



## **STATEMENT OF NEED AND REASONABLENESS**

In the matter of proposed revisions of Minnesota Rules, chapter 7050,  
relating to Class 2 and Class 7 beneficial use designations

**Minnesota Pollution Control Agency**  
**Environmental Analysis and Outcomes Division**  
**June 2019**

The *State Register* notice will be available during the public comment period on the MPCA's Public Notices webpage: <https://www.pca.state.mn.us/public-notices><http://www.pca.state.mn.us/news/data/index.cfm?PN=1>.

The proposed rule and this Statement of Need and Reasonableness (SONAR) will be posted on the Amendments to Water Quality Standards - Use Classifications 2 and 7 webpage: <https://www.pca.state.mn.us/wqs-designated-uses>.

**Alternative Format:**

Upon request, this Statement of Need and Reasonableness (SONAR) can be made available in an alternative format, such as large print, Braille, or audio. To make a request, contact Mary H. Lynn at the Minnesota Pollution Control Agency, Resource Management and Assistance Division, 520 Lafayette Road North, St. Paul, MN 55155-4194; telephone 651-757-2439 or email: [mary.lynn@state.mn.us](mailto:mary.lynn@state.mn.us).

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# Acronyms or abbreviations

§	Section
ALU	Aquatic Life Use
AUID	Assessment Unit Identification Code
BCG	Biological Condition Gradient
BMP	Best Management Practice
CFR	Code of Federal Regulations
ch.	Chapter
CWA	Clean Water Act (33 U.S.C. § 1251 et seq.)
EPA	U.S. Environmental Protection Agency
HUC8	8-digit Hydrological Unit Code
IBI	Index of Biological (Biotic) Integrity
IWM	Intensive Watershed Monitoring
MDNR	Minnesota Department of Natural Resources
mg/L	Milligrams per Liter
Minn. R.	Minnesota Rules
Minn. Stat.	Minnesota Statutes
MPCA or Agency	Minnesota Pollution Control Agency
MS4	Municipal Separate Storm Sewer System
NPDES/SDS	National Pollutant Discharge Elimination System/State Disposal System
RFC	Request For Comments
SONAR	Statement of Need and Reasonableness
TALU	Tiered Aquatic Life Uses
TMDL	Total Maximum Daily Load
UAA	Use Attainability Analysis
U.S.C.	United States Code
WQS	Water Quality Standards
WRAPS	Watershed Restoration and Protection Strategy

# Definitions

The following definitions of terms used in this Statement of Need and Reasonableness (SONAR) are based on standard use and are provided for the convenience of the reader. Unless otherwise specified, these definitions are specific to this SONAR.

**Antidegradation:** The part of state water quality standards (WQS) that protects and maintains existing uses, prevents degradation of high water quality unless certain conditions are met, and which protects and maintains the quality of outstanding resource waters.

**Aquatic Biota:** The aquatic community composed of game and nongame fish, minnows and other small fish, mollusks, insects, crustaceans and other invertebrates, submerged or emergent rooted vegetation, suspended or floating algae, substrate-attached algae, microscopic organisms, and other aquatic-dependent organisms that require aquatic systems for food or to fulfill any part of their life cycle, such as amphibians and certain wildlife species. See definition in [Minn. R. 7050.0150, subp. 4](#) (S-1).

**Aquatic Life Use (ALU):** A designated use that protects aquatic biota including fish, insects, mollusks, crustaceans, plants, microscopic organisms, and all other aquatic-dependent organisms. Attainment of aquatic life uses are measured directly in Minnesota using Indices of Biological Integrity (IBIs) and biological criteria. Chemical and physical standards are also used to protect aquatic life uses.

**Aquatic Life Use Goals:** A goal for the condition of aquatic biota required by the Clean Water Act (CWA). Minimum aquatic life use goals are established using the CWA interim goal (“...water quality which provides for the protection and propagation of fish, shellfish, and wildlife...”). A Tiered Aquatic Life Uses (TALU) framework establishes multiple aquatic life use goals or tiers to protect attainable biological conditions. The objectives for these goals are established in Minnesota Rule using narrative standards, numeric standards, or both. Attainment of these goals is directly measured in Minnesota using IBIs and biological criteria.

**Assemblage:** A taxonomic subset of a biological community such as fish in a stream community. See definition in [Minn. R. 7050.0150, subp. 4](#) (S-1).

**Assessment Unit Identification Code (AUID):** Streams and lakes are assigned an AUID code (also referred to as a water body ID (WID)) code, which is used to identify assessment units and track assessment efforts. AUIDs are also the framework used to assign and track designated uses. For streams, the code identifies the HUC8 watershed in which the stream segment is located and assigns a unique 3-digit code to the reach. For lakes, the code follows the MDNR conventions, where the first two numbers refer to the county number (alphabetical), the middle four numbers are a random, unique lake number, and the final two digits are the embayment number.

**Beneficial Use:** A designated use described in [Minn. R. 7050.0140](#) (S-2) and listed in [Minn. R. 7050.0400](#) (S-3) to [Minn. R. 7050.0470](#) (S-4) for each surface water or segment thereof, whether or not the use is currently attained. (The term “designated use” may be used interchangeably.) See also “Existing Use.”

**Best Management Practice (BMP):** An engineered structure, management activity, or combination thereof that eliminates or reduces an adverse environmental effect of a pollutant, pollution, or stressor.

**Biological Assessment:** An evaluation of the biological condition of a water body using surveys of the structure and function of an assemblage of resident biota. It also includes the interdisciplinary process of determining condition and relating that condition to chemical, physical, and biological factors that are measured along with the biological sampling. Guidance for performing biological assessments in Minnesota is described in S-5 (<https://www.pca.state.mn.us/sites/default/files/wq-iw1-04j.pdf>). (The term “bioassessment” may be used interchangeably.)



**Biological Condition Gradient (BCG):** A concept describing how aquatic communities change in response to increasing levels of stressors. In application, the BCG is an empirical, descriptive model that rates biological communities on a scale from natural to highly degraded (S-6, S-7). See definition in [Minn. R. 7050.0150, subp. 4](#) (S-1).

**Biological Criteria,<sup>1</sup> Narrative or Biocriteria, Narrative:** Written statements describing the attributes of the structure and function of aquatic assemblages in a water body necessary to protect the designated aquatic life beneficial use. See definition in [Minn. R. 7050.0150, subp. 4](#) (S-1).

**Biological Criteria,<sup>1</sup> Numeric or Biocriteria, Numeric:** Specific quantitative measures of the attributes of the structure and function of aquatic communities in a water body necessary to protect the designated aquatic life beneficial use. See definition in [Minn. R. 7050.0150, subp. 4](#) (S-1).

**Biological Integrity:** The ability of an aquatic ecosystem to support and maintain an assemblage of organisms having a species composition, diversity, and functional organization comparable to that of natural habitats within a region (S-8).

**Biological Monitoring:** The measurement of a biological entity (taxon, species, assemblage) as an indicator of environmental conditions. Ambient biological surveys and toxicity tests are common biological monitoring methods. (The term “biomonitoring” may be used interchangeably.)

**Clean Water Act (CWA):** An act passed by the U.S. Congress to control water pollution (formally referred to as the Federal Water Pollution Control Act of 1972). [33 U.S.C. § 1251](#) et seq.

**Clean Water Act Interim Goal:** [CWA Section 101\(a\)\(2\)](#) establishes the minimum restoration and protection goals for water quality. It states, “it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983.”

**Clean Water Act Objective:** “The objective of this Act is to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters” [CWA Section 101\(a\)](#). It has been described as “*supporting and maintaining a balanced, integrated, adaptive community of organisms having a composition and diversity comparable to that of the natural habitats of the region*” (S-9). This is the long-term objective of the CWA and it is consistent with natural or near-natural conditions (S-10).

**Criteria:** Narrative descriptions or numerical values which describe the chemical, physical, or biological conditions in a water body necessary to protect designated uses. See also the definitions for “biological criteria/biocriteria” and “standard” and the discussion in Section 2.B.

**Designated Use:** See “beneficial use.”

**Existing Use:** Those uses actually attained in the surface water on or after November 28, 1975. See definition in existing rule [Minn. R. 7050.0255, subp. 15](#) (S-11).

**Hydrological Unit Code (HUC):** Watersheds in the United States are divided into a series of hierarchical units. Each watershed at each level is designated by a hydrological unit code. At the highest level

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<sup>1</sup> The term “biological criteria” can be used interchangeably with “biological standard.” Minnesota Rule uses the term “standard” to mean “a number or numbers established for a pollutant or water quality characteristic to protect a specified beneficial use” (Minn. R. 7050.0218, subp. 3; S-11. Minn. R. 7050.0255, Definitions (2016) S-124). The EPA’s use of the term “criteria” is similar to Minnesota’s use of “standard.” “Biological criteria” and “biocriteria” are the terms most commonly used in the United States to refer to numerical values which represent the biological condition or health necessary to protect designated uses. Using Minnesota Rule terminology, these values would be called “biological criteria” or “biocriteria” before promulgation and “biological standards” following promulgation in rule. However, to be consistent with the terminology used by federal agencies and by other states and tribes, the terms “biological criteria” and “biocriteria” are used in this document and in rule to refer to both the promulgated and unpromulgated values. Additional explanation of these terms is provided in Section 2.B.

(Level 1), watersheds are divided into regions and are assigned a two-digit code. For example, the Upper Mississippi watershed is assigned the two-digit code “07” (see table below). The region is subdivided into subregions and an additional two digits are added to the code for each of the subregions creating a unique four-digit code for each. Each subsequent level is subdivided and assigned a unique, hierarchical code down to level six. The seventh level is part of the Minnesota Department of Natural Resources (MDNR) watershed system. The minor watersheds are a further division of the 12-digit HUCs and are similar to 14-digit HUCs. These watersheds are used to organize water quality monitoring, assessment, and management activities.

Level	Name	Digits	Example Code (HUC)	Example Name
1	Region	2	07	Upper Mississippi
2	Subregion	4	0701	Mississippi Headwaters
3	Basin	6	070102	Upper Mississippi-Crow-Rum
4	Subbasin	8	07010206	Mississippi River - Twin Cities
5	Watershed	10	0701020606	Minnehaha Creek
6	Subwatershed	12	070102060601	Sixmile Creek
7	Minor watershed	NA	20053	Sixmile Creek

**Index of Biological Integrity or Index of Biotic Integrity (IBI):** An index developed by measuring attributes of an aquatic community that change in quantifiable and predictable ways in response to human disturbance, representing the health of that community. See definition in [Minn. R. 7050.0150, subp. 4 \(S-1\)](#).

**Macroinvertebrates:** Animals without backbones, living in or on substrates, of a size large enough to be seen without magnification, and which can be retained by a U.S. Standard No. 30 sieve (0.595 mm openings). Also referred to as benthos, infauna, or macrobenthos.

**Natural Condition:** As described in [Minn. R. 7050.0170 \(S-13\)](#): “Natural conditions exist where there is no discernible impact from point or nonpoint source pollutants attributable to human activity or from a physical alteration of wetlands.” This includes the multiplicity of factors (e.g., pH, temperature, and species) that determine the physical, chemical, or biological conditions that would exist in a water body in the absence of measurable impacts from human activity or influence.

**Reference Water Body:**<sup>2</sup> A water body minimally or least impacted by point or nonpoint sources of pollution that is representative of water bodies of a similar surface water-body type and within a geographic region such as an ecoregion or watershed. Reference water bodies are used as the basis for comparing the quality of similar water bodies in the same geographic region. See definition in [Minn. R. 7050.0150, subp. 4 \(S-1\)](#).

**Standard:** Regulatory limits on a particular pollutant, or a description of the condition of a water body, presumed to support or protect the beneficial use or uses. Standards may be narrative or numeric and are commonly expressed as a chemical concentration, a physical parameter, or a biological assemblage endpoint. See also the definitions for “biological criteria/biocriteria” and “criteria” and the discussion in Section 2.B.

**Stressors:** Physical, chemical, and biological factors that can adversely affect aquatic organisms. The effect of stressors is apparent in biological responses because stressor conditions are outside the conditions for which an organism is adapted. This leads to changes in the fitness of organisms and changes in the composition of organisms found in aquatic communities. Under the effect of stressors, the normal functioning of organisms is disturbed (e.g., increased metabolism, interruption of behavior) which results in negative impacts such as decreased fitness, reduced growth, increased disease

<sup>2</sup> The term “water body” is a general term that includes streams, rivers, ditches, lakes, ponds, wetlands, etc. and in this document it usually refers to an assessment unit (i.e., AUID). This term may refer to a segment of a stream or a lake basin.

prevalence, interruption of reproductive behavior, increased emigration, and increased mortality. Examples of stressors in aquatic systems are low levels of dissolved oxygen, suspended sediments, toxic pollutants, habitat alteration, altered hydrology, and reduced connectivity.

**Tiered Aquatic Life Use (TALU) Framework:** A TALU framework is the structure of designated aquatic life uses that incorporates a hierarchy of use subclasses. The TALUs in a TALU framework are based on representative ecological attributes reflected in the narrative description of each TALU tier and embodied in the measurements that extend to expressions of that narrative through numeric biological criteria and, by extension, to chemical and physical indicators, and standards.

**Tiered Aquatic Life Uses:** TALUs are designated uses assigned to water bodies based on their ecological potential and the ability to protect or restore a water body to that attainable level. This means that the assignment of a TALU tier to a specific water body is done based on reasonable restoration or protection expectations and attainability. Knowledge of the current condition of a water body and an accompanying and adequate assessment of stressors affecting that water body are needed to make these assignments.

**Total Maximum Daily Load (TMDL):** The maximum amount of a pollutant that a body of water can receive while still meeting WQS. Alternatively, a TMDL is an allocation of a water pollutant deemed acceptable to still attain the beneficial use assigned to the water body. See [40 CFR § 130.7](#) (S-14).

**Use Attainability Analysis (UAA):** A structured scientific assessment of the physical, chemical, biological, and economic factors affecting attainment of the uses of water bodies. A UAA is required to remove a designated use specified in section [101\(a\)\(2\) of the CWA](#) that is not an existing use. The allowable reasons for removing a designated use are described in [40 CFR § 131.10 \(g\)](#). See definition in [Minn. R. 7050.0150, subp. 4](#) (S-1).

**Water Quality Standards (WQS):** A law or regulation that consists of the beneficial use or uses of a water body, the narrative or numerical WQS that are necessary to protect the use or uses of that particular water body, and antidegradation. See Section 2.B.

**Water Quality Management:** A collection of management programs relevant to water resource protection that include problem identification, the need for and placement of BMPs, pollution abatement actions, and measuring the effectiveness of management actions.

# 1. Introduction and statement of general need

## A. Summary of proposed amendments

The Minnesota Pollution Control Agency (MPCA) is proposing amendments to Class 2 and 7 stream<sup>3</sup> and lake use designations listed in [Minn. R. 7050.0470](#). In addition, the MPCA is proposing to update the language in [Minn. R. 7050.0420](#) (S-15) based on a need to modernize the process for designating cold and warm/cool water habitats. The MPCA routinely reviews use designations to ensure that assigned beneficial uses are protective and attainable as defined by the Clean Water Act (CWA) and Minnesota Rules. As a result of routine monitoring and stakeholder requests, the MPCA has identified stream reaches where the currently designated beneficial use does not accurately reflect an attainable or existing beneficial use. These use designations were initiated through several pathways including routine biological monitoring, rulemaking by the Minnesota Department of Natural Resources (MDNR), and requests by external parties. The designated use for each water body needs to be correct and appropriate because the designated use affects many water quality protection and restoration efforts (e.g., assessment, stressor identification, National Pollutant Discharge Elimination System [NPDES] permitting, Total Maximum Daily Loads [TMDLs]). Amending MPCA's water quality rules to appropriately assign designated uses will lead to better management outcomes for assessing and ensuring the protection of aquatic life and better restoration efforts to reach water quality goals. Assigning the correct beneficial uses to Minnesota's waters also serves to accurately document the types and condition of Minnesota's aquatic resources. The proposed rule amendments do not include changes to numeric or narrative standards, but instead is an implementation of existing rules.

This rulemaking "Amendments to Water Quality Standards - Use Classifications 2 and 7" is also referred to in this Statement of Need and Reasonableness (SONAR) as the "use designation rulemaking."

Adopting the proposed use designations amendments in [Minn. R. 7050.0470](#) and amendments to [Minn. R. 7050.0420](#):

- **Will** result in more accurate and representative aquatic life use designations;
- **Will** document existing uses to provide protection from "backsliding";
- **Will** provide protections for high quality waters and the aquatic life they support;
- **Will** set appropriate designated uses for waters affected by legal historical impacts, such as channelized streams;
- **Will** modernize how cold water habitats are designated to ensure that existing uses are protected;
- **Will** balance the requirement and need to protect and restore aquatic resources with important socio-economic needs;
- **Will** improve the outcomes of water quality management programs, such as watershed restoration and protection strategies (WRAPS); and
- **Will** result in better protection and restoration outcomes for aquatic life uses and improved water quality in Minnesota streams.

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<sup>3</sup> In this document and the proposed rule, the term "streams" refers to flowing or moving waters (i.e., lotic waters). These water bodies include streams, rivers, and ditches.

These rule amendments:

- **ARE NOT** a change to numeric or narrative standards, but rather to the implementation of existing standards to ensure that designated uses are correctly and appropriately assigned;
- **ARE NOT** a rationale for the *a priori* relaxation of pollution controls or the removal of waters from the impaired waters list;<sup>4</sup>
- **ARE NOT** a mechanism for downgrading the existing beneficial use class for a water body.<sup>5</sup> All existing beneficial uses will continue to be protected and use designations must be made through rulemaking;
- **ARE NOT** a change to any of the existing biological, chemical or physical standards established in [Minn. R. ch. 7050](#) and [Minn. R. ch. 7052](#);
- **ARE NOT** a change to the list of Class 2 wetlands identified in [Minn. R. 7050.0470](#) (S-6); and
- **ARE NOT** change to any use class other than Classes 2 and 7.<sup>6</sup>

## B. Statement of general need

The MPCA classifies most surface waters as Class 2, protecting those waters for aquatic life and recreational beneficial uses. Class 2 protections for Minnesota streams and lakes are subdivided into thermal classes including cold water (Class 2A) and warm/cool water (Classes 2Bd and 2B) habitats. In 2017, the MPCA adopted rules that moved Class 2 water quality standards (WQS) for streams from a “one-size-fits-all” or “pass/fail” classification system to a system that more accurately reflects the ecological diversity of Minnesota’s waters (S-19). This framework is called Tiered Aquatic Life Uses (TALUs). The combination of the thermal classes and TALUs results in five possible aquatic life use designations for streams and two for lakes (Table 1-1). As a result, Class 2 lakes and streams can have different biological protection and restoration goals assigned depending on the natural type of the water body (i.e., thermal class [lakes and streams]) and the attainability of goals (i.e., TALU [streams only]). It is important that when adequate data are available, these designated uses are reviewed to ensure that the assigned goal is achievable as defined under the CWA.

