	Itasca
07010101-753	Mississippi River	Stream	Mississippi River - Headwaters	07010101	Beltrami; Clearwater; Hubbard
07010101-755	Mississippi River	Stream	Mississippi River - Headwaters	07010101	Cass; Beltrami; Itasca
07010101-756	Mississippi River	Stream	Mississippi River - Headwaters	07010101	Itasca; Cass

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
07010102-502	Necktie River	Stream	Leech Lake River	07010102	Hubbard
07010102-507	Steamboat River	Stream	Leech Lake River	07010102	Cass
07010102-511	Kabekona River	Stream	Leech Lake River	07010102	Hubbard
07010102-518	Boy River	Stream	Leech Lake River	07010102	Cass
07010102-520	Boy River	Stream	Leech Lake River	07010102	Cass
07010102-545	Portage Creek	Stream	Leech Lake River	07010102	Cass
07010103-504	Sandy River	Stream	Mississippi River - Grand Rapids	07010103	Aitkin
07010103-508	Prairie River	Stream	Mississippi River - Grand Rapids	07010103	Itasca
07010103-512	Sandy River	Stream	Mississippi River - Grand Rapids	07010103	Aitkin
07010103-514	West Savanna River	Stream	Mississippi River - Grand Rapids	07010103	Aitkin
07010103-515	Prairie River	Stream	Mississippi River - Grand Rapids	07010103	Aitkin
07010103-516	Prairie River	Stream	Mississippi River - Grand Rapids	07010103	Aitkin; St. Louis
07010103-542	Day Brook	Stream	Mississippi River - Grand Rapids	07010103	Itasca; St. Louis
07010103-749	Moose River	Stream	Mississippi River - Grand Rapids, Pine River	07010103, 07010105	Aitkin; Cass
07010103-753	Swan River	Stream	Mississippi River - Grand Rapids	07010103	Itasca
07010103-757	Tamarack River	Stream	Mississippi River - Grand Rapids	07010103	Carlton; Aitkin
07010103-758	Tamarack River	Stream	Mississippi River - Grand Rapids	07010103	Aitkin
07010104-528	Little Elk River, South Branch	Stream	Mississippi River - Brainerd	07010104	Morrison; Todd
07010104-656	Mississippi River	Stream	Mississippi River - Brainerd	07010104	Crow Wing; Cass
07010104-661	Ripple River	Stream	Mississippi River - Brainerd	07010104	Aitkin

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
07010104-674	Unnamed creek	Stream	Mississippi River - Brainerd	07010104	Crow Wing
07010104-692	Rice River	Stream	Mississippi River - Brainerd	07010104	Aitkin
07010104-693	Rice River	Stream	Mississippi River - Brainerd	07010104	Aitkin
07010105-504	Pine River	Stream	Mississippi River - Brainerd, Pine River	07010104, 07010105	Crow Wing
07010105-505	Little Pine River	Stream	Pine River	07010105	Crow Wing
07010105-534	Pine River, South Fork	Stream	Pine River	07010105	Cass
07010105-671	Pine River	Stream	Pine River	07010105	Cass
07010105-672	Pine River	Stream	Pine River	07010105	Crow Wing; Cass
07010106-502	Gull River	Stream	Crow Wing River	07010106	Cass; Crow Wing
07010106-510	Crow Wing River	Stream	Crow Wing River	07010106	Wadena; Cass
07010106-516	Crow Wing River	Stream	Crow Wing River	07010106	Wadena; Hubbard
07010106-523	Crow Wing River	Stream	Crow Wing River	07010106	Hubbard
07010106-542	Fishhook River	Stream	Crow Wing River	07010106	Hubbard
07010106-569	Indian Creek	Stream	Crow Wing River	07010106	Becker
07010106-617	Hay Creek	Stream	Crow Wing River	07010106	Becker; Hubbard
07010106-627	Fishhook River	Stream	Crow Wing River	07010106	Hubbard
07010106-681	Shell River	Stream	Crow Wing River	07010106	Wadena; Hubbard
07010106-721	Crow Wing River	Stream	Mississippi River - Brainerd, Crow Wing River	07010104, 07010106	Morrison; Cass; Crow Wing
07010106-722	Unnamed creek	Stream	Crow Wing River	07010106	Hubbard
07010108-501	Long Prairie River	Stream	Crow Wing River, Long Prairie River	07010106, 07010108	Morrison; Cass; Todd
07010108-505	Long Prairie River	Stream	Long Prairie River	07010108	Todd; Douglas