**Table 1-1. Matrix of aquatic life use designations for streams and lakes.**

	<b>2A (cold water)</b>	<b>2B and 2Bd (cool/warm water habitat)</b>
<b>Exceptional</b>	2Ae (streams)	2Be, 2Bde (streams)
<b>General*</b>	2Bg (streams), 2B (lakes)	2Bg, 2Bdg (streams); 2B, 2Bd (lakes)
<b>Modified</b>	-	2Bm, 2Bdm (streams)

**\*Tiered uses have not been adopted in rule for lakes. The current aquatic life use designated to lakes is equivalent to the General Use under the TALU framework.**

<sup>4</sup> Updates to designated uses may affect existing pollution controls or water quality management activities, in some cases making them more or less stringent. Aquatic Life Use (ALU) designations are dependent on a rigorous and objective scientific assessment of the physical, chemical, biological, or economic factors that affect attainment of the uses in a water body. This assessment is called a Use Attainability Analysis (UAA) and is required by the CWA ([40 CFR § 131.10\(g\)](#)) (S-16, S-17).

<sup>5</sup> 40 CFR § 131.3(e) (S-18) Existing uses are those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the WQS. See definition in [Minn. R. 7050.0255 subp. 15](#).

<sup>6</sup> The Class 2A, 2Ag, and 2Ae designations also carry Classes 1B and 3B (see [Minn. R. 7050.0420; S-17](#)). As a result the addition of a Class 2A, 2Ag, or 2Ae designation results in the addition of 1B and 3B designations if they are not already designated. The linkage between Classes 2A, 2Ag, and 2Ae and Class 1B is currently under review. As a result, proposed designations from cold water habitat to cool/warm water habitat will at this time retain the Class 1B designation and be designated cool/warm water habitat also protected as a source of drinking water (Class 2Bd or 2Bdg).

The CWA and Minnesota Rules support the use of biological assessments to protect designated beneficial uses (S-1, S-20). Minnesota, along with other states, currently use biological assessments to support CWA § 303(d) impaired waters listings and the CWA § 305(b) report (S-21). The U.S. Environmental Protection Agency (EPA) provides guidance and technical support to states in using biological assessments as part of WQS (S-10, S-22, S-23). The designation of aquatic life beneficial uses based on their attainability and coupled with the use of biological goals to assess attainment of those designated uses leads to more effective water quality management choices and outcomes by tailoring water quality protection and restoration activities to attainable goals.

The proposed amendment will meet the following needs:

- 1. Designate TALUs to address the diversity of aquatic resources in Minnesota.** Minnesota's aquatic resources are varied and diverse making refined biological goals necessary for effective management of these waters. The designation of TALUs result in attainable and appropriate goals for designated aquatic life uses (ALUs) in streams. It is consistent with the concept of protecting existing uses while simultaneously providing higher goals for waters with demonstrated exceptional biological quality, maintaining current goals for General Use waters, and setting attainable aquatic life goals for waters previously modified by legal human activities (e.g., maintaining channels for drainage). To accomplish this, Exceptional and Modified Use designations will be assigned to a subset of streams where adequate data demonstrate these TALUs are appropriate. The TALU framework consists of the following tiers:
  - **Exceptional Use:** Exceptional Use streams are those that are closest to a natural or undisturbed condition. There is a need to protect and maintain high quality streams in Minnesota. The Exceptional Use tier helps ensure that existing water quality rules, such as antidegradation, can adequately protect high quality streams.
  - **General Use:** The General Use is the default aquatic life use goal and it is equivalent to the CWA interim goal.
  - **Modified Use:** Some streams in Minnesota are unable to meet the current aquatic life use goal due to legal, legacy activities (e.g., ditching, impoundments). These limitations are related to poor habitat and not chemical pollutants. A reasonable and attainable goal is needed so that water quality management activities can be tailored to the biological potential of these waters.
- 2. Designate cold water and warm/cool water habitats based on adequate data.** The current inventory of cold water habitats designated in [Minn. R. 7050.0470](#) needs to be refined to better reflect existing cold water uses. New data assessed with updated methods can be used to refine these designations to ensure that these designations are appropriate and that actions taken to protect or restore these waters are targeted and effective.
- 3. Modernize language in Minn. R. 7050.0420 to ensure compliance with Minnesota Rules and the CWA.** Related to the previous need, the MPCA needs to implement changes to the waters designated as cold water in [Minn. R. 7050.0470](#) independent of the MDNR's trout waters list ([Minn. R. 6264.0050](#)). Although these lists are largely equivalent, the waters designated in [Minn. R. 6264.0050](#) do not always follow [Minn. R. 7050](#) and CWA requirements. [Minn. R. 7050.0420](#) links Class 2A designations to [Minn. R. 6264.0050](#) and it is necessary to alter rule language in [Minn. R. 7050](#) to allow the MPCA to designate Class 2A streams and lakes based on evidence that supports protection of the existing use.
- 4. Improve targeting of water management resources.** Water-body assessments are used to make decisions about water quality management activities. Greater assessment accuracy leads to increased water quality management efficiency because resources are not used to restore waters beyond what is currently attainable, high quality waters are not under-protected, and goals are not



inconsistent with natural characteristics of those waters. This rule amendment improves the management of streams and lakes by assigning appropriate and attainable beneficial use classifications. This results in better use of protection and restoration resources with a goal of maintaining and improving conditions.

In total, 191 stream reaches and lakes will be designated based on MPCA's Intensive Watershed Monitoring (IWM) efforts and MDNR rule amendments. The MPCA is reclassifying specific streams and lakes where adequate existing monitoring data and a Use Attainability Analysis (UAA), where applicable, have demonstrated the need for a more accurate use designation. These designations are part of routine review of ALUs to ensure the appropriate beneficial use is designated to these waters.

## C. Scope of the proposed amendments

One chapter of Minnesota Rules (Minn. R.) is affected by the proposed amendments: [Minn. R. ch. 7050](#). This chapter establishes the WQS for protection of the Waters of the State.

The proposed amendments designate specific streams as Modified or Exceptional Use in [Minn. R. ch. 7050](#), designate specific streams as cold water or warm/cool water habitats in [Minn. R. ch. 7050](#), make minor changes to [Minn. R. ch. 7050](#) to modify process for reviewing and designating cold water habitats, and make minor administrative changes as required by the Revisor of Statutes.

# 2. Background

## A. SONAR information

Minnesota's rulemaking process requires the MPCA to explain the facts establishing the need for and reasonableness of the amendments being proposed and to address specific procedural requirements of [Minn. Stat. ch. 14](#) and [Minn. R. ch. 1400](#). This SONAR contains the MPCA's affirmative presentation of facts on the need for and reasonableness of the proposed amendments. This SONAR also provides the MPCA's documentation of how it has met the procedural requirements up to this point in rulemaking.

In this SONAR the MPCA provides the following information:

*Section 1. Introduction and statement of general need.* Provides a short summary of the amendments being proposed, a general discussion of need, and identifies the rule chapter being amended.

*Section 2. Background.* Describes the information provided in this SONAR, specific terms used, WQS in general, and Minnesota's beneficial use framework.

*Section 3. Public participation and stakeholder involvement.* Describes the MPCA's activities and efforts to notify and engage the public and the regulated community, including a summary of the pre-proposal comments received.

*Section 4. Statutory authority.* Identifies the MPCA's statutory authority to adopt the proposed amendments.

*Section 5. Reasonableness of the amendments.* Discusses the general and specific reasonableness of the proposed amendments.

*Section 6. Regulatory and additional analysis.* Addresses the several regulatory analyses and additional requirements required by Minnesota statutes and MPCA policy.

*Section 7. Notice plan.* Discusses how the MPCA has met and will continue to comply with all regulatory notification requirements governing the administrative rulemaking process. This part also discusses how the MPCA intends to provide additional notice to interested parties when formally proposing to adopt the amendments.

*Section 8. Consideration of economic factors.* Discusses the economic factors related to the proposed use designations including the costs and benefits associated with stream and lake designations to Exceptional Use, Modified Use, cold water habitat, and warm/cool water habitat.

*Section 9. Authors, witnesses and SONAR exhibits.* Lists citations to specific exhibits that are relevant to the proposed amendments. Not all documents that are publicly available, such as state and federal laws, rules and policies, are provided as exhibits.

*Section 10. Conclusion.* Provides the MPCA Commissioner's determination that the proposed rules are necessary and reasonable.

## **B. Defining terms: “Water Quality Standards,” “Standards,” and “Criteria”**

The terms “water quality standards” or “WQS,” “standards,” and “criteria” can have different definitions depending on the context in which they are used. This discussion is provided to clarify the terminology used in this SONAR. The conditions for protecting surface water and groundwater quality are required to be established in state WQS. This requirement derives initially from Minnesota's first water quality rules adopted in 1963. The 1972 Federal Water Pollution Control Act (Clean Water Act or CWA) and its subsequent amendments also require states to establish WQS as the conditions for protecting surface water quality. According to state and federal requirements, WQS consist of three elements:

1. Classifying waters for designated beneficial uses;
2. Narrative and numeric criteria (standards) to protect those uses; and
3. Antidegradation policies to maintain and protect existing uses, prevent unnecessary degradation of high quality waters, and maintain and protect the quality of outstanding water resources.

As administrator of the CWA, the EPA provides guidance to states in the form of Ambient Water Quality Criteria; these criteria provide methods and data to develop pollutant specific numeric **criteria** for the second element of WQS. The pollutant-specific numeric **criteria** are the most visible and used part of WQS and therefore, are often referred to as “**Water Quality Standards**” on a standalone basis.

In particular, Minnesota's water quality rules use this terminology – referring to narrative and numeric criteria as “the standards” – in a way that differs slightly from the terminology used by the EPA. As defined in Minnesota Rules, pollutant-specific numeric **criteria**, when adopted through rulemaking, are called numeric **standards**. [Minn. R. 7050.0218, subp. 3\(TT\)](#) (S-12) defines a “**standard**” as: “...a number or numbers established for a pollutant or water quality characteristic to protect a specified beneficial use as listed in parts 7050.0221 to 7050.0227...”

In contrast to the federal usage of the term **criteria**, [Minn. R. 7050.0218, subp. 3\(S\)](#) (S-12) describes a “**criterion**” as: “...a number or numbers established for a pollutant derived under this part,... or issued by the USEPA, to protect aquatic life, humans, or wildlife.” Minnesota's rules distinguish-between “standard” and “criteria” primarily to emphasize the fact that the EPA's national criteria lack regulatory applicability until adopted as WQS in state rules. Numeric standards are specifically listed in the water quality rules while criteria are not.



For purposes of this SONAR, the MPCA will use the term “water quality standard” or “WQS” when referring to the three-part conditions for protecting surface water. The term “standard” will be used to refer to adopted chemical, physical, and biological numeric or narrative standards that protect a specific beneficial use. However, when referring specifically to biological standards, the term “biological criteria” and “biocriteria” will be used in this document. The terms “biological criteria” and “biocriteria” will refer to both adopted numeric biological criteria and numeric translators for adopted narrative biological criteria.

## C. Water quality standards

It is important to have a basic understanding of Minnesota’s WQS to understand the proposed use designations.

As required by the [CWA § 1313](#) (S-24) and [Minn. Stat. § 115.44](#) (S-26), WQS form the fundamental regulatory foundation to preserve and restore the quality of all Waters of the State. WQS consist of three elements:

1. Classifying waters for designated beneficial uses;
2. Narrative and numeric criteria (standards) to protect those uses; and
3. Antidegradation policies to maintain and protect existing uses, prevent unnecessary degradation of high quality waters, and maintain and protect the quality of outstanding water resources.

Assigning an appropriate beneficial use, and establishing numeric and narrative standards to protect the beneficial use, are responsibilities assigned to the MPCA by [Minn. Stat. § 115.03](#) (S-25) and [Minn. Stat. § 115.44](#) (S-26). Designated uses for Minnesota’s waters are listed in [Minn. R. 7050.0470](#) (S-4). All waters not listed in [Minn. R. 7050.0470](#) have a default designation to protect aquatic life and recreation (Class 2), plus additional designations as Classes 3, 4, 5 and 6 ([Minn. R. 7050.0430](#); S-27). The assigned beneficial use, and the accompanying supporting numeric and narrative standards, are fundamental considerations in decisions relating to the establishment of discharge effluent limitations, implementation of antidegradation requirements, impaired water assessments, and other water quality management activities. Assigning the appropriate beneficial use is an important first step in the process of assuring that the goals for each water body are attainable and can be protected. Minnesota has designated seven beneficial uses associated with surface waters (Table 2-1).<sup>7</sup>

**Table 2-1. Minnesota’s beneficial uses for surface waters.**

Use Class	Beneficial Use
Class 1	Domestic Consumption – drinking water protection (includes subclasses 1A, 1B, 1C)
Class 2	Aquatic life and recreation (includes subclasses 2A, 2Bd, 2B, 2D)
Class 3	Industrial use and cooling (includes subclasses 3A, 3B, 3C, 3D)
Class 4	Agriculture and wildlife (includes subclasses 4A, 4B, 4C)
Class 5	Aesthetics and navigation
Class 6	Other uses
Class 7	Limited resource value waters

Minnesota Rules and the CWA require states to develop WQS to protect or restore beneficial uses such as healthy communities of aquatic life. The aquatic life beneficial use protects aquatic biota which consists of fish, mussels, snails, insects, crustaceans, other invertebrates, submerged or emergent

<sup>7</sup> The numbers 1 – 7 do not imply a priority ranking.

rooted vegetation, suspended or floating algae, substrate-attached algae, microscopic organisms, and other aquatic-dependent organisms that require aquatic systems for food or to fulfill any part of their life cycle. Healthy biological communities in streams contain all or most of the species that would be found in a natural or undisturbed stream. As a result, these aquatic habitats maintain the ecosystem functions (e.g., decomposition, export/import of nutrients and sediments) of a natural system.

Most Waters of the State are designated Class 2 for the protection of aquatic life and recreation beneficial use.<sup>8</sup> This beneficial use is protected in aquatic systems which include streams, rivers, drainage ways, lakes, ponds, wetlands and other waters defined in [Minn. Stat. § 115.01, subd. 22](#) (S-28, S-29). The habitats in these systems include permanently or intermittently wetted areas which support aquatic and semiaquatic organisms. This beneficial use protects the organisms that live in or on the water or aquatic substrates as well as the organisms that depend on aquatic habitats to fulfill any part of their life cycle. Within Class 2 there are four subclasses: 2A, 2Bd, 2B, and 2D:

1. Class 2A is assigned to surface waters to “permit the propagation and maintenance of a healthy community of **cold** water aquatic biota, and their habitats” ([Minn. R. 7050.0222, subp. 2](#); S-30). Class 2A waters are also protected as a source of drinking water.
2. Class 2Bd is assigned to waters to “permit the propagation and maintenance of a healthy community of **cool or warm** water aquatic biota and their habitats” ([Minn. R. 7050.0222, subp. 3](#); S-30). Class 2Bd waters are also protected as a source of drinking water.
3. Class 2B is assigned to waters to “permit the propagation and maintenance of a healthy community of **cool or warm** water aquatic biota, and their habitats” ([Minn. R. 7050.0222, subp. 4](#); S-30). Class 2B waters are not protected as a source of drinking water. Class 2B is the most commonly assigned Class 2 use classification for surface Waters of the State.
4. Class 2D is assigned to waters to “permit the propagation and maintenance of a healthy community of aquatic and terrestrial species indigenous to wetlands, and their habitats” ([Minn. R. 7050.0222, subp. 6](#); S-30).

Streams<sup>9</sup> designated as Classes 2A, 2Bd, and 2B are further subdivided into the following TALUs:

- Exceptional Use streams are the highest quality waters with fish and macroinvertebrates at or near natural conditions (2Ae, 2Bde, and 2Be).
- General Use streams are waters with populations of fish and invertebrates that meet or should meet the interim goal of the CWA (2Ag, 2Bdg, and 2Bg).<sup>10</sup>
- Modified Use streams are waters with legally altered habitat that prevents fish and macroinvertebrate communities from meeting the CWA interim goal (2Bdm and 2Bm). A Modified Use stream designation is determined through a UAA demonstrating that the General Use is not attainable.

The other designated use class relevant to this rule amendment is Class 7 (limited resource value waters). Class 7 water designations are not intended for the protection of aquatic life and therefore biological assessments are not performed in these waters. The Class 7 is designated because these systems are generally flow limited. As a result, Class 7 criteria are designed to allow secondary body

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<sup>8</sup> The only waters not designated for a Class 2 beneficial use are waters that have had a use attainability analysis (UAA) conducted as the basis for a Class 7 designation.

<sup>9</sup> Lakes are currently not subdivided into TALUs in rule.

<sup>10</sup> Section 101(a)(2) of the CWA: “it is the national goal that wherever attainable, an interim goal of water quality that provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983;” This goal is the minimum restoration and protection goal for water quality.

contact, preserve the groundwater for use as a potable water supply, protect the aesthetic qualities of the water, and protect downstream uses.

## D. Assessment of aquatic life beneficial uses

In streams, the MPCA collects samples of fish and macroinvertebrate communities to measure the health of aquatic biota. Fish and macroinvertebrate data are summarized using a tool called the Index of Biological Integrity (IBI) ([Minn. R. 7050.0150](#) subp. 6 [S-1], [Minn. R. 7050.0222](#) subps. 2c, 3c, and 4c [S-30]). Biologists collect fish and macroinvertebrates at a site using standard methods and count the number of fish and macroinvertebrate taxa<sup>11</sup> and individuals. These counts are converted into an IBI score, which is then compared to IBI scores (i.e., biological criteria) from reference streams of the same type ([Minn. R. 7050.0222](#) subps. 2d, 3d, and 4d). In general, a low IBI score indicates the water body has low biological health, while a high IBI score indicates a healthy water body. The output from IBI models are a continuous gradient of biological condition which allows quality or health to be assessed incrementally and against multiple use tiers (i.e., TALUs) and water body categories (e.g., cold water and warm water streams).

Fish communities are also measured in lakes to determine their biological condition. The overall methodology is similar to that used for stream fish. The MDNR samples fish from lakes using standard collection methods and calculates IBI scores to measure the health of the fish assemblage (S-55). The main difference between stream and lake assessments of biological communities is that the methods and biological criteria are implemented through numeric standards in rule for streams ([Minn. R. 7050.0222](#) subps. 2d, 3d, and 4d) whereas lakes currently use narrative standards ([Minn. R. 7050.0150](#) subp. 6).

In addition to biological criteria used to assess biological health, chemical and physical criteria are used to protect aquatic life and set restoration goals. Depending on the use designation of a water body, different chemical and physical criteria apply. For example, cold water habitats (i.e., 2A, 2Ae, 2Ag) have a dissolved oxygen standard of 7 mg/L as a minimum to protect cold water communities. In contrast, the dissolved oxygen standard for warm/cool water habitats (i.e., 2B, 2Be, 2Bg, 2Bm, 2Bde, 2Bdg, 2Bdm) is 5 mg/L as a minimum. The differences in these standards results from the need to protect different types of aquatic communities with varying ecological requirements and sensitivities to pollutants. Some standards differ as a result of different ecological requirements of the biological communities in the waters (as with dissolved oxygen). Others are the result of differences in standards to protect human health and fish-eating wildlife associated with Class 2. This is because Class 2 includes protections to human health that are related to the water body type and characteristics of the aquatic community (e.g., lipid content of fish). Different Class 2 designations also have indirect effects on other use designations and standards because some Class 2 uses are linked to other classes. For example, Class 2A waters are also designated Class 1B ([Minn. R. 7050.0420](#)) which carries with it different standards for the protection of drinking water and which impact calculation of standards to protect human health and fish eating wildlife. As a result, assigning the appropriate use designation for a water is important as it affects not only biological criteria used in assessments, but also chemical and physical standards.

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<sup>11</sup> A taxon (plural taxa) is a unit used in biological classification to group organisms that share characteristics. For example, species and genera are taxonomic groupings. Minnesota's biological monitoring tools identify most fish individuals to species whereas the taxonomic level of identification for macroinvertebrates varies depending on the group. As a result, macroinvertebrates are identified to different levels such as species, genus, family, or order depending on the feasibility of identifying these organisms to the lowest level. To maintain consistency, similar taxonomic resolution is used for each taxon among samples.

## **E. Background on review and designation of aquatic life uses**

### **i. Review and designation of aquatic life uses: Overview**

The use designations in this rule amendment can be divided into two groups: 1) TALU reviews and 2) cold and cool/warm water reviews (S-32). For two water bodies, the proposed use designation falls into both groups.

The TALU designations are largely from watersheds monitored in 2014 and 2015 and only include streams.<sup>12</sup> There are also a handful of additional draft designations that are outside of these IWM years. These designations include reaches in watersheds that were part of the 2017 TALU rulemaking (S-31), but which required additional analysis or data collection to confirm the appropriate designated use.

The proposed cold water (Class 2A) and cool/warm water (Classes 2Bd and 2B) use designations are largely from the 2008, 2009, 2010, and 2011 IWM watersheds, and include lakes and streams. These designations were triggered by MPCA data collection, amendments to MDNR's trout water rule, or both. These designations are intended to assign the correct designation to these waters before these watersheds are monitored again in IWM Cycle II. There are also additional Class 2A and 2B designations that are outside of these IWM years which were triggered by MDNR corrections to [Minn. R. 6264.0050](#) (S-33).

The proposed use designations in this rule amendment include designations for 187 stream assessment units (Assessment Unit Identification Codes (AUIDs); 837.9 miles) and 4 lakes (34.68 acres) (S-32). Depending on the proposed use designation, standards may be more or less stringent. In cases where the proposed use designation results in less stringent standards, this is not a downgrading or removal of an existing use. In all cases these waters had not been reviewed previously because the use designation was assigned by default or data/tools were not available previously. In addition the designated use may have been assigned without fully considering state and federal water quality rules to which the MPCA is accountable. For example, Class 2A designations were based on the MDNR trout waters list ([Minn. R. 6264.0050](#); S-33) which does not consider CWA requirements. The proposed use designations ensures that designated uses are aligned with Minnesota and Federal water quality rules.

### **ii. Minnesota's watershed approach**

The progression to a high-level biological monitoring program was hastened by the adoption of the IWM approach implemented by the MPCA as a result of the 2006 Clean Water Legacy Act. This legislation provided funding to expand monitoring and to support CWA § 305(b) and CWA § 303(d) assessments. The Clean Water Legacy Act encouraged a watershed focus and spurred the development of a watershed approach in Minnesota for water quality management. In 2008, Minnesota voters approved the Clean Water, Land, and Legacy Amendment, creating a long-term source of funding to support the watershed approach. As part of the watershed approach's expanded effort to enhance Minnesota's capacity to protect and improve water quality, the MPCA developed and revised a number of tools and technical capabilities (e.g., IBIs, biological criteria, stressor identification).

The watershed approach used in Minnesota to manage aquatic resources centers on 8-digit Hydrological Unit Code or HUC8 watersheds (Figure 2-1). These HUC8 watersheds serve as the framework to organize a 10-year rotating schedule for water quality monitoring, assessment, stressor identification, TMDLs, and WRAPS reports. Every year, the MPCA and its partners intensively monitor chemistry, biology, and physical factors from a network of stations in six to ten HUC8 watersheds. The data collected are used to support assessments, UAAs, modeling, permitting, and other water quality management activities.

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<sup>12</sup> Minnesota's TALU framework adopted in 2017 only applies to streams.

The MPCA's IWM approach follows a 10-year, rotating cycle which covers all HUC8 watersheds in the state during that period. The IWM approach can be represented as a cycle of iterative steps that inform each other to improve restoration and protection outcomes (Figure 2-2). The 10-year cycle allows monitoring, assessment, and implementation of restoration and protection activities to take place before a watershed is revisited to evaluate changes in water quality. The advantage of the IWM approach is greater efficiency, saving resources and resulting in better protection and restoration of Minnesota's aquatic resources. The IWM approach also results in improved consistency in water quality management activities (e.g., assessments, TMDLs) among regions of the state, and therefore, creates more certainty with these activities. More information is available on the watershed approach webpage at <https://www.pca.state.mn.us/water/watershed-approach-restoring-and-protecting-water-quality>.

**Figure 2-1. Minnesota's major watersheds (8-digit hydrologic units) showing the Cycle I Intensive Watershed Monitoring (IWM) schedule.**

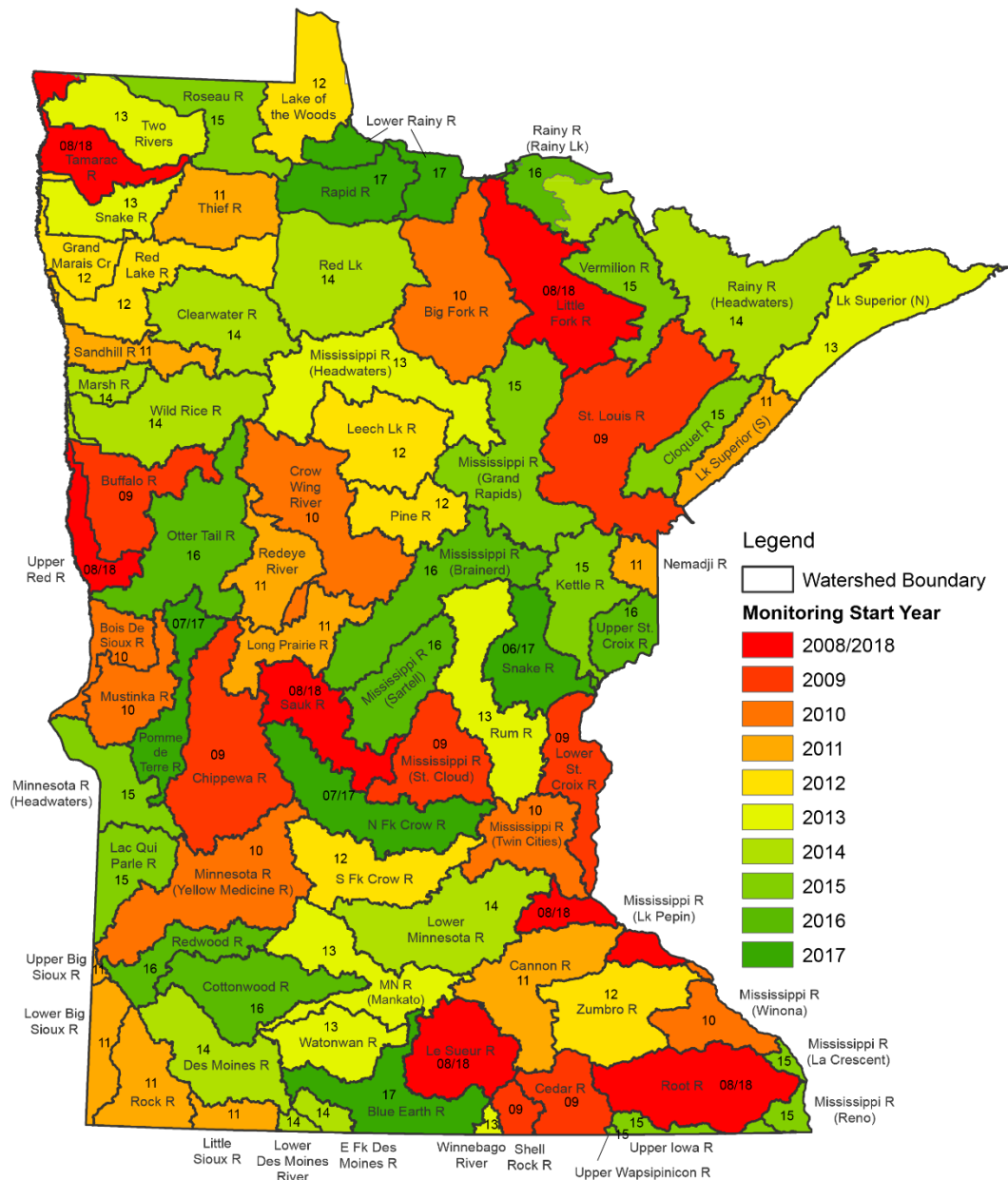
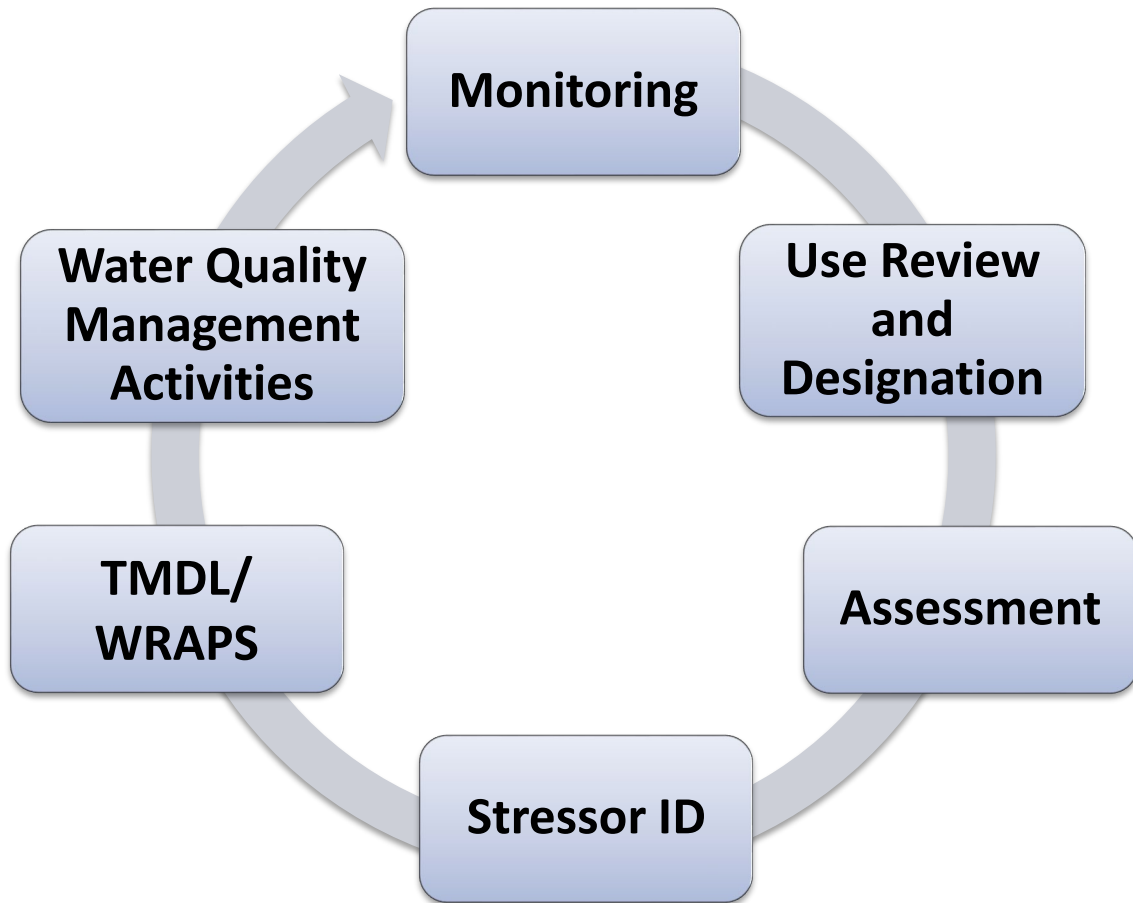


Figure 2-2. Intensive Watershed Monitoring (IWM) steps.



The proposed use designations in this rule amendment represent an important and needed step of the IWM approach. This effort represents the “Use Review and Designation” step (Figure 2-2). This step is important because assigning appropriate and accurate designated beneficial uses to water bodies impacts the steps that follow. The designated use determines the biological, chemical, and physical standards applied to a water body which then influences whether or not a water body is listed as impaired or not. If the designated use is not appropriate to the water body (i.e., under protective or not attainable) this can result in errors and misapplication of resources in the management of a water body. For example, if a stream with existing cold water habitat (Class 2A) is designated as warm water (Class 2Bd or 2B), assessments of the stream may miss impairments, particularly those related to a lack of cold water biota. Recognition of waters impacted by legacy habitat impacts are also important for setting appropriate biological goals. As a result, Modified Use designations result in the setting of biological criteria recognizing that the biology is limited by legal alterations to the water and setting goals that are attainable for these waters so that efforts to restore these waters are reasonable and effective.

### iii. Review of tiered aquatic life uses for streams

The TALU framework classifies streams based on the biological condition that is or can be attained. Under the TALU framework, streams are classified as Exceptional, General, or Modified Use. The specific classification of a stream is based on available and adequate monitoring and other relevant data including biological condition and habitat quality. The TALU framework is predicated on the development and implementation of an adequate biological monitoring and assessment program (S-22). A biological monitoring and assessment program must produce sufficient data to support a use attainability process, which is essential to implementing TALUs. The MPCA biological monitoring



program has been reviewed using an EPA-supported process, termed the Critical Technical Elements Evaluation<sup>13</sup> (S-22, S-34), that measures the technical rigor of a state's biological monitoring and assessment program. These reviews (S-22, S-35, S-36) documented a continuous enhancement of Minnesota's biological assessment program, with the 2015 review demonstrating that Minnesota's program can support a TALU framework at the highest level of rigor (S-36). The MPCA biological monitoring program has the technical capabilities to determine the biological condition of streams and to perform UAAs.

The TALU framework was adopted into rule on October 16, 2017 (S-19). Adoption of this framework included the designation of 141 stream reaches as Exceptional Use or Modified Use. These designations were part of the 2012-13 IWM efforts, and represented the start of the implementation of TALU reviews statewide. As stated in that rulemaking effort (S-31), the MPCA intends to review TALUs periodically as new monitoring data are available and use reviews are needed to support water quality management activities. The current proposed rule amendments reflect that intention. The majority of the TALU designations in the current rule amendments are the result of routine monitoring during the 2014-15 IWM efforts (Figure 2-1).

As part of the adoption of the TALU framework, the process for revising and documenting use designations for streams was modified to facilitate updates to beneficial use tables. These tables are incorporated by reference in [Minn. R. 7050.0470](#) (S-4), but the specific use designations are not listed in rule. Specific use designations are documented in tables which can be found here: <https://www.pca.state.mn.us/regulations/incorporations-reference#water>. Although these use designations are not listed in rule, a rule making is still required to change use designations. Exhibit S-32 lists the designated use changes that will be incorporated into the tables incorporated by reference in the rule as part of this rule amendment. The full tables can be found in exhibit S-56. Lakes continue to be listed in [Minn. R. 7050.0470](#) (S-4) and as part of this rule amendment, revisions to [Minn. R. 7050.0470](#) are proposed to update use designations for some lakes. All of the proposed use designations can be viewed in an interactive map here: <https://www.pca.state.mn.us/water/map-draft-beneficial-use-designations>. Maps of each proposed use change can also be found in the appendices of S-32.