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
07010108-513	Turtle Creek	Stream	Long Prairie River	07010108	Todd
07010108-535	Long Prairie River	Stream	Long Prairie River	07010108	Douglas
07010201-507	Platte River	Stream	Mississippi River - Sartell	07010201	Morrison; Crow Wing
07010201-618	Rice Creek	Stream	Mississippi River - Sartell	07010201	Morrison
07010203-512	Rice Creek	Stream	Mississippi River - St. Cloud	07010203	Sherburne
07010204-537	Crow River, Middle Fork	Stream	North Fork Crow River	07010204	Kandiyohi; Stearns
07010204-763	Crow River, North Fork	Stream	North Fork Crow River	07010204	Stearns; Pope
07010204-764	Crow River, North Fork	Stream	North Fork Crow River	07010204	Stearns; Kandiyohi
07010206-584	Rice Creek	Stream	Mississippi River - Twin Cities	07010206	Anoka; Ramsey
07010207-518	Stanchfield Creek	Stream	Rum River	07010207	Isanti
07010207-556	Rum River	Stream	Mississippi River - Twin Cities, Rum River	07010206, 07010207	Anoka
07010207-680	Trott Brook	Stream	Rum River	07010207	Anoka
07020004-552	County Ditch 12	Stream	Minnesota River - Yellow Medicine River	07020004	Redwood
07020011-668	Rice Creek	Stream	Le Sueur River	07020011	Faribault
07020011-669	Rice Creek	Stream	Le Sueur River	07020011	Blue Earth; Faribault
07020012-842	Raven Stream, West Branch	Stream	Lower Minnesota River	07020012	Scott
07030001-511	Hay Creek	Stream	Upper St. Croix River	07030001	Pine
07030001-549	Lost Creek	Stream	Upper St. Croix River	07030001	Pine
07030003-502	Kettle River	Stream	Upper St. Croix River, Kettle River	07030001, 07030003	Pine
07030003-511	Kettle River	Stream	Kettle River	07030003	Carlton
07030003-516	Grindstone River, South Branch	Stream	Kettle River	07030003	Kanabec; Pine
07030003-531	Moose Horn River	Stream	Kettle River	07030003	Carlton; Pine

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
07030003-621	Willow River	Stream	Kettle River	07030003	Pine
07030003-622	Willow River	Stream	Kettle River	07030003	Pine
07030004-503	Snake River	Stream	Snake River - St. Croix Basin	07030004	Pine; Kanabec
07030004-511	Ann River	Stream	Snake River - St. Croix Basin	07030004	Kanabec
07030004-533	Pokegama Creek	Stream	Snake River - St. Croix Basin	07030004	Pine
07030004-547	Mission Creek	Stream	Snake River - St. Croix Basin	07030004	Pine
07030004-575	Rice Creek	Stream	Snake River - St. Croix Basin	07030004	Kanabec
07030004-587	Snake River	Stream	Snake River - St. Croix Basin, Lower St. Croix River	07030004, 07030005	Pine
07030005-707	Unnamed creek	Stream	Lower St. Croix River	07030005	Isanti
07040002-501	Cannon River	Stream	Cannon River	07040002	Goodhue
07040003-627	Mississippi River	Stream	Mississippi River - Winona	07040003	Wabasha; Winona
07040008-581	Rice Creek	Stream	Root River	07040008	Fillmore
07060001-509	Mississippi River	Stream	Mississippi River - Reno	07060001	Houston
09020103-530	Otter Tail River	Stream	Otter Tail River	09020103	Becker; Otter Tail
09020103-541	Otter Tail River	Stream	Otter Tail River	09020103	Otter Tail
09020103-748	Egg River	Stream	Otter Tail River	09020103	Becker
09020103-773	Otter Tail River	Stream	Otter Tail River	09020103	Otter Tail
09020103-774	Otter Tail River	Stream	Otter Tail River	09020103	Otter Tail
09020106-594	Buffalo River	Stream	Buffalo River	09020106	Becker; Clay
09020108-510	Wild Rice River	Stream	Wild Rice River	09020108	Mahnomen
09020108-512	Wild Rice River	Stream	Wild Rice River	09020108	Clearwater; Mahnomen
09020108-569	Gull Creek	Stream	Wild Rice River	09020108	Becker
09020302-501	Tamarac River	Stream	Upper/Lower Red Lake	09020302	Koochiching; Beltrami