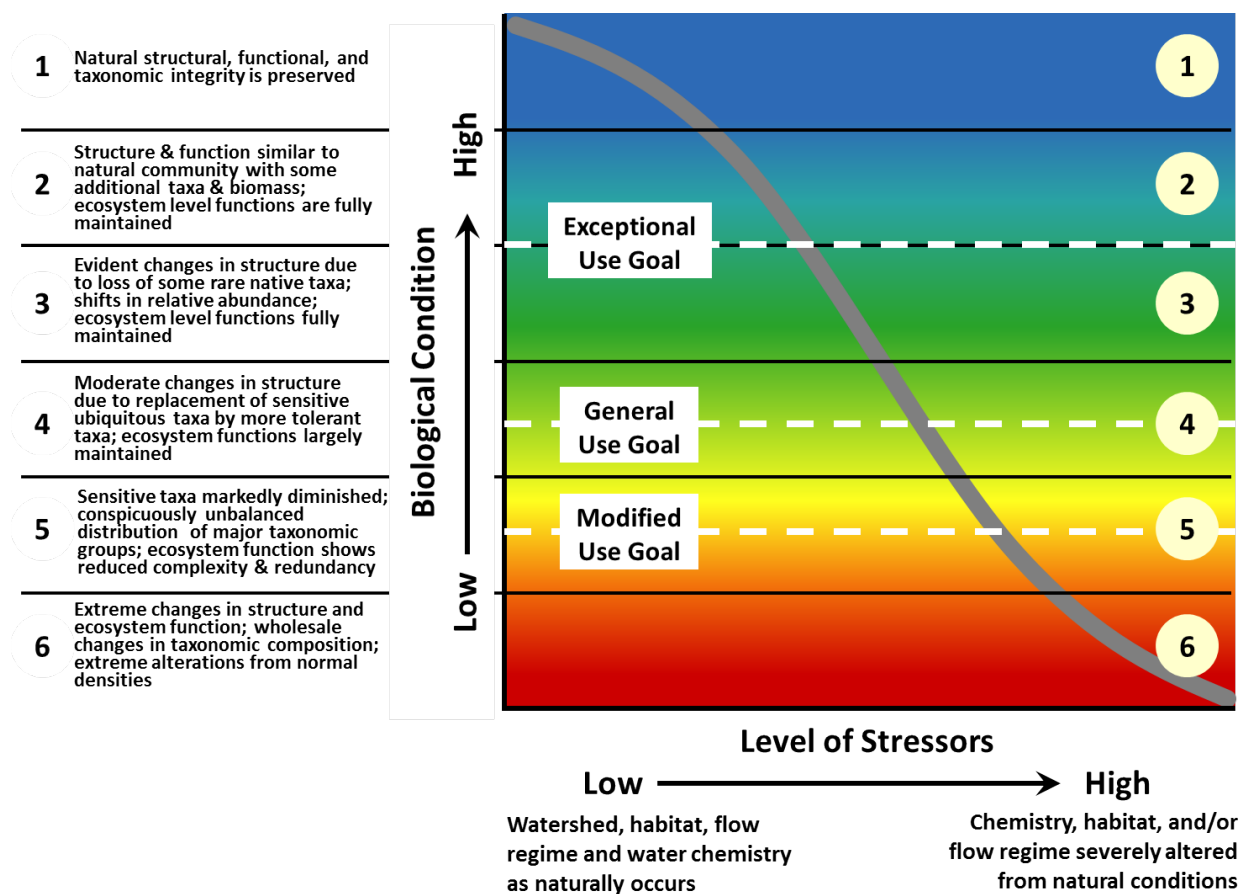
Determination of the proposed designated TALUs were made through a review to determine the attainable aquatic life use goal for each stream reach. This process is detailed in the "Technical guidance for designating aquatic life uses in Minnesota streams and rivers" (S-37). This review is called a Use Attainability Analysis (UAA). A UAA is a detailed approach that considers several lines of evidence including biological condition, habitat limitation, the nature of any habitat alterations, and restorability of the habitat (see Figure 3 in S-37). The UAA begins with a review of biological condition (fish and macroinvertebrate assemblages). If both assemblages meet the Exceptional Use biocriteria, then the reach is eligible for designation as an Exceptional Use. If both assemblages meet the General Use biocriteria, the reach will be designated General Use. If one or both assemblages do not meet the General Use, then the process proceeds to a review of the habitat. This step involves a review of habitat attributes to determine if habitat is limiting attainment of the General Use using a habitat assessment tool and logistic regression models to predict if habitat is limiting the biology (S-37). If habitat is not limiting either assemblage, then the reach would be designated General Use. However, if habitat is limiting, then it would need to be determined if this condition is the result of legal alterations to the water body (e.g., ditching). If the alterations were done so illegally, which indicates that they could or

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<sup>13</sup> The Critical Technical Elements Evaluation results in a percent score on a scale of 0-100 which translates to one of four levels of rigor with Level 4 being the highest and desired for supporting a TALU-based framework. Level 2 programs are capable of pass/fail assessments and can perform only general causal assessments. Level 3 programs are more refined, producing incremental assessments of biological condition, can perform first order causal assessments, and may also use a single assemblage in assessments. A Level 4 program has robust and complete assessments that have good accuracy and certainty which can measure the severity and extent of impairments. A Level 4 program also has the ability to perform more complex and robust causal assessments.

should be reversed, the reach would be designated General Use. If the water body was legally altered, then the reach would be reviewed to determine if it is restorable or if it is likely to recover on its own in the next five years. If either is true, then the reach would be designated General Use. However, if it is not restorable or not likely to recover on its own, available data would be reviewed to determine if the General Use was attained on or after November 28, 1975 (i.e., existing use). If there is evidence that the General Use was attained, then the reach would be designated General Use. Otherwise the reach would be eligible for the Modified Use. Through this process, available data are considered including the condition of fish and macroinvertebrate assemblages, multiple habitat measures, and chemistry data. For example, a biological model called the Biological Condition Gradient (BCG; S-6, S-7; Figure 2-3) is often used as a line of evidence when considering biological scores falling within confidence limits around the biocriteria. In this process, all available data are reviewed with data collected on or after November 28, 1975 most relevant to the establishment of existing use ([40 CFR § 131.3\(e\)](#)). For each TALU designation proposed in the rule amendments, supporting evidence is documented in S-32.

**Figure 2-3. BCG illustrating the location of biocriteria for protection of Minnesota’s tiered aquatic life use goals.**



**iv. Review of cold and warm/cool water aquatic life uses for lakes and streams**

The MPCA is proposing to amend aquatic life use designations in [Minn. R. 7050.0470](#) (S-4) based on new information and improvements to the process for reviewing the thermal regime and biological assemblages in these waterbodies. Class 2A<sup>14</sup> designation of water bodies has in the past relied almost solely on the MDNR list of designated trout waters in [Minn. R. 6264.0050](#) (S-33). With the development and use of improved tools to assess the condition of Minnesota’s waters (e.g., indices of biotic integrity,

<sup>14</sup> In this section, “Class 2A” broadly refers to cold water habitat designations including Classes 2A, 2Ae, and 2Ag. Similarly, Class 2B broadly refers to warm/cool water habitat designations including Classes 2B, 2Be, 2Bg, 2B, 2Bd, 2Bde, 2Bdg, and 2Bdm.



biological criteria) some differences in management goals between the MPCA and MDNR in designating cold water systems need to be addressed. A small number of waters in [Minn. R. 6264.0050](#) are not appropriate for the MPCA to manage as cold water habitats and there are some waters not included on the MDNR trout waters list that the MPCA should manage as cold water habitat. The MPCA's designation of cold water habitats is focused on identifying and protecting existing aquatic life uses which in most cases aligns with the MDNR's trout waters list. Some differences in goals for streams between the MPCA and MDNR are a result of MDNR's designation process which can be influenced by property owner requests, fishing regulation considerations, and the designation of trout protection waters which may or may not reflect the type of community that can be naturally supported in these systems. In addition, certain stream reaches may not have been previously assessed by MDNR and given the default Class 2B designation, but new data indicate that the water body supports a cold water community. In some cases, the MDNR may remove a trout water from their list due to a change in management goals for that water. However, if it is demonstrated that cold water habitat is an existing use (i.e., the water body supported a cold water habitat on or after November 28, 1975), the MPCA is required to retain that designation ([Minn. R. 7050.0255](#); S-11, S-18). The proposed use designations will result establishment of use designations that are in alignment with the CWA and Minn. R. ch. 7050 and will result in appropriate water quality management of these systems.

The majority of the 2A and 2B designation proposals in this document are the result of either 1) MPCA biological monitoring from 2008-2011 IWM efforts or 2) amendments to MDNR's trout waters list (S-38, S-39, S-40). The first group is the result of aquatic life use reviews that took place as part of MPCA's 2010 through 2013 surface-water assessments. These recommended designations are independent of [Minn. R. 6264.0050](#) and represent needed changes to align these reaches with MPCA's beneficial use framework. The latter group of designations largely follows the MPCA's historical practice of using [Minn. R. 6264.0050](#) to update [Minn. R. 7050.0470](#). However, the use designations listed in this document have gone through a use review by the MPCA to ensure that designated uses comply with Minnesota Rule and the CWA. In many cases, these two use designation types overlap as they were triggered by both MPCA IWM efforts and amendments to the MDNR trout waters list. In addition, there are a number of rule corrections made by the MDNR that the MPCA is also proposing to adopt. These rule corrections did not undergo additional review since they are corrections to the current designations and in most cases they are short reaches without additional data.

To designate a water body as a cold water (Class 2A) or cool/warm water (Class 2B) habitat, a comprehensive review of biological, chemical, and physical measures as well as other data are used to determine the natural and existing beneficial use. Biological data are the primary source of information used to demonstrate if a cold water use is an existing use. Reviews of fish and macroinvertebrate data focus on the presence or absence and the proportion of cold water species (e.g., trout, sculpin, the amphipod *Gammarus*, and the small minnow mayfly *Baetis tricaudatus*). These reviews include assessments of contemporary and historical data. Of particular importance for use designation is the demonstration that these waters currently support or have supported sustained trout reproduction or that they have good year-to-year carry over (e.g., stocked trout survive a year or more in the stream). Some streams that do not support trout due to barriers, stream size constraints, or poor fish habitat are also proposed to be designated Class 2A based on the presence of a cold water macroinvertebrate community. Temperature data are also important when reviewing a water for 2A designation. Temperature logger data (i.e., measurements recorded continuously every 15-30 min) are especially useful as they provide a more comprehensive estimate of summer thermal conditions and can be used to estimate the percent of the time temperatures are suitable for supporting and maintaining cold water biota (e.g., brook trout). Other physical and chemical characteristics (e.g., habitat, flow, dissolved oxygen, presence of beaver dams, migration barriers) of the water body are also used as part of the review to determine the existing use. In all cases, the beneficial use review is held to determine whether or not a designated use is an existing use. This holds that designated uses attained in a surface water on

or after November 28, 1975, must be protected (see [Minn. R. 7050.0255](#), subp. 15, 40 CFR 131.10; S-11, S-18). Cold water reviews are also done with consultation from MDNR staff in order to compile all available information, consider MDNR’s management goals for the water, and to align class 2A waters with MDNR’s trout waters list when feasible.

In cases where MPCA monitoring data triggered the use review, it was the result of an initial screening of fish, macroinvertebrate, and temperature data that indicated the current use designation may not be appropriate (S-37). The review then followed the process outlined above. For use designations triggered by MDNR rule amendments, all available data were reviewed as described. This may have included a review of MDNR data alone or both MDNR and MPCA data. In cases where only MDNR was available, a determination to retain the current use was sometimes made because sufficient data were not available to determine the existing use. For these reaches, additional data would need to be collected for the MPCA to propose a use designation in a future rulemaking.

#### **v. Rule language amendments**

This rule amendment proposes the following rule amendments and changes to documents incorporated by reference in rule:

1. Minor changes to Minn. R. ch. 7050.
2. An update to tables incorporated by reference in [Minn. R. 7050.0470](#) which list the specific use designations for streams. The table updates and supporting technical information are documented in exhibit S-32.
3. An update to lake use designations in [Minn. R. 7050.0470](#).
4. Revisions (S-41) to [Minn. R. 7050.0420](#) (S-15) to align the waters designated as Class 2A, 2Ag, and 2Ae in [Minn. R. 7050.0470](#) to regulatory goals in Minnesota and federal regulations for the protection of cold water aquatic life and habitat. This requires that the rule language in [Minn. R. 7050.0420](#) which explicitly links Class 2A, 2Ag, and 2Ae waters to the MDNR trout waters list in [Minn. R. 6264.0050](#) be modified. The waters listed as Class 2A, 2Ag, and 2Ae in [Minn. R. 7050.0420](#) will continue to be largely equivalent to the MDNR trout waters list, but some waters will differ due to differences in regulatory activities and management goals between the agencies as described in Section 2.D.iv.

### **3. Public participation and stakeholder involvement**

The MPCA conducted outreach activities while developing these rule amendments. This was done, in part, to comply with the requirements of Minnesota’s rulemaking process, but also to notify, engage, and inform potentially interested parties about use designations and solicit their input on pre-publication drafts of the rule amendments. These outreach activities, which began in fall 2018 and continued into spring 2019, provided a useful exchange of information between MPCA staff and other parties with an interest in, and knowledge of, water quality issues and the application of WQS. The remainder of this section describes the MPCA’s public outreach efforts and the steps it took to develop and solicit input on the proposed rule amendments.

## A. Webpages

The MPCA maintains the following webpages that are publically accessible and relevant to this rulemaking:

- Amendments to Water Quality Standards - Use Classifications 2 and 7 at <https://www.pca.state.mn.us/wqs-designated-uses>. The MPCA created this rule-specific webpage on September 21, 2018, to provide the public with background and other information relevant to this rulemaking, including information about the use designation, supporting detailed technical documents, draft rule amendments, and a target schedule for rule adoption. The Use Classifications 2 and 7 Rule webpage also includes an interactive map to facilitate review of the proposed use designations by stakeholders. The webpage has been updated routinely to inform the public of developments related to this rulemaking. The MPCA will continue to update the rule webpage to include information about the proposed amendments and rulemaking documents, including the proposed rule language, a final version of this SONAR, and other supporting rulemaking documents. This will ensure that potentially interested parties can continue to participate in the rulemaking process after the MPCA publishes its Notice of Intent to Adopt Rules in the *State Register*.
- Public Notices at <https://www.pca.state.mn.us/public-notice>. The MPCA's public notice webpage hosts all of the MPCA's public notices. The MPCA posted its notice of Request for Comments (RFC) for this rulemaking on the public notice webpage on September 24, 2018, the same day the notice was published in the *State Register* (September 24, 2018; S-43). The RFC specifically requested comment on the planned amendments to Class 2 and Class 7 use designations.
- The MPCA's rulemaking webpage (<https://www.pca.state.mn.us/regulations/minnesota-rulemaking>) provides the public with centralized information about current rulemaking projects and the rulemaking process. It also explains how the public can receive notice of rule changes. The MPCA's "Public Rulemaking Docket," updated monthly, is located on this webpage and includes information about current rulemaking projects such as the rule webpage, contact person(s), and timeline.

## B. GovDelivery and electronic notifications

The MPCA uses a self-subscription service called "GovDelivery" to provide notice electronically (email) to interested and affected persons of various updates and public notices issued on a wide range of topics, including administrative rulemakings. Persons subscribe and choose the topics they want to receive notifications about at the following webpage:

<https://public.govdelivery.com/accounts/MNPCA/subscriber/new>. The GovDelivery subscription link is also provided on the Use Classifications 2 and 7 Rule webpage and on other relevant WQS webpages.

The MPCA lists rule projects on the "Public Rulemaking Docket" (see above). Once a rule project becomes active (i.e., it is no longer listed as a future project), a GovDelivery self-subscription list for the specific rulemaking is established. GovDelivery alerts individuals who have signed up to receive notice for all rulemakings to notify them of new rule projects.

On August 30, 2018, the MPCA sent a GovDelivery notice to approximately 2,300 subscribers of the list for "New Rulemaking Announcements." This notice encouraged interested parties to visit the GovDelivery subscription page and sign up for the "Use class changes – Class 2 and Class 7" rule list to receive information about this rulemaking. Subscribers were added to this rule-specific list that the MPCA used to disseminate rule-related information to interested and affected parties.

On September 24, 2018, the MPCA sent a GovDelivery notice of the RFC to the subscriber list for this rulemaking and the list for the “Tiered Aquatic Life Uses (TALU)” rules, as these rulemaking topics are related. Acknowledging that there is overlap in subscribers between these topics, notice of the RFC was sent to 2,466 subscribers.

The MPCA also uses GovDelivery to send interested parties electronic newsletters that include updates on rulemaking. Persons may sign up on the GovDelivery subscription page for MPCA newsletters they would like to receive. The MPCA announced the RFC in the Waterfront Bulletin, which is a monthly newsletter sent via GovDelivery to approximately 4,800 subscribers. Subscribers to this newsletter include a wide range of stakeholders, including private citizens, regulated parties, consultants, government entities of all levels, nonprofit organizations, and media organizations.

The MPCA will continue to send GovDelivery notice of public notices, updates for this rulemaking in the Waterfront Bulletin, and other relevant information for this rulemaking as discussed in Section 7.

### C. Meetings

The technical development effort and stakeholder engagement for this rule amendment extend back to 2013. From 2013-2015, the MPCA was in the process of reviewing and developing the technical justifications for many of the warm/cool and cold water designations that appear in this amendment. In 2013, 2014, and 2015 meetings with MDNR, Trout Unlimited, and Minnesota Center for Environmental Advocacy were held to discuss possible warm/cool and cold water use designations.

Following the RFC (September 24, 2018; S-43), the MPCA posted the technical documentation for the rule which included draft rules on the Use Classifications 2 and 7 Rule webpage. In addition to requesting comments, the MPCA encouraged stakeholders to contact MPCA staff to request additional meetings if needed.

Table 3-1 lists and briefly summarizes some of the meetings MPCA staff held or participated in to engage potentially interested parties and obtain feedback on the draft use designation rule amendments. In addition to these meetings, staff participated in phone and email conversations to keep stakeholders informed of the use designation rulemaking and answer associated questions.

**Table 3-1. List of meetings with external parties.**

<b>Date</b>	<b>Interested Party/Parties or Stakeholder Meeting</b>	<b>Location</b>	<b>Major Topic(s)</b>
12/11/2013	Trout Unlimited	MPCA Office, St. Paul, MN	Warm and cold water designations
10/23/2014	Trout Unlimited and Minnesota Center for Environmental Advocacy	MPCA Office, St. Paul, MN	Warm and cold water designations
3/20/2015	Minnesota Department of Natural Resources (MDNR)	MDNR Office, St. Paul, MN	Warm and cold water designations
10/16/2018	Red River Watershed Management Board Monthly Meeting	Roseau, MN	Update on TALU and use designations in the Red River Basin

### D. Pre-proposal comments received

The MPCA received comments from interested parties during the process of developing the use designation rule amendments. These included comments from stakeholders who attended the meetings

listed in Table 3-1 above, and also comments (S-42) submitted to the MPCA during the comment period for the RFC published in the State Register on September 24, 2018 (S-43), as listed in Table 3-2 below. The MPCA considered all comments received that were within the scope of draft amendments.

**Table 3-2. Table of stakeholder comments on the draft rule received during the Request for Comments.**

Date	Stakeholder (Affiliation)	Summary
9/24/2018	George Meyer	<b>Comment:</b> Interested to know if the rule would impact small farms or groundwater.
9/24/2018	Travis Thiel, Vermillion River Watershed Joint Powers Organization	<b>Comment:</b> Opposed to 4 of the Class 2A designations in the Mississippi River – Lake Pepin watershed.
11/6/2018	Mark A. Mustian, United States Steel Corporation	<b>Comment:</b> Requests removal of Classes 1B and 3B from cold water habitats and to not retain Classes 1B and 3B for stream reaches being designated Class 2A to 2Bd.
11/8/2018	John Finney, Red River Watershed Management Board	<b>Comment:</b> Expressed a need for more opportunities to participate in use designation decisions and more transparency for these decisions. Concerns with the application of aquatic life beneficial uses to ephemeral and intermittent streams and to artificial watercourses.

## 4. Statutory authority

The authority for the MPCA to adopt the proposed rule amendments is found in both state and federal law.

The federal CWA requires states to establish WQS to meet the goals and objective of the CWA and to protect designated beneficial uses for water bodies ([33 U.S.C. § 1313 \(a\)-\(c\)](#); S-26). The objective of the CWA is to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters” ([33 U.S.C. § 1313 \(a\)-\(c\)](#); S-26). The proposed use designation amendments are specifically directed at restoring and maintaining the biological integrity of Minnesota’s waters. The EPA must approve a state’s WQS and any revisions to WQS to ensure they meet CWA goals and requirements. Minnesota WQS are established in Minn. R. ch. 7050.

In addition, the MPCA is authorized by [Minn. Stat. § 115.03](#) (S-27) to enforce laws relating to pollution of Waters of the State, classify Waters of the State, and to adopt WQS.

### *115.03 POWERS AND DUTIES.*

#### *Subdivision 1. Generally.*

*The agency is hereby given and charged with the following powers and duties:*

- (a) to administer and enforce all laws relating to the pollution of any of the waters of the state;*
- (b) to investigate the extent, character, and effect of the pollution of the waters of this state and to gather data and information necessary or desirable in the administration or enforcement of pollution laws, and to make such classification of the waters of the state as it may deem advisable;*
- (c) to establish and alter such reasonable pollution standards for any waters of the state in relation to the public use to which they are or may be put as it shall deem necessary for the purposes of this chapter and, with respect to the pollution of waters of the state, chapter 116;*

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- (e) to adopt, issue, reissue, modify, deny, or revoke, enter into or enforce reasonable orders, permits, variances, standards, rules, schedules of compliance, and stipulation agreements, under*

*such conditions as it may prescribe, in order to prevent, control or abate water pollution, or for the installation or operation of disposal systems or parts thereof, or for other equipment and facilities:*

[Minn. Stat. § 115.44](#) (S-28) provides additional authority for the MPCA to classify Waters of the State and to adopt WQS, specifically including establishing WQS for the protection of biological properties of Waters of the State.

*115.44 CLASSIFICATION OF WATERS; STANDARDS OF QUALITY AND PURITY.*

*\*\*\**

*Subd. 2. Classification and standards.*

*In order to attain the objectives of sections 115.41 to 115.53, the agency after proper study, and after conducting public hearing upon due notice, shall, as soon as practicable, group the designated waters of the state into classes, and adopt classifications and standards of purity and quality therefor. Such classification shall be made in accordance with considerations of best usage in the interest of the public and with regard to the considerations mentioned in subdivision 3 hereof.*

*Subd. 3. Adoption of classification.*

*In adopting the classification of waters and the standards of purity and quality above mentioned, the agency shall give consideration to:*

- (1) the size, depth, surface area covered, volume, direction and rate of flow, stream gradient and temperature of the water;*
- (2) the character of the district bordering said waters and its peculiar suitability for the particular uses, and with a view to conserving the value of the same and encouraging the most appropriate use of lands bordering said waters, for residential, agricultural, industrial, or recreational purposes;*
- (3) the uses which have been made, are being made, or may be made of said waters for transportation, domestic and industrial consumption, bathing, fishing and fish culture, fire prevention, the disposal of sewage, industrial wastes and other wastes or other uses within this state, and, at the discretion of the agency, any such uses in another state on interstate waters flowing through or originating in this state;*
- (4) the extent of present defilement or fouling of said waters which has already occurred or resulted from past discharges therein;*
- (5) the need for standards for effluent from disposal systems entering waters of the state;*
- (6) such other considerations as the agency deems proper.*

*Subd. 4. Standards.*

*The agency, after proper study, and in accordance with chapter 14, shall adopt and design standards of quality and purity for each classification necessary for the public use or benefit contemplated by the classification. The standards shall prescribe what qualities and properties of water indicate a polluted condition of the waters of the state which is actually or potentially deleterious, harmful, detrimental, or injurious to the public health, safety, or welfare; to terrestrial or aquatic life or to its growth and propagation; or to the use of the waters for domestic, commercial and industrial, agricultural, recreational, or other reasonable purposes, with respect to the various classes established pursuant to subdivision 2. The standards may also contain other provisions that the agency deems proper. \*\*\**

*Subd. 5. Factors.*

*(a) In establishing such standards, consideration should be given to the following factors:*

- (5) such other chemical or biological properties necessary for the attainment of the objectives of this chapter and, with respect to pollution of the waters of the state, chapter 116.*



Finally, the MPCA is authorized, under [Minn. Stat. § 115.03, subd. 5](#) (S-25), to perform any and all acts minimally necessary, including the establishment and application of standards and rules, for the MPCA's ongoing participation in the NPDES permitting program. Ensuring that WQS reflect the best current scientific understanding is necessary for the continued implementation of the NPDES program and other CWA programs.

Under these federal and state statutory provisions, the MPCA has the necessary authority to adopt the proposed amendments into Minnesota Rules.

## 5. Reasonableness of the amendments

In addition to the discussion of reasonableness provided in this section, the beneficial use designations are discussed in detail in Section 2.D. and E. of this SONAR which provides additional support for the general reasonableness of the proposed amendments.

### A. General reasonableness

The proposed rule amendments establish beneficial uses that will protect and restore aquatic life based on attainable biology and modify rule language to establish a reasonable process for designating cold water habitats. These amendments are reasonable because they address issues that arise from maintaining the status quo:

- Retaining the default General Use (Class 2Ag, 2Bg, or 2Bdg) designation for high quality waters puts them at risk of being reduced in quality down to the minimum Class 2 WQS;
- Retaining the default General Use (Class 2Bg or 2Bdg) designation for waters with aquatic life potential below the General Use, such as legally authorized channelized streams, will result in goals that may not be attainable which will result in inappropriate water quality management actions;
- Retaining the warm/cool water use (Class 2B, 2Bg, or 2Bdg) designation for waters with a demonstrated existing use cold water habitat could result in inappropriate management actions and puts these waters at risk of losing this beneficial use;
- Retaining the cold water use designation (Class 2A or 2Ag) for waters without a demonstrated existing use cold water habitat will result in goals that may not be attainable which will result in inappropriate water quality management actions; and
- Retaining the limited resource value water (Class 7) designation for waters with a demonstrated existing use cold water habitat could result in inappropriate management actions and puts these waters at risk of losing this beneficial use.

#### i. Designating more accurate aquatic life uses for streams and lakes

The proposed amendments include beneficial use designations ([Minn. R. 7050.0470](#); S-4) for 191 stream reaches and lakes. The proposed designations for these waterbodies include warm/cool and cold water designations and designations to Exceptional or Modified Uses. The process for determining these use designations is largely based on available data and the MPCA's assessment of a number of factors (e.g., biological condition, habitat, restoration potential; S-37) as part of a UAA or similar process.<sup>15</sup> The

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<sup>15</sup> Only the proposed Modified Uses are based on a true UAA as it is the only designated use in this rule amendment that is below CWA interim goal (101(a)(2)) and therefore requires a UAA. The other designations in this rule amendment are equivalent

process of interpreting the data and making the beneficial use determination involves several quantitative thresholds and other evidence to reasonably determine the appropriate ALU. For the designation of TALUs, the proposed use designations are based primarily on biological performance and physical and chemical characteristics that influence the attainability of biological goals. Cold and warm/cool water reviews are based on fish and macroinvertebrate data and a review of thermal conditions in the water body. In both cases, existing use and restorability of the water body are considered. This process is described in detail in S-37 and S-32 describes the evidence supporting each proposed use designation. The proposed designations are based on reasonable interpretations of the data and consistent application of a UAA or UAA-type process. In addition to the waterbodies that have been reviewed through this process, some use designations are corrections to [Minn. R. 7050.0470](#). These corrections follow revisions made by the MDNR in [Minn. R. 6264.0050](#) and these waterbodies have not gone through a UAA or UAA-type process.

As described in the SONAR of the 2017 TALU rule (S-31), most TALU designations will follow the IWM schedule and the MPCA intends that these will continue to occur biennially. However, some use designations outside of this schedule may also be necessary. This is the case for many of the cold and warm/cool water designations in this rule although some of the TALU designations are also outside the IWM schedule. Most of these out-of-cycle use designations are either preparation for IWM Cycle II or are routine maintenance of the use designation list to ensure that it is accurate. In the future, this biennial use designation could also include use classes other than 2 and 7.

The MPCA has demonstrated that these use designations are needed and reasonable. The MPCA has the expertise and data necessary to support the use designations, and therefore, is proposing these use designations. The lake use designations will be incorporated into [Minn. R. 7050.0470](#) (S-4) through these amendments. The stream use designations will be automatically incorporated by reference when the MPCA updates the use designation tables (<https://www.pca.state.mn.us/regulations/incorporations-reference>; S-56) referenced in [Minn. R. 7050.0470](#) (S-4).

## **ii. Revising Minn. R. 7050.0420**

The proposed amendments include modifications to [Minn. R. 7050.0420](#) (S-15) to ensure that designations in [Minn. R. 7050.0470](#) comply with state and federal regulations. As the agency responsible for implementing CWA regulations, beneficial designated uses need to be consistent with the CWA including existing use provisions. The current designation framework adopts the designations in [Minn. R. 6264.0050](#), but since these designations are driven by the goals and objectives of the MDNR, they do not always comply with state and federal regulations that govern activities for which the MPCA is responsible. [Minn. R. 7050.0420](#) currently links the cold water habitat designations (i.e., 2A, 2Ag, and 2Ae) in [Minn. R. 7050.0470](#) to the trout waters list in [Minn. R. 6264.0050](#). The proposed amendment would sever the explicit link between these rule parts and allow the MPCA to designate cold water habitats based on evidence supporting the designation as required by state and federal regulations.

## **iii. Making minor formatting changes**

The proposed amendments will result in renumbering or changes to the lettering of several items and subitems in Minn. R. chs. 7050. Formatting changes are made through the authority of the Office of the Revisor of Statutes (Minn. Stat. § 3C.10), and the MPCA is not required to provide a statement of reasonableness for those changes.

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*to or above the CWA interim goal and do not require a UAA. However, the process for reviewing these designated uses is mechanistically similar in that they are demonstrating the appropriate designated use through a rigorous scientific process.*



## B. Proposed changes and specific reasonableness

This section describes in summary terms the proposed changes to each rule part and describes the specific reasonableness of the changes.

Rule part	Description of proposed change	Specific reasonableness
CHAPTER 7050 WATERS OF THE STATE		
Part 7050.0219 (S-47)		
7050.0219	Removal of references to the now defunct Class 2C.	Class 2C was removed as part of the 2017 TALU rule amendments (S-19). These references to Class 2C were retained because this rule part was revised concurrently with the TALU rule amendment as part of a separate rule amendment.
Part 7050.0420 (S-15)		
7050.0420	The proposed amendment changes the description of how cold water habitats are reviewed and designated by the MPCA.	Designation of cold water habitats (Class 2A) has in the past relied almost solely <sup>16</sup> on the MDNR list of designated trout waters in <a href="#">Minn. R. 6264.0050</a> . With the development and use of improved tools to assess the biological condition of Minnesota’s waters (e.g., indices of biotic integrity, biological criteria) some differences in management goals between the MPCA and MDNR in designating cold water systems need to be addressed. A small number of waters in <a href="#">Minn. R. 6264.0050</a> are not appropriate for the MPCA to manage as cold water and there are some waters not included on the MDNR trout waters list that the MPCA should manage as cold water habitat. The amendment to this rule part will ensure that designations in <a href="#">Minn. R. 7050.0470</a> comply with the state and federal regulations that govern the MPCA.

<sup>16</sup> Although the current language in [Minn. R. 7050.0420](#) links [Minn. R. 7050.0470](#) to [Minn. R. 6264.0050](#), this part also states “Other lakes that are classified as trout waters are listed in part [7050.0470](#).” This language has been used to add Class 2A waterbodies to [Minn. R. 7050.0470](#) that are not included in [Minn. R. 6264.0050](#) (e.g., lake trout lakes). The proposed revisions to [Minn. R. 7050.0420](#) clarify the process of designating waterbodies to ensure that use designations are consistent with federal and state water quality standards.

Rule part	Description of proposed change	Specific reasonableness
Part 7050.0470 (S-4)		
7050.0470, subs. 1-9	<p>191 stream reaches and lakes are proposed to be designated. These include:</p> <ol style="list-style-type: none"> <li>1) From default General Use Cold Water Aquatic Life and Habitat (2Ag) to Exceptional Use Cold Water Aquatic Life and Habitat (2Ae);</li> <li>2) From default General Use Cold Water Aquatic Life and Habitat (2Ag) to General Use Warm/Cool Water Aquatic Life and Habitat (2Bg);</li> <li>3) From default General Use Cold Water Aquatic Life and Habitat (2Ag – trout protection water) to General Use Cold Water Aquatic Life and Habitat (2Ag);</li> <li>4) From default General Use Warm/Cool Water Aquatic Life and Habitat (2Bg) to Exceptional Use Warm/Cool Water Aquatic Life and Habitat (2Be);</li> <li>5) From default General Use Warm/Cool Water Aquatic Life and Habitat (2Bg) to Modified Use Warm/Cool Water Aquatic Life and Habitat (2Bm);</li> <li>6) From default General Use Warm/Cool Water Aquatic Life and Habitat (2Bg) to Exceptional Use Cold Water Aquatic Life and Habitat (2Ae);</li> <li>7) From default General Use Warm/Cool Water Aquatic Life and Habitat also protected as a drinking water source (2Bdg) to Exceptional Use Cold Water Aquatic Life and Habitat (2Ae);</li> <li>8) From default General Use Warm/Cool Water Aquatic Life and Habitat (2Bg) to General Use Cold Water Aquatic Life and Habitat (2Ag); and</li> <li>9) From Limited Resource Value Water (7) to General Use Cold Water Aquatic Life and Habitat (2Ag).</li> </ol>	<p>The MPCA conducted use reviews for aquatic life uses for 191 stream reaches and lakes (S-32). These reviews indicate that a beneficial use different than the default General Use is appropriate or that the thermal classification is not appropriate.</p> <p>Proposed Modified Use reaches have channels which have been legally altered and maintained for drainage and this practice has resulted in habitat loss and a loss of biological integrity. These habitats do not, and are unlikely to, support General Use goals for aquatic life.</p> <p>For the proposed Exceptional Use waters, the biological assemblages demonstrated the ability to meet a higher use tier.</p> <p>Cold water habitat designations are based on information demonstrating that these reaches support or should support cold water aquatic biota and their habitats.</p> <p>Warm and cool water designations are based on reviews demonstrating that cold water habitat is not an existing use.</p> <p>Exhibit S-32 provides the justification for each proposed beneficial use designation.</p>

## 6. Regulatory and additional analysis

### A. Minn. Stat. § 14.131, SONAR requirements

[Minn. Stat. § 14.131](#) requires this SONAR to include the following information, to the extent the Agency can, through reasonable effort, ascertain this information.

- i. **Description of the classes of persons who probably will be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule.**

All citizens of Minnesota could be affected by, and will benefit from, the adoption of the use designations in the proposed rule. These beneficial use designations ensure that the state water quality assessments, which are required for watershed planning and watershed management activities, are accurate and protective.

Although difficult to quantify, the rule amendments will also provide a social benefit to the classes of persons whose quality of life is either maintained or improved by engaging in numerous recreational activities (e.g., fishing, swimming, boating, camping, etc.) in or near Minnesota's aquatic resources. Persons who appreciate the aesthetic value these aquatic resources provide across Minnesota's landscape, and who derive benefit from knowing that higher quality Exceptional Use waters will be appropriately protected into the foreseeable future, will derive a similar social benefit.

Further, monetary benefits to certain classes of persons will include the maintenance and improvement of Minnesota's water-oriented tourism and recreational industry. Counties, cities and other local governments could benefit from the proposed rule through increased property and sales tax revenues, increased tourism dollars, added jobs, lower water treatment costs, and other benefits related to improved water quality. In addition, property owners on and near waters could see a benefit in increased property value as a result of water quality improvements.

These aquatic life use designations will also result in benefits to nonprofit organizations and taxpayer-supported entities who work to protect and restore Minnesota's waters, by reducing expenditures and improving the effectiveness of expenditures. These types of organizations will not waste effort and money to restore waters to a goal that cannot be practically achieved given their condition (e.g., managed as ditches, naturally warm/cool water habitat). As a result, cities, counties, watershed districts and others will realize savings as implementation strategies resulting from the WRAPS (e.g., wastewater treatment plant upgrades and best management practices (BMPs)) will be better targeted and more likely to result in attainment of the beneficial use.

As more comprehensively explained in Section 8 of this SONAR, these proposed amendments are not expected to result in major costs to permitted entities. A subset of the proposed use designations could result in some costs due to an increased need for BMPs to protect these waters from pollutants carried by stormwater and there could be some additional costs associated with the administration of these new requirements. However, these impacts would be made on a case-by-case basis and it is not possible to determine which permits, if any, would be impacted by these use designations. Overall, very few parties will incur additional costs as a result of the proposed use designations.

**ii. The probable costs to the Agency and to any other agency of the implementation and enforcement of the proposed rules and any anticipated effect on state revenues.**

Some waters that would have previously been subject to the General Use requirements under existing standards will instead be subject to Modified Use standards, which will subject them to less restrictive biological criteria. Similarly, some waters that are not naturally cold water habitats, but are currently held to cold water goals would be appropriately managed as warm/cool water habitats. As a result, the proposed amendments will reduce the effort required for the MPCA to list, identify stressors, and develop restoration plans for waters that are unlikely to meet General Use or cold water habitat goals due to legacy, physical habitat alterations (e.g., drainage maintenance), or natural thermal conditions. This equates to a reduction in cost to the Agency for these waters.