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
09020302-513	Blackduck River	Stream	Upper/Lower Red Lake	09020302	Beltrami
09020302-558	Manomin Creek	Stream	Upper/Lower Red Lake	09020302	Beltrami
09020305-517	Clearwater River	Stream	Clearwater River	09020305	Clearwater; Beltrami; Mahnomen
09020305-518	Poplar River	Stream	Clearwater River	09020305	Polk
09020305-539	Hill River	Stream	Clearwater River	09020305	Red Lake; Polk
09020305-647	Clearwater River	Stream	Clearwater River	09020305	Clearwater; Pennington; Polk; Red Lake
09030001-512	Kawishiwi River	Stream	Rainy River - Headwaters	09030001	Lake
09030001-527	Isabella River	Stream	Rainy River - Headwaters	09030001	Lake
09030001-536	South Kawishiwi River	Stream	Rainy River - Headwaters	09030001	Lake
09030001-540	Moose River	Stream	Rainy River - Headwaters	09030001	St. Louis
09030001-598	Unnamed creek (Scott Creek Tributary)	Stream	Rainy River - Headwaters	09030001	Lake
09030001-608	Bear Island River	Stream	Rainy River - Headwaters	09030001	St. Louis
09030001-623	Unnamed creek	Stream	Rainy River - Headwaters	09030001	Lake
09030001-632	Dumbbell River	Stream	Rainy River - Headwaters	09030001	Lake
09030001-642	Little Indian Sioux River	Stream	Rainy River - Headwaters	09030001	St. Louis
09030001-643	Little Indian Sioux River	Stream	Rainy River - Headwaters	09030001	St. Louis
09030001-650	Nina Moose River	Stream	Rainy River - Headwaters	09030001	St. Louis

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
09030001-665	Bear Island River	Stream	Rainy River - Headwaters	09030001	St. Louis
09030001-719	Horse River	Stream	Rainy River - Headwaters	09030001	Lake
09030001-808	Burntside River	Stream	Rainy River - Headwaters	09030001	St. Louis
09030001-975	Bezhik Creek	Stream	Rainy River - Headwaters	09030001	St. Louis
09030001-985	Stony River	Stream	Rainy River - Headwaters	09030001	Lake
09030001-987	Dunka River	Stream	Rainy River - Headwaters	09030001	St. Louis
09030001-A11	Little Indian Sioux River	Stream	Rainy River - Headwaters	09030001	St. Louis
09030001-A12	Little Indian Sioux River	Stream	Rainy River - Headwaters	09030001	St. Louis
09030001-A13	Little Indian Sioux River	Stream	Rainy River - Headwaters	09030001	St. Louis
09030001-A14	Island River	Stream	Rainy River - Headwaters	09030001	Lake
09030001-A15	Island River	Stream	Rainy River - Headwaters	09030001	Lake
09030001-A16	Island River	Stream	Rainy River - Headwaters	09030001	Lake
09030001-A17	Island River	Stream	Rainy River - Headwaters	09030001	Lake
09030002-501	Sand River	Stream	Vermilion River	09030002	St. Louis
09030002-503	Pike River	Stream	Vermilion River	09030002	St. Louis
09030002-530	Pelican River	Stream	Vermilion River	09030002	St. Louis
09030002-531	Vermilion River	Stream	Vermilion River	09030002	St. Louis
09030002-532	Echo River	Stream	Vermilion River	09030002	St. Louis
09030002-586	Camp Forty Creek	Stream	Vermilion River	09030002	St. Louis
09030002-602	Elbow River	Stream	Vermilion River	09030002	St. Louis
09030003-629	Tilson Creek	Stream	Rainy River - Rainy Lake	09030003	Koochiching