Costs to the Agency could be greater for processing and reviewing NPDES/SDS permit applications for new or expanded dischargers to Exceptional Use or cold water habitats. While the Agency is unaware of any entity that may wish to pursue either of these options, and thinks both scenarios are unlikely to develop, it is nevertheless possible this may occur in the future. These types of applications would also require an antidegradation review to evaluate alternatives to avoid or minimize adverse impacts to water quality. The typical cost to the MPCA to conduct antidegradation reviews is \$3,106, although only

a small portion of this cost, if any, would be attributed to an Exceptional Use or cold water habitat designation.<sup>17</sup>

The MPCA expects to be able to redistribute workloads to accommodate any increased needs. The implementation and enforcement of the proposed rule is not anticipated to require extensive efforts from any state agency other than the MPCA. Further, the proposed rule is not anticipated to have any effect on state revenue.

**iii. A determination of whether there are less costly methods or less intrusive methods for achieving the purpose of the proposed rule.**

The purpose of the proposed rule amendments is to designate more accurate aquatic life beneficial uses. The MPCA, when researching and developing the proposed rule, considered whether any less costly methods or less intrusive methods to the proposed amendments are available for achieving this purpose. In light of the specific scope of the proposed rule, and as further elaborated in the hypothetical analysis provided in Section 6.A.iv below, the MPCA concludes there are no alternative options available that would be less costly and intrusive for achieving this purpose.

**iv. A description of any alternative methods for achieving the purpose of the proposed rule that were seriously considered by the Agency and the reasons why they were rejected in favor of the proposed rule.**

The proposed rule amendments will allow the MPCA to better manage Minnesota's aquatic resources. It establishes attainable aquatic life uses for specific streams and lakes so that water quality management activities can be appropriately tailored to different aquatic habitats. The MPCA seriously considered whether there are any alternative methods that will achieve the purpose of the proposed rule, which is to more precisely determine the appropriate aquatic life goals for a subset of waters, and concluded there are none. Because Minnesota's beneficial use classes and the waters assigned to each use class are established in rule, rulemaking is the best option for documenting and establishing the appropriate goals for these waterbodies. In further support of the conclusion that the proposed use designations in this rule are clearly preferable, the MPCA also considered additional, untested hypothetical alternatives as described below.

**Hypothetical Option –Exceptional Uses:** An alternative option to the Exceptional Use designations that could, conceivably, achieve the goal of protecting high quality waters would be the expansion of antidegradation provisions in Minnesota Rule (Minn. R. parts [7050.0250](#) to [7050.0335](#)). This could include the designation of waters that meet the Exceptional Use criteria as Outstanding Resource Value Waters. This designation would prohibit or restrict discharges to these waters. However, antidegradation requirements are generally not enforceable for activities not regulated by a water quality control document (e.g., NPDES/SDS Permits), including unregulated sources of nonpoint source pollution. To be as effective as the proposed use designations, these antidegradation rule provisions would need to be expanded to apply to activities that are not currently required to obtain NPDES/SDS permit coverage. This would require review of unpermitted activities within a watershed that could potentially harm aquatic life uses, regulation of those activities, and in some cases prohibiting them. This expanded scope of antidegradation would be significantly more costly and intrusive than the proposed use designations. This would also greatly expand the antidegradation provisions beyond those required by the CWA. Alternatively, implementing WRAPS using the proposed use designations will incorporate strategies for all sources of pollution, including those sources not governed by NPDES/SDS Permits.

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<sup>17</sup> This estimate is based on data provided in the MPCA's Statement of Need and Reasonableness (wq-rule3-60d; S-45) that supports the adoption of the amendments to the state's antidegradation rules.

**Hypothetical Option – Modified Uses:** An alternative option to adopting the Modified Use designations would be to assess these streams using the General Use biocriteria. As a result, more of these altered waters would be identified as impaired. For example, without these designations, the altered streams that meet the Modified Use criteria, but not the General Use criteria, would be added to Category 5c (Impaired or threatened by one pollutant) in the CWA § 303(d) list of impaired waters. Following this listing, the stream would undergo a stressor identification study to determine the cause of the impairment. The result of this study would be a determination that the physical habitat is limiting attainment of the aquatic life use. The stream would then be moved from Category 5c to Category 4c (Impaired or threatened but does not require a TMDL plan because impairment is not caused by a pollutant) on the CWA § 303(d) list of impaired waters. The resulting management for these waters would be similar whether they were listed as impaired under Category 4c or not impaired under a Modified Use. Without adopting the Modified Uses for these streams, there would be additional costs and delays to the IWM strategy because of the need to perform additional stressor identification studies and to manage the CWA § 303(d) list of impaired waters. The MPCA determined that the designation of a these streams as Modified Use would be the best option for achieving the goals while also being the least costly or intrusive.

**Hypothetical Option – Cold water habitat:** No alternative options could be devised for addressing the inappropriate use designation for these cold water habitats. At issue is the fact that the current use designation for these waters results in the application of standards that are not suitable for managing these waters and their aquatic life.

**Hypothetical Option – Warm and cool water habitat:** No alternative options could be devised for addressing the inappropriate use designation for these warm and cool water habitats. The issue is the same as that described above for cold water habitats.

- v. The probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals.**

The analysis of the probable costs of complying with the proposed use designations are discussed in Section 8 of this SONAR.

- vi. The probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals.**

The consequence of not adopting the proposed amendments would be to continue the status quo of the MPCA's monitoring, restoration, and protection activities for these waterbodies. This results in inefficiencies caused by the listing of some water bodies as impaired due to legacy physical habitat alterations that are legally allowed or due to natural conditions. For example, waters that are maintained for drainage and unable to meet the General Use biological goals would continue to be given unattainable goals. This means that money and effort could be expended by the MPCA or local governments in attempting to restore these waters beyond what is currently achievable. In addition, there would be costs associated with the loss of high quality streams or cold water habitats if they were to remain designated as General Use or warm/cool water habitat, respectively. These costs would be associated with the potential degradation of these waters and the loss of their existing condition. By degrading these waters, ecosystem services (e.g., nutrient processing, fishing, and aesthetics) could be lost or reduced. Ultimately it will be less costly for the MPCA and local governments to maintain the condition of these waters and their associated benefits than it is to restore them. The costs and benefits of adopting the proposed use designations and the consequences to different classes that may be affected are discussed further in Section 8 of this SONAR.

**vii. An assessment of any differences between the proposed rule and existing federal regulations and a specific analysis of the need for and reasonableness of each difference.**

The proposed designated uses are fully compliant with all existing federal regulations. The CWA requires states to promulgate WQS based on EPA regulations and guidance. The CWA also requires periodic review (i.e., “triennial review”) of WQS and requires states to modify criteria based on regional, state, or local data or other scientifically defensible data. The proposed rule meets the federal requirement that states review and revise WQS as needed using scientifically defensible data. The adoption of the proposed use designations into Minn. R. ch. 7050 will not cause state rules to be either more or less stringent than federal regulations, as the proposed use designations simply reflect the federal intent for state-specific implementation of the CWA. These use designations follow EPA guidance, but are necessarily tailored to Minnesota’s aquatic resources. The EPA recognizes that each state must develop a WQS framework that is tailored to the aquatic resources in the state and the tools used to monitor and assess biological condition. Federal WQS regulations support the setting of more appropriate designated aquatic life uses including [§ 131.10](#) (designation of uses; S-16), [§ 131.12](#) (protect high quality waters; S-45), and [§ 130.23](#) (support attainment decisions and diagnose causes; S-46). Furthermore, the proposed use designations are the implementation of existing rules which have been approved through Minnesota’s Administrative Procedures Act ([Minn. Stat. ch. 14](#)) and by the EPA.

**viii. An assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.**

*Minn. Stat. § 14.131 defines “cumulative effect” as “the impact that results from incremental impact of the proposed rule in addition to the other rules, regardless of what state or federal agency has adopted the other rules. Cumulative effects can result from individually minor but collectively significant rules adopted over a period of time.”*

The MPCA considers the cumulative effects of the proposed use designations in relation to other state or federal regulations to be a positive one. Overall, these designations will result in the application of more appropriate water quality goals and allow for more efficient use of resources to protect and restore waters for the benefit of aquatic life and Minnesota residents. Section 8 of this SONAR provides the economic analysis that supports this conclusion.

There could be a minor cumulative effect of these use designations with Minnesota’s antidegradation rule (which is required by and consistent with federal regulations). In this scenario, antidegradation procedures which prohibit the loss of an existing use must require that a designated Exceptional Use not be degraded such that this existing use is lost. However, the interaction between these two rules is likely to be rare because it requires that an Exceptional Use be threatened by an activity that is subject to antidegradation requirements. First, Exceptional Use waters are in areas with little human activity and therefore are less likely to be impacted by a permitted discharge. This is demonstrated by the fact that these rule amendments (see Section 8) and the previous TALU framework rule (S-31) did not identify any permits that would incur additional major costs as a result of an Exceptional Use designation. Second, only new or expanding permits would be impacted because the Exceptional Use is demonstrated by the attainment of the biological goals. This means that current permits are sufficient to protect the Exceptional Use. Finally, a cumulative effect between TALUs and antidegradation would only occur if the activity would have been allowable upstream of a General Use and not an Exceptional Use. In other words, allowable degradation (see antidegradation provisions under [Minn. R. 7050.0265](#) [S-48] and [7050.0270](#) [S-49]) resulting from the discharge would need to result in the loss of an Exceptional Use, but not a General Use. In many cases, antidegradation provisions will be sufficient to protect both General and Exceptional Uses. For these reasons, cumulative impacts are expected to be minimal.

Other than a possible interaction with antidegradation, the proposed amendments will not add new requirements to those of the federal CWA, nor will they extend the impact of the law. As discussed in Section 6.A.vii of this SONAR, establishing WQS is required by the CWA; however, there is no direct federal counterpart to the State WQS.

Similarly, the proposed amendments will not add, or extend the impact of, requirements already in existing state regulations. No other state rule establishes lists of specific waters according to their biological potential. The MPCA is the only state agency in Minnesota that establishes WQS under the CWA. However, it should be noted that some Minnesota waters are variously classified according to different state agency programs and protections. For example the MDNR identifies certain waters according to specific uses, such as trout waters in [Minn. R. 6264.0050](#). In most cases, the MDNR classification is aligned to the MPCA's Class 2A designation and the regulations between these agencies are complimentary. However, the MPCA's designations do not obligate the MDNR to adopt similar designations nor does it directly modify the MDNR's management of these waters. TALUs do not have an equivalency in other state agencies and therefore do not impose regulatory impacts.

- ix. The statement must also describe how the Agency, in developing the rules, considered and implemented the legislative policy supporting performance-based regulatory systems set forth in Minn. Stat. § 14.002, which requires state agencies, whenever feasible, to develop rules and regulatory programs that emphasize superior achievement in meeting the Agency's regulatory objectives and maximum flexibility for the regulated party and the Agency in meeting those goals**

These designations represent the implementation of performance-based goals to directly measure the attainment of aquatic life use goals. Biomonitoring and biological criteria are direct measures of the attainment of Minnesota's aquatic life use goals. This results in monitoring water bodies, assessing them, and establishing TMDLs that are focused on the achievement of these goals rather than focusing on prescriptive administrative measures (S-17). The MPCA recognizes the need for flexibility in the tools and approaches used to restore or protect aquatic resources. An example of this flexibility would be improvements to physical habitat that could mitigate the impacts of a dissolved oxygen issue. Low levels of dissolved oxygen would normally be part of a TMDL focused on reducing loadings of nutrients or organic materials. However, if dissolved oxygen could be mitigated through habitat improvement, the restoration of goals could be achieved through this alternative approach. The adoption of designated uses tailored to a water body's potential provides more flexibility in the application of TMDLs and antidegradation reviews and extends that flexibility to how protection and restoration goals may be achieved.

- x. The SONAR must also describe the Agency's efforts to provide additional notification under section 14.14, subdivision 1a, to persons or classes of persons who may be affected by the proposed rule or must explain why these efforts were not made.**

A description of the MPCA's efforts to provide this additional notification is provided below, in Section 7.B.

- xi. The Agency must consult with the commissioner of management and budget to help evaluate the fiscal impact and fiscal benefits of the proposed rule on units of local government.**

The MPCA will consult with Minnesota Management and Budget as required, Minn. Stat. § 14.131. The MPCA will do this by sending Management and Budget copies of the documents sent to the Office of the Governor for review and approval on, or near, the same day the MPCA sends them to the Governor's



Office. The MPCA will do this before publishing the Notice of Intent to Adopt Rules in the in the *State Register*. The documents will include the Governor’s Office Proposed Rule and SONAR Form, the proposed rule amendments, and the SONAR. The MPCA will include a copy of the cover correspondence and any response received from Management and Budget in the rulemaking record the MPCA submits to the Office of Administrative Hearings for the required review by the Administrative Law Judge.

**xii. The Agency must send a copy of the SONAR to the Legislative Reference Library when the notice of hearing is mailed under section 14.14, subdivision 1a.**

As identified in Section 7 below, the MPCA will satisfy this requirement and provide appropriate documentation in its submittal of the rulemaking record to the Office of Administrative Hearings.

## **B. Minn. Stat. § 116.07, subd. 2(f), comparison to federal and other state standards**

[Minn. Stat. § 116.07, subd. 2\(f\)](#) requires, in part, any rulemaking that proceeds to adopt standards for water quality under [Minn. Stat. ch. 115](#) to include in the SONAR:

1. an assessment of any differences between the proposed rule and:
  - (i) existing federal standards adopted under the Clean Air Act, title 42, section 7412(b)(2); Clean Water Act, 33 U.S.C. § 1312(a) and 1313(c)(4); and the Resource Conservation and Recovery Act, 42 U.S.C. § 6921(b)(1);
  - (ii) similar standards in states bordering Minnesota;
  - (iii) similar standards in states within the EPA Region 5 (“Region V”); and,
2. a specific analysis of the need and reasonableness of each difference.

Additional discussion of the difference between the proposed amendments and the federal WQS is provided in Section 6.A.vii of this SONAR.

All neighboring states<sup>18</sup> and all EPA Region V states<sup>19</sup> use biological monitoring tools (e.g., IBIs) and biological criteria to assess attainment of aquatic life uses. The cooperative federalism structure of the CWA requires states to establish WQS, including beneficial uses. As a result, the beneficial use framework is different for each state and is tailored to aquatic resources and biological monitoring and assessment programs in each state. However, as part of WQS programs all neighboring states and Region V states review and revise designated uses as needed to ensure that assigned designated uses are appropriate. The technical details regarding use designations differs between these states, but the need and reasonableness is similar. The greatest difference between Minnesota and most other states is the fact that only Minnesota and Ohio have adopted and implemented a TALU framework. Overall the framework and process for designating TALUs in Minnesota is very similar to that of Ohio (S-31; see also an example of a proposed use designation rule for Ohio: S-50).

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<sup>18</sup> North Dakota, South Dakota, Iowa and Wisconsin.

<sup>19</sup> Wisconsin, Illinois, Indiana, Ohio and Michigan



## C. Minn. Stat. 14.127, subds. 1 and 2, cost of complying for small business or city

[Minn. Stat. § 14.127, subds. 1 and 2](#), require an agency to:

*“determine if the cost of complying with a proposed rule in the first year after the rule takes effect will exceed \$25,000 for any one business that has less than 50 full-time employees, or any one statutory or home rule charter city that has less than ten full-time employees.”*

The MPCA finds that the proposed amendments will not cause any small business or small city to incur an expense of more than \$25,000 in the first year after the rules take effect and has considered the following factors in making this determination:

**The MPCA did not identify any permits that discharge directly to or upstream of a proposed Exceptional Use, Modified Use, cold water habitat, or warm/cool water habitat which are likely to incur costs in the first year this rule takes effect.** Warm/cool water habitat and Modified Use designations carry with them the same or less stringent chemical and physical standards and therefore no expenses will be incurred within by permittees that discharge to or near proposed warm/cool water habitat or Modified Use waters. No expenses due to these amendments are expected for permitted facilities that discharge to or near proposed Exceptional Use and cold water habitats (see Section 8 of this SONAR). There is the possibility that under general stormwater permits and MS4 permits, additional BMPs will be required to protect these waters within the first year, but this is unlikely and cannot be determined for certainty at this time.

**Only the expenses incurred by a small city or small business must be considered.** The affected entity must meet the statutory definition of a small city (i.e., fewer than 10 full-time employees) or small business (fewer than 50 full-time employees). Using available monitoring data, the MPCA has determined that there are 44 permittees that are adjacent to or upstream of a water that will be designated as Exceptional Use or cold water habitat in this rulemaking (see Section 8 of this SONAR). Twenty of these permittees would qualify as a small cities or business.

**Expenses incurred in the first year after the adoption of the rules take effect must be considered.** The statute requires a determination of the cost of the proposed rule on small cities and businesses in the first year the rules go in effect. No small cities or businesses are expected to incur costs in the first year due to the adoption of the proposed rule revisions. This conclusion is based on the determination that any costs will require more than a year to be incurred due to permitting and implementation schedules.

**Costs associated with the proposed rules must exceed \$25,000.** The statute requires an identification of costs to implement the proposed rule revision that will exceed \$25,000 for any small cities or businesses. The statutory threshold of \$25,000 applies only to those costs that can be attributed to the adoption of the proposed amendments. Based on the consideration of economic factors in Section 8 of this SONAR, no costs or only minimal costs are likely to be incurred by any entity due to the proposed use designations. However, new or expanding permits could increase loading of pollutants and there may be additional costs to protect the designated beneficial uses. Based on a consideration of economic factors (Section 8 of this SONAR), costs to comply with the proposed use designations are unlikely to exceed \$25,000. As a result, no small cities or businesses are expected to incur costs exceeding \$25,000 due to the adoption of the proposed rule revisions.

## **D. Minn. Stat. § 14.128, subd. 1, impact on local government ordinances and rules**

[Minn. Stat. § 14.128, subd. 1](#), requires an agency to determine whether a proposed rule will require a local government to adopt or amend any ordinances or other regulation in order to comply with the rule. The designation of cold water habitats may result in the requirement that MS4 permittees develop, implement, and enforce a regulatory mechanism (e.g., city ordinance) which construction activities must follow. However, in all or most cases, MS4 permits which are adjacent to or upstream of proposed cold water habitats are already in close proximity to existing cold water habitats. This is because most of the proposed cold water habitats are in the south east and north east portions of the state, which are both areas with a relatively high density of existing cold water habitats. As a result, these permittees have likely already adopted ordinances that address protection of these habitats. The proposed Exceptional Use, Modified Use, and warm/cool water habitat designations will not have any effect on local ordinances or regulations.

## **E. Minn. Stat. § 115.035, item (a), external peer review of water quality standards**

[Minn. Stat. § 115.035](#), item (a) requires that:

*“Every new or revised numeric water quality standard must be supported by a technical support document that provides the scientific basis for the proposed standard and that has undergone external, scientific peer review.”*

The proposed rule does not amend any numeric or narrative standards, but rather is the implementation of existing WQS. As a result, no external peer review is necessary for the proposed amendments.

## **F. Environmental justice policy**

The MPCA’s [Environmental Justice Framework 2015 – 2018 \(EJ Framework\)](#), on page 3, describes the MPCA’s history with environmental justice (EJ):

*“Following action on the national level, the MPCA began formally working on environmental justice in the mid-1990s. Presidential Executive Order 12898, issued in 1994, directed each federal agency to make “achieving environmental justice part of its mission by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority and low-income populations.” The Presidential Executive Order built on Title VI of the Civil Rights Act of 1964. Title VI prohibits discrimination on the basis of race, color, or national origin. As a recipient of federal funding, the MPCA is required to comply with Title VI of the Civil Rights Act.”*

The MPCA developed a policy for environmental justice that closely mirrors the EPA policy. The MPCA’s policy, last revised in 2012, states:

*“The Minnesota Pollution Control Agency will, within its authority, strive for the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”*

**Fair treatment** means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies.

**Meaningful involvement** means that:

- People have an opportunity to participate in decisions about activities that may affect their environment and/or health.
- The public's contribution can influence the regulatory agency's decision.
- Their concerns will be considered in the decision making process.
- The decision-makers seek out and facilitate the involvement of those potentially affected.

*The above concept is embraced as the understanding of environmental justice by the MPCA."*

As explained on page 11 of the EJ Framework, when undertaking rulemaking the MPCA considers how the impacts of a proposed rule are distributed across Minnesota and works to actively engage all Minnesotans in rule development. This review of the impacts and meaningful involvement are laid out in this section of the SONAR for ease of review with the rest of the regulatory analysis, though these analyses are not required under Minnesota's APA.

#### **i. Equity analysis**

The MPCA strives to evaluate how proposed rule amendments may affect low-income populations and communities that have a high proportion of people of color. In particular, the MPCA's goal is to look at whether implementing proposed rules will create any disproportionate impacts or worsen any existing areas of disproportionate impact (where environmental burdens and the resulting human health effects are unequally distributed among the population). Where applicable, the MPCA also looks at the distribution of the economic costs or consequences of the proposed rule, and whether those costs are disproportionately borne by low-income populations and communities of color.

The MPCA does not expect the proposed use designations and associated amendments will have any negative environmental consequences. As stated previously, these amendments will improve how the MPCA protects Minnesota's water quality and the aquatic life that depends on good water quality.

The proposed rule impacts specifically identified stream reaches by designating different ALUs. The MPCA chose to evaluate these stream reaches because of potential concerns that the TALU framework would give some waters (i.e., Exceptional Use) higher minimum biological goals while other waters (i.e., Modified Use) will have lower minimum biological goals. Cold and warm/cool water designations were also part of this analysis because these designations change a small number of chemical standards (e.g., dissolved oxygen, temperature, ammonia) making some standards more restrictive for cold waters and less restrictive for warm/cool waters.

The MPCA evaluated whether the designations of certain stream reaches under this rulemaking have the potential to impact areas that have populations that are predominantly low-income, people of color, or both. The MPCA has established screening criteria based on population characteristics, to determine if an area is one that may be experiencing disproportionate pollution impacts and with a higher concentration of people who may be the most vulnerable to that pollution. If a rule (or other agency action) is likely to have an impact on areas that meet the screening criteria, the action has a higher likelihood of causing or exacerbating disproportionate impacts and should be further reviewed. The screening criteria are based on census tracts, and include those census tracts where the population is 50% or more people of color or 40% or more of the population has a household income less than 185% of the federal poverty level.

The MPCA evaluated stream reaches that through this rulemaking will be classified as Modified Use, Exceptional Use, cold water, or warm/cool water. The MPCA then reviewed whether any of these stream reaches are located in or near census tracts that meet the screening criteria described above. Based on the review, the MPCA identified 30 stream reaches in census tracts that meet the screening criteria (Table 6-1). Of those, 4 (13%) are proposed to be designated Exceptional Use, 12 (40%) Modified Use, 8 (27%) cold water, and 6 (20%) warm/cool water. The proportion of these designated is similar to the 191 use designations proposed as part of this rule: 10% Exceptional Use, 52% Modified Use, 21% cold water, and 17% warm/cool water. Therefore disproportionate impact to low-income populations or communities that have a high proportion of people of color are not expected as a result of this rule.

**Table 6-1. Intersection of Exceptional, Modified, cold, warm/cool waters and environmental justice screening criteria.**

AUID	Stream Name	Reach Description	Current Use	Proposed Use	Meets Income Criteria?	Meets People of Color Criteria?
04010201-985	Knowlton Creek	Headwaters to St Louis R	2Bg	2Ag	YES	NO
04010201-987	Unnamed creek (Merritt Creek)	Unnamed cr to St Louis R	2Bg	2Ag	YES	NO
04010201-A80	Unnamed creek (Merritt Creek tributary)	Headwaters to Unnamed cr	2Bg	2Ag	YES	NO
04010201-A81	Unnamed creek (Merritt Creek)	Headwaters to Unnamed cr	2Bg	2Ag	YES	NO
04010201-A82	Unnamed creek (Coffee Creek)	Headwaters to Piedmont Ave	2Bg	2Ag	YES	NO
04010201-B02	Buckingham Creek	Headwaters to Twin Ponds	2Bg	2Ag	YES	NO
04010301-519	Blackhoof River	Unnamed cr to Ellstrom Lk	2Ag	2Bg	YES	NO
04010301-523	Unnamed creek (Blackhoof River Tributary)	Spring Lk to T47 R17W S28, north line	(2Ag)	2Ag	YES	NO
04010301-761	Blackhoof River	Ellstrom Lk to Co Rd 105	2Ag	2Bg	YES	NO
07010103-518	Minnewawa Creek	Unnamed ditch to Lk Minnewawa Outlet Cr	2Bg	2Bm	YES	NO
07010103-572	Unnamed ditch	Unnamed ditch to Unnamed ditch	2Bg	2Bm	YES	NO
07010103-716	Willow River Ditch	Willow River Flowage to Moose R	2Bg	2Be	YES	NO
07010103-758	Tamarack River	Little Tamarack R to Prairie R	2Bg	2Be	YES	NO
07010107-525	Willow Creek	T133 R38W S11, south line to Leaf Lk	2Ag	2Bg	YES	NO
07010108-512	Spruce Creek	T131 R36W S31, north line to	2Ag	2Bg	YES	NO

AUID	Stream Name	Reach Description	Current Use	Proposed Use	Meets Income Criteria?	Meets People of Color Criteria?
		Unnamed lk (21-0034-00)				
07010203-724	Unnamed creek (Robinson Hill Creek)	CD 14 to CSAH 136	2Ag	2Bg	YES	NO
07040002-740	Belle Creek	Unnamed cr to Cannon R	2Bg	2Ag	YES	NO
07100001-544	Perkins Creek	Warren Lk to Des Moines R	2Bg	2Bm	YES	NO
09020107-516	County Ditch 66	CD 38 to CD 11	2Bg	2Bm	YES	NO
09020107-517	County Ditch 11	CD 66 to Marsh R	2Bg	2Bm	YES	NO
09020107-518	Judicial Ditch 51	CD 26 to Unnamed ditch	2Bg	2Bm	YES	NO
09020108-519	Marsh Creek	Blair Lk to Beaulieu Lk	2Bg	2Bm	YES	YES
09020108-541	Unnamed creek	Unnamed ditch to Wild Rice R	2Bg	2Bm	YES	NO
09020108-565	Tulaby Creek	Tulaby Lk to McCraney Lk	2Bg	2Be	YES	YES
09020108-598	Unnamed creek	Unnamed ditch to Unnamed cr	2Bg	2Bm	YES	YES
09020108-647	Spring Creek	Headwaters to 140th Ave	2Bg	2Bm	YES	YES
09020108-651	Marsh Creek	Beaulieu Lk to - 95.9973 47.4054	2Bg	2Bm	YES	YES
09020108-657	Mosquito Creek	Unnamed cr to Unnamed cr	2Bg	2Bm	YES	NO
09030001-975	Bezhik Creek	BWCA boundary to Moose R	2Bg	2Be	YES	NO
09030005-562	Unnamed creek (Valley River Tributary)	T63 R22W S28, south line to Unnamed cr	2Ag	2Bg	YES	NO

Sixteen (Exceptional and Modified Uses) of the proposed use designations would not change the chemical and physical standards. These use designations would impact the biological goals applied to these waterbodies. The Exceptional Use designations will protect these resources to the benefit of the populace and based on the economic review (Section 8 of this SONAR) are not expected to incur additional costs. The Modified Use designations do lower biological goals, but these designations are based on local habitat limiting the biological communities and does not lower chemical or physical standards. These designations establish appropriate aquatic life goals for these stream reaches that are consistent with streams that are managed for drainage and would not be expected to have negative impacts on the population.

Fourteen (cold and warm/cool waters) use designations would change chemical and physical standards applied to these waterbodies. However, these changes are recognized as a correction to the existing designated use such that the appropriate use will be applied. As such, these changes should not

interpreted as a lowering or raising of the designated use that would negatively impact the community either by increasing environmental risk or costs. Therefore these use designations are not expected to disproportionately impact low-income populations or communities that have a high proportion of people of color.

## **ii. Meaningful involvement**

In order to meet the directive to strive for “meaningful involvement,” the MPCA works to seek out and facilitate the involvement of those potentially affected by the proposed rule, particularly communities of EJ concern and those communities traditionally underrepresented in the public process.

As noted in Section 3, there has been stakeholder outreach work during the development of the rule amendments. We continue to work to develop tools and methods to effectively reach out to new stakeholders – particularly low-income populations and communities of color.

The MPCA does specific outreach to Minnesota’s tribal communities for rulemaking. In this case, the MPCA contacted Minnesota’s tribal communities to engage them in discussions during the development of these rule amendments, and to notify them of opportunities to provide comment. In addition to providing notice to the tribal contacts who have registered to receive GovDelivery rulemaking notices, the MPCA has provided specific notice throughout the rulemaking process to contacts identified by the tribes as liaisons for water quality issues.

## **7. Notice plan**

The Minnesota Administrative Procedures Act ([Minn. Stat. ch. 14](#)) and the Office of Administrative Hearings rules ([Minn. R. ch. 1400](#)) govern how state agencies must adopt administrative rules. This includes providing required notifications to the general public and affected stakeholders, various state agencies and departments, the legislature, and Office of the Governor. [Minn. Stat. § 14.131](#) also requires that the SONAR describe how the MPCA provided additional notification of the rulemaking to potentially affected parties, if applicable.

Specifically, Minn. Stat. § 14.131 states that the SONAR:

*“describe the agency's efforts to provide additional notification under section 14.14, subd. 1a, to persons or classes of persons who may be affected by the proposed rule or must explain why these efforts were not made.”*

This section addresses how the MPCA will provide the required notifications and additional notification. It also identifies how the MPCA will comply with providing notice as required by Minn. Stat. ch. § 115.44, subd. 7.

### **A. Required notice**

#### **i. Request for comments**

For this rulemaking, the first notice, required by Minn. Stat. § 14.101, is the Request for Comments (RFC). The MPCA published the RFC on Planned Amendments to Rules Governing Water Quality Standards – Use Classifications 2 and 7, Minnesota Rules Chapter 7050, in the *State Register* on September 24, 2018. To inform the public, the MPCA notified interested parties who are subscribed to the “Use class changes – Class 2 and Class 7,” and the “Tiered Aquatic Life Uses (TALU)” Rulemaking GovDelivery lists, of the RFC the same day it was published. The GovDelivery notice was sent to a combined 2,466 subscribers to these lists. Also on the same date, the MPCA provided specific notice of the RFC to the designated water tribal contact persons for Minnesota Tribal Nations. This electronic

notice contained the information in the September 24, 2018, GovDelivery notice about the RFC. The MPCA maintains a list of the 11 federally recognized tribes in Minnesota and edits the list quarterly. As explained in Section 3.B. above, GovDelivery is a self-subscription service for interested and affected persons to register to receive rule-related notices via email.

In addition, the MPCA also:

- Posted the RFC, the same day it was published in the *State Register*, on the MPCA's Public Notices webpage at <https://www.pca.state.mn.us/public-notices>.
- Posted information about amendments to the Class 2 and Class 7 use designations, and technical support documents, the same day the RFC was published in the *State Register*, on the MPCA's Use Classifications 2 and 7 Rule webpage at <https://www.pca.state.mn.us/wqs-designated-uses>.

## ii. Remaining required notifications

The remaining required notifications are listed below with a description of how the MPCA will comply with each.

1. [Minn. Stat. § 14.14, subd. 1a](#). On the day the proposed amendments are published in the *State Register*, the MPCA will send an electronic notice, using GovDelivery, with a hyperlink to the webpage where electronic copies of the Dual Notice of Intent to Adopt Rules (Notice), proposed rule amendments, and SONAR can be viewed. The GovDelivery notice will be sent to all parties who have registered with the MPCA to receive notices of the "Use class changes – Class 2 and Class 7" and the "Tiered Aquatic Life Uses (TALU)" rulemakings. Parties who are registered to receive non-electronic notice will receive copies of the Notice and the proposed rule amendments via U.S. Mail. Both the electronic and U.S. Mail notice will be sent at least 33 days before the end of the public comment period.
2. [Minn. Stat. § 14.116](#). The MPCA will send a cover letter to the chairs and ranking minority party members of the legislative policy and budget committees with jurisdiction over the subject matter of the proposed amendments, and to the Legislative Coordinating Commission, as required by [Minn. Stat. § 14.116](#). The letter will include a link to electronic copies of the Notice, proposed rule amendments, and SONAR. This Notice will be sent at least 33 days before the end of the comment period.
3. [Minn. Stat. § 14.131](#). The MPCA will send a copy of the SONAR to the Legislative Reference Library in accordance with [Minn. Stat. § 14.131](#) when the Notice required under [Minn. Stat. § 14.14, subd. 1a](#), is sent. This Notice will be sent at least 33 days before the end of the comment period.
4. [Minn. Stat. § 14.111](#). If the rule affects farming operations, [Minn. Stat. § 14.111](#) requires an agency to provide a copy of a proposed rule that will affect farming operations to the Commissioner of the Minnesota Department of Agriculture no later than 30 days before publication of the proposed rule amendments in the *State Register*. The MPCA does not believe the proposed amendments will directly affect agricultural land or farming operations. However, because the proposed amendments include designated uses for some agricultural ditches and because some of the designated uses are in areas with high agricultural activity, the MPCA will send a copy of the proposed rule amendments to the Commissioner of the Department of Agriculture at least 30 days in advance of publishing the proposed amendments in the *State Register*.
5. [Minn. Stat. § 115.44, subd. 7](#), states:

*"For rules authorized under this section, the notices required to be mailed under sections 14.14, subdivision 1a, and 14.22 must also be mailed to the governing body of each*

*municipality bordering or through which the waters for which standards are sought to be adopted flow.”*

The proposed rule amendments are being conducted under authority of [Minn. Stat. § 115.44](#). Therefore, the MPCA will send the Notice to every municipality in Minnesota at least 33 days before the end of the comment period. To do so, the MPCA will obtain a current list of all municipal officials through the League of Minnesota Cities, the Association of Minnesota Counties, and the Association of Minnesota Townships, and will send notice either electronically or by U.S. Mail to each municipality that includes a hyperlink to the webpage where the Notice, proposed rule amendments, and SONAR can be viewed. This includes approximately 1,775 townships, over 850 cities, and 87 counties.

The following notices are required under certain circumstances; however, they do not apply to this rulemaking and will not be sent:

1. [Minn. Stat. § 14.116](#). In addition to requiring notice to affected/interested legislators, this statute also states that if the mailing of the notice is within two years of the effective date of the law granting the agency authority to adopt the proposed rules, the agency must make reasonable efforts to send a copy of the notice and SONAR to all sitting House and Senate legislators who were chief authors of the bill granting the rulemaking. This requirement does not apply because the MPCA is using its general rulemaking authority for these rules, and no bill was authored within the past two years granting special authority for this rulemaking.
2. [Minn. Stat. § 116.07, subd. 7i](#). This statute requires notification of specific legislators of the adoption of rules applying to feedlots and fees. The proposed amendments do not relate to feedlots or fees so this requirement does not apply.

## **B. Additional notice plan**

[Minn. Stat. § 14.14](#) requires that in addition to its required notices:

*“each agency shall make reasonable efforts to notify persons or classes of persons who may be significantly affected by the rule being proposed by giving notice of its intention in newsletters, newspapers, or other publications, or through other means of communication.”*

The MPCA considered these statutory requirements governing additional notification and as detailed in this section, intends to fully comply with them. In addition, as described in Section 3, the MPCA has made reasonable efforts, thus far, to notify and involve the public and stakeholders in the rule process, including various meetings and publishing the RFC.

The MPCA intends to request that the Office of Administrative Hearings review and approve the Additional Notice Plan, pursuant to [Minn. R. 1400.2060](#). The MPCA’s plan to notify additional parties includes the following:

1. Publish its Dual Notice of Intent to Adopt Rules (with or without a public hearing, dependent on how many hearing requests are received) on the MPCA’s Public Notice webpage <https://www.pca.state.mn.us/public-notices>.
2. Provide an extended comment period. The MPCA will provide a 45-day comment period on the proposed rule amendments. Extending the comment period beyond the 30-day minimum provides additional opportunity for potentially interested parties to review the proposed rule amendments and submit comments or hearing requests.
3. Hold a public meeting during the 45-day comment period to provide information on the proposed rule amendments and to take comments from stakeholders.