WID	Water body name	Type	Watersheds	HUC8 codes	Counties
09030005-517	Rice River	Stream	Little Fork River	09030005	St. Louis
09030005-527	Sturgeon River	Stream	Little Fork River	09030005	St. Louis
09030005-605	Shannon River	Stream	Little Fork River	09030005	St. Louis
09030006-505	Big Fork River	Stream	Big Fork River	09030006	Itasca
09030006-512	Popple River	Stream	Big Fork River	09030006	Itasca
09030006-538	Hinken Creek	Stream	Big Fork River	09030006	Itasca
09030006-539	Rice River	Stream	Big Fork River	09030006	Itasca
09030006-548	Rice River	Stream	Big Fork River	09030006	Itasca
09030006-555	Bowstring River	Stream	Big Fork River	09030006	Itasca
09030006-635	Rice Creek	Stream	Big Fork River	09030006	Itasca
09030008-502	Winter Road River	Stream	Lower Rainy River	09030008	Lake of the Woods
09030008-513	Silver Creek	Stream	Lower Rainy River	09030008	Lake of the Woods
09030008-535	Baudette River	Stream	Lower Rainy River	09030008	Lake of the Woods
09030008-561	Rainy River	Stream	Lower Rainy River	09030008	Lake of the Woods
09030009-537	Bostick Creek	Stream	Lake of the Woods	09030009	Lake of the Woods

Appendix I: Statistical significance of sulfate impairment determinations

The methods contained here were used to determine why a minimum of 5 discrete samples are necessary for sulfate impairment determination. The waters used for production of wild rice list contained in this Guidance Manual was used for the statistics.

Statistical significance of impairment determinations

Determinations of statistical significance are made at an 80% confidence level, using the Kaplan-Meier estimator and a boot-strapped confidence interval. The choice of an 80% confidence interval conservatively balances the risk and cost of incorrectly listing a water as impaired, thus requiring a TMDL and corrective action, with the risk and cost of failing to list a water that is in fact impaired. If additional monitoring and assessment done subsequent to a listing shows the use is supported, this will lead to the correction of the incorrect listing.

Statistical validation of sulfate data minimums

- The MPCA recognizes that using a 5-sample assessment-level dataset to determine beneficial use assessments (excluding trace metals and ammonia) is small compared to the other parameters. Independent samples t-test statistical technique was used to investigate the statistical validation of data minimum of 5 observations versus 10.
- Data for statistical analysis include all available sulfate data for wild rice waters from 2010 -2020
- Hypothesis
    - H_0; $\mu_{data\_\min\_5obs} = \mu_{data\_\min\_10obs}$
      Assumes the means of using at least five data minimum is not statistically different from the data minimum of at least ten observations.
    - H_1; $\mu_{data\_\min\_5obs} \neq \mu_{data\_\min\_10obs}$
      Assumes the means of using at least five data minimum is statistically different from the data minimum of at least ten observations.
- Alpha level is 0.05 corresponding to a 95% confidence interval.
- Results from the independent samples t-test is summarized in Table 18.

Table 34: Welch two sample t-test

Data: waters used for production of wild rice Grp : 5_obs vs 10_obs	**t-value**	**Degrees of freedom**	**95% confidence interval**	**P-value**	**Decision Rule**
All: 2008 -2020	0.7146	345.19	(-8.068, 17.276)	0.4753	Fail to Reject Ho
Conclusion	There is no statistically significant difference between the average sulfate concentration for the data minimum of at least 5 observations and a minimum of 10 observations.				
Most recent: 2010-2020	0.6294	236.77	(-11.219, 21.755)	0.5297	Fail to Reject Ho
Conclusion	There is no statistically significant difference between the average sulfate concentration for the data minimum of at least 5 observations and a minimum of 10 observations.				

Table 35: Descriptive statistics

Data	Group	N	Mean	Std. Dev	Std. Err
Waters used for production of wild rice (2008 -2020)	Data minimum of five observations.	239	19.883	67.906	4.392
	Data minimum of ten observations.	145	15.279	56.758	4.713
Waters used for production of wild rice (2010-2020)	Data minimum of five observations.	195	21.689	74.706	5.350
	Data minimum of ten observations.	105	16.421	65.948	6.436