4. Provide specific notice to tribal authorities. The MPCA maintains a list of the 11 federally recognized tribes in Minnesota and edits the list quarterly. The MPCA will send specific electronic notice to the designated water tribal contact persons for Minnesota Tribal Nations. The notice will be sent on or near the day the proposed rule amendments are published in the *State Register*, and it will have a hyperlink to the webpage where electronic copies of the Notice, proposed rule amendments, and SONAR can be viewed. Note: some tribal contacts may already subscribe to receive GovDelivery notices about this rulemaking.
5. Provide specific notice to permittees that are adjacent to or upstream of a proposed use designation change to a more stringent classification (Class 2A (cold water) and Exceptional Use waters). The notice will be sent to the permittees on or near the day the proposed rule amendments are published in the *State Register*. The MPCA will send notice either electronically or by U.S. Mail to each permittee that includes a hyperlink to the webpage where the Notice, proposed rule amendments, and SONAR can be viewed.
6. Provide specific notice to associations and environmental groups. The notice will be sent electronically to the following associations and environmental groups on or near the day the proposed rule amendments are published in the *State Register*, and it will have a hyperlink to the webpage where electronic copies of the Notice, proposed rule amendments, and SONAR can be viewed. Note: some members of these entities may already subscribe to receive GovDelivery notices about this rulemaking.
  - Association of Metropolitan Municipalities
  - Association of Minnesota Counties
  - Clean Water Legacy
  - Clean Water Minnesota Isaak Walton League Minnesota Chapter
  - Coalition of Greater Minnesota Cities
  - League of Minnesota Cities
  - Metropolitan Council
  - Minnesota Association of Small Cities
  - Minnesota Association of Soil and Water Conservation Districts
  - Minnesota Association of Watershed Districts
  - Minnesota Chamber of Commerce
  - Minnesota City/County Management Association
  - Minnesota Environmental Science and Economic Review Board
  - Minnesota Center for Environmental Advocacy
  - Minnesota Environmental Partnership
  - National Trout Center – Minnesota
  - Sierra Club North Star Chapter
  - Trout Unlimited – Minnesota

Note: some members of these associations and environmental groups may already subscribe to receive GovDelivery notices about this rulemaking.

7. Provide notice in electronic newsletters. The MPCA uses electronic newsletters to provide updates and information about rulemakings, as explained above in Section 3. The MPCA will provide notice in its Waterfront Bulletin newsletter providing information where electronic copies of the Notice, proposed rule amendments, and SONAR can be viewed. Although it is not possible to assure that the

Waterfront Bulletin newsletter will be published exactly at the start of the public comment period, the MPCA will provide the maximum possible notice by either publishing notice of the comment period in the Waterfront Bulletin edition that is published closest to the public comment period or providing a special bulletin notice to all subscribers to Waterfront Bulletin when the rules are proposed.

8. Post relevant rulemaking updates and associated documents including the proposed rule amendments and SONAR on the MPCA's Use Classifications 2 and 7 Rule webpage <https://www.pca.state.mn.us/wqs-designated-uses>.

The MPCA also finds that the outreach effort conducted, to date, as described in Sections 3.B. and 7.A. of this SONAR, has informed additional parties of the Agency's use designation rulemaking.

The MPCA believes that by following the steps of this Additional Notice Plan, and its regular means of public notice, including early development of the GovDelivery mail list for this rulemaking, publication in the *State Register*, and posting on the MPCA's webpages, the MPCA will adequately provide additional notice pursuant to [Minn. Stat. § 14.14, subd. 1a](#).

## 8. Consideration of economic factors

In exercising its powers, the MPCA is required by identical provisions in [Minn. Stat. § 116.07, subd. 6](#) and [Minn. Stat. § 115.43, subd. 1](#) to give due consideration to:

*...the establishment, maintenance, operation and expansion of business, commerce, trade, industry, traffic, and other economic factors and other material matters affecting the feasibility and practicability of any proposed action, including, but not limited to, the burden on a municipality of any tax which may result there from, and shall take or provide for such action as may be reasonable, feasible, and practical under the circumstances...*

The proposed use designations and amendments to [Minn. R. 7050.0420](#) will benefit Minnesota citizens through the identification and protection of exceptional quality waters and cold water habitats as well as setting appropriate designated uses for other waters. The remainder of this section summarizes the economic factors associated with the proposed amendments that the MPCA considered and explains why these use designations are not anticipated to result in considerable increased costs for water management entities or for MPCA permitted dischargers into the foreseeable future.

**More accurate information about water quality benefits watershed managers.** The proposed use designations will result in more accurate water quality assessments. Local, regional, and state water and watershed managers use water quality assessments in water planning and management activities. Better knowledge about water quality leads to more effective and efficient targeting of water planning and management activities.

**Identification of streams with exceptional water quality benefits all Minnesota citizens.** The proposed use designations identify some streams as having exceptional water quality. An Exceptional Use designation will lead to protection of the characteristics that make the stream exceptional. The protection of streams with exceptional characteristics benefits Minnesota citizens by preserving the aesthetic, recreational, and economic values of high quality resources, and reducing future or downstream need for water treatment.

**Identification of cold water habitats benefits all Minnesota citizens.** The proposed use designations identify some waters as having an existing cold water habitat use. The cold water habitat use designation will result in the assignment of appropriate goals that can be used to protect or restore the natural characteristics and the aquatic biota supported by these habitats. Protecting cold water habitats

benefits Minnesota citizens by preserving the aesthetic, recreational, and economic values of these resources.

**Protect ecosystem services.** These use designations protect existing ecosystem services. Ecosystem services are natural processes that directly or indirectly benefit human beings. Economic analyses of ecosystem services evaluate total annual value of these services to humans. Current economic value estimates of ecosystem services in Minnesota are unable to provide detailed representation of the benefits from the proposed use designations, although they can provide some context. For example, a recent study suggests that the natural land cover in the St. Louis River watershed provides \$5 to \$13 billion dollars in benefits annually (S-51). In addition, recreational fishing in Driftless Area streams was estimated to have an economic impact of \$703,676,675 and support 6,597 jobs in the region in 2015 (S-52). However, even if a similar approach were taken to estimate the value of the entire state, we would be unable to identify how the annual value would change after implementation of these use designations. The lack of the data and the high level of uncertainty of the anticipated improvements in water quality do not allow us to make such an estimate. However, without these designations, we stand to lose a portion of the annual value if high water quality resources and cold water habitats are not held to their highest attainable use. Ecosystem services lose value as the quality of the water degrades. For example, a 1995 study found a positive relationship between recreation demand for fishing in lakes in Minnesota and water clarity, which means that fishing trips to Minnesota lakes increase with water clarity or decrease with a reduction in water clarity (S-51). These use designations can preserve the economic benefits, including economic value from fishing and recreation, but also numerous other benefits, which Minnesota citizens derive from the ecosystem services of aquatic habitats.

A discussion of economic factors is provided below for each proposed use designation type (Exceptional, Modified, cold water, and warm/cool water) and for three types of groups (Minnesota citizens, permitted dischargers, and non-point sources of pollution).

## **A. Exceptional use**

Exceptional Use streams can be interpreted to be equivalent to the CWA objective for biological integrity. These streams either currently have high water quality supporting exceptional populations of fish and macroinvertebrates, or have demonstrated in the past (i.e., on or after November 28, 1975) that they attained a level of high water quality to support exceptional populations of fish and macroinvertebrates. Attaining and maintaining Exceptional Use aquatic life goals and protecting the Exceptional Use water preserves multiple benefits. These include CWA use values – such as tourism and recreation (e.g., swimming, boating, and fishing) – and non-CWA use values – such as the intrinsic value of the existence of high quality streams in Minnesota.

### **i. Minnesota citizens**

The Exceptional Use designations will translate to improved protections and water quality in streams. Maintaining and improving stream quality benefits Minnesota citizens who fish, swim, boat, and enjoy the aesthetic quality of these aquatic resources. Benefits of improved water quality also extend to Minnesota's water-oriented tourism and recreation industry, resulting in added jobs and related economic benefits. Tourism-related expenditures also create a multiplier effect within the local economy, which means that the economy gains more than a dollar for every additional dollar spent in the community. The multiplier effect occurs when a portion of the revenues are invested locally through additional consumption in other local industries by those employed in tourism and recreation industries. Minnesota citizens also reap a benefit from the intrinsic value of protecting threatened or endangered species that depend on exceptional aquatic resources.

Citizens may see the following benefits:

- Maintained and improved opportunities for outdoor recreation;
- Increased property values;
- Jobs and income from tourism;
- Increased tax revenue to cities and counties for reinvestment in the community;
- Ecosystem services benefits (e.g., nutrient processing, fishing, and aesthetics); and
- Reduced mitigation/restoration costs in the future or for downstream users (e.g., reduced costs for treating waters or mitigating negative water quality impacts).

## ii. Permitted dischargers

As explained below, the MPCA determined that the proposed Exceptional Use stream designations are unlikely to, if at all, affect existing NPDES/SDS permittees. This is because: 1) most Exceptional Use waters are in areas of the state where there are few permitted facilities discharging to waters of the state; and 2) the existing pollution controls required by the NPDES/SDS permits are already sufficient to protect the Exceptional Use designation as demonstrated by the attainment of the stream as Exceptional Use.

The MPCA evaluated its regulatory water permit information to estimate how many current permittees might be affected by the proposed Exceptional Use designations. There were determined to be only 16 NPDES/SDS permittees that discharge directly to, or upstream of a stream that is proposed to be designated Exceptional Use under this rulemaking. These 14 NPDES/SDS permittees are grouped into the following five categories and discussed below: 1) Municipal Separate Storm Sewer System (MS4) permits; 2) sand and gravel mining; 3) municipal wastewater; 4) industrial stormwater; and 5) other.

1. **MS4 permits:** There are no MS4 NPDES/SDS permittees located within one mile of any of the proposed Exceptional Use streams. There is one proposed Exceptional Use with a MS4 in the upstream watershed approximately 12 miles from this reach. However, only a small portion of this watershed overlaps with the MS4. The designation of this water as an Exceptional Use would not trigger any additional permit conditions under the MS4 permit. Therefore, no MS4 NPDES/SDS dischargers are expected to incur direct additional costs as a result of the receiving water being designated as Exceptional Use as part of this rulemaking.
2. **Sand and gravel mining:** There are nine sand and gravel mining facilities adjacent to or upstream of a proposed Exceptional Use stream which are covered by the Nonmetallic Mining/Associated Activities General Permit. Only one of these is within 1 mile of a proposed Exceptional Use stream reach. Through the general permit, these facilities are allowed to discharge uncontaminated stormwater or to dewater groundwater/stormwater to surface waters. These permits are required to meet applicable standards and stormwater is required to have total suspended solids below 100 mg/L. Given that required BMPs are currently resulting in the attainment of the Exceptional Use, these facilities are unlikely to need to implement changes or incur additional costs as a result of this rulemaking.
3. **Municipal wastewater:** There are two NPDES/SDS-permitted municipal facilities that discharge treated wastewater upstream of proposed Exceptional Use streams. Neither facility is within 1 mile of a proposed Exceptional Use stream. One facility is approximately 20 miles upstream of the proposed Exceptional Use and is a municipal pond system with a controlled discharge that discharges in the spring and fall. Given that the discharge is seasonal, spatially displaced from the proposed Exceptional Use, and the Exceptional Use is currently attained, the MPCA does not expect this permit to be impacted by the Exceptional Use designation and no additional costs will be incurred. The second municipal facility is more than 16 miles upstream of the proposed Exceptional Use stream reach. This facility is a municipal pond system with a controlled discharge that

discharges in the spring and fall and three mound-type drainfield systems which do not discharge to surface waters. There are also four lakes between the outfall of this facility and the proposed Exceptional Use which have applicable Class 2B, 3C, 4A, 4B, 5, and 6 standards. Given that the discharge is seasonal, spatially displaced from the proposed Exceptional Use, flows through four lakes with applicable standards, and the Exceptional Use is currently attained, the MPCA does not expect this permit to be impacted by the Exceptional Use designation and no additional costs will be incurred.

4. **Industrial Stormwater:** The MPCA did not identify any industrial stormwater facilities adjacent or upstream of proposed Exceptional Use stream reaches.
5. **Other:** This category of permits includes two permitted facilities upstream of proposed Exceptional Use stream reaches. The first is a peat moss mine with minimal impacts on water quality because the discharge is a small percentage of the receiving water and pollutants are low (i.e., pollutant concentrations in the effluent is usually below standards). Since the current discharge is maintaining the Exceptional Use status and there is a low potential for pollutants from this activity to impact the Exceptional Use, the MPCA does not expect any adverse impact or cost to the discharger as a result of designation as Exceptional Use. The second is a metallic mining facility with outfalls more than 19 miles from the proposed Exceptional Use stream. Since the current discharge is maintaining the Exceptional Use status and is spatially displaced from the proposed Exceptional Use, the MPCA does not expect any adverse impact or cost to the discharger as a result of the proposed Exceptional Use designations. For both of these NPDES/SDS permits, if the permittee proposed an expansion that resulted in increased loading of pollutants that could threaten the downstream aquatic life, an antidegradation review would be required to insure that the Exceptional Use would not be lost. This could result in the need for additional treatment or could result in the expanded permit not being issued. This could result in costs to the permittee, but potential costs, if any, cannot be speculated on without details regarding how much loading for specific pollutants will increase. However, if these permits maintain their current wasteload allocations, there are not expected to be any additional costs.

The result of this analysis indicates that no existing MPCA-permitted dischargers are anticipated to require additional treatment, or incur additional costs, to protect the 20 streams this rulemaking is designating Exceptional Use.

### **iii. Non-point sources of pollution**

The proposed use designations do not expand the MPCA's regulatory authority over non-point pollution sources. For example, activities that require an NPDES/SDS Construction Stormwater General Permit would not be impacted by this rulemaking because Exceptional Use waters are not "special waters" as defined in the general permit (S-53). The only impact the MPCA anticipates may occur to construction stormwater permittees as a result of these designations would be if an Exceptional Use water body, which meets the current aquatic life use goals and is not already classified as a special water (e.g., 2Ag), becomes degraded and listed in the future as impaired under section CWA § 303(d) for phosphorus (nutrient eutrophication biological indicators), turbidity, dissolved oxygen or aquatic biota (fish bioassessment, aquatic plant bioassessment and aquatic macroinvertebrate bioassessment). This circumstance would be rare, but if it occurs, and dependent upon the type of construction activities and proximity to the water body, the permittee may be required to implement additional BMPs.

## **B. Modified use**

Modified Use streams are not able to meet General Use standards because of a lack of physical habitat structure to support a healthy community of aquatic life. This habitat condition is the result of legal,

human activities that cannot be remedied and which are consistent with [40 CFR § 131.10\(g\)\(3\) or \(4\)](#) (S-16). However, Modified Use designations do not *a priori* make standards more or less stringent for these streams and thus would not increase costs to protect or restore these waters. In contrast, the designation of Modified Uses represents a cost savings as actions to protect and restore water quality in these water bodies can be better tailored to their biological potential.

#### **i. Minnesota citizens**

Through payment of taxes, Minnesota citizens support public water management efforts at the local, county, and state levels. Water management authorities can prioritize their efforts better with more precise stream classifications. The Modified Use designation sets attainable goals that reflect the lack of physical habitat structure which limits the aquatic biology of a particular water body. Setting realistic goals for water bodies with compromised habitat structure sanctioned through other Minnesota Statutes and Rules allows water management entities to most effectively direct resources among all waters in their authority. This results in greater economic and environmental returns.

There are foregone benefits associated with the ecological services in designating a water body as Modified Use because a Modified Use does not provide the same level of economic or aesthetic benefits associated with General or Exceptional Use waters. However, these costs cannot be attributed to the designation as Modified Use. Instead they are attributable to the activities that have resulted in the limited physical habitat structure that supports the Modified Use designation. The lack of habitat in a Modified Use stream is the result of alterations to the landscape stemming from decades of drainage activities performed legally under the authority of Minnesota Drainage Law ([Minn. Stat. § 103E](#); S-54). Therefore, the current level of aquatic life quality in waters that meet Modified Use criteria is attributable to the legal activities that are already occurring, and would not result from their designation as Modified Use.

#### **ii. Permitted dischargers**

Dischargers to waters designated as Modified Use are still held to non-biological standards that apply to Class 2 waters and to their discharge permit conditions. Designation to Modified Use will not change the standards that apply to Class 2 water bodies or affect existing permit conditions. No permits that discharge to or upstream of a proposed Modified Use designation will incur costs as a result of their receiving water being designated as Modified Use. All discharges will be required to continue to meet the existing Class 2 chemical and physical standards and will incur the costs they currently have that are associated with meeting those standards.

However, designation of a stream as Modified Use may result in savings to some dischargers. The savings result from the more accurate characterization of the attainability of the aquatic life use. For example, a more accurate designation of a drainage ditch as Modified Use may mean the ditch is not listed as impaired, where it would have been listed as impaired under a General Use designation. If the ditch is not listed as impaired, a discharger will not be subject to the conditions of a TMDL study that would have been required for a stream listed as impaired. Dischargers would benefit by not incurring costs associated with their involvement in reviews to determine if their discharge is causing or contributing to the impairment.

#### **iii. Non-point sources of pollution**

The Modified Use designations do not increase the MPCA's regulatory authority over non-point pollution sources. Therefore, there are no direct impacts or cost to entities responsible for non-point discharges to Modified Use streams. However, there may be some cost savings compared to the current aquatic life use designations. Currently these ditches are held to biological goals for the General Use which have been determined result in unattainable goals for these water bodies. In some circumstances this could lead to recommendations for additional BMPs that will not be effective in restoring the

biological condition in these water bodies. By designating these streams Modified Use, attainable goals will be established so that the implementation of BMPs can be implemented in a manner that actually provides for improved water quality. The result of this is better outcomes for protection and restoration of water quality in ditches and better deployment of limited water quality management resources.

## **C. Cold water aquatic life and habitat**

Cold water habitats (Classes 2A, 2Ae, 2Ag) permit the propagation and maintenance of a healthy community of cold water aquatic biota and their habitats. These streams either currently support these habitats, or have demonstrated in the past (i.e., on or after November 28, 1975) that they supported these habitats. The Class 2A, 2Ag, or 2Ae designation of a water body carries with it some changes to the biological, chemical, and physical standards applied to these waters. The applicable biological criteria change because different IBI models are used to assess the condition of fish and macroinvertebrate assemblages. A small subset of chemical and physical standards are more stringent with these designations including: ammonia, dissolved oxygen, nitrate, total suspended solids, and some metals. In order to protect or restore these waterbodies, additional controls may be needed for these parameters which has the potential to incur costs, but also serves to ensure the value and benefits of these waterbodies.

### **i. Minnesota citizens**

The cold water habitat designations will translate to appropriate goals and protections for these water bodies. Maintaining and improving stream quality benefits Minnesota citizens who fish, swim, boat, and enjoy the aesthetic quality of these aquatic resources. Benefits of improved water quality also extend to Minnesota's water-oriented tourism and recreation industry, resulting in added jobs and related economic benefits. Cold water habitats or trout streams are often considered to be especially valuable as a result of tourism generated from trout angling (S-52). Tourism-related expenditures also create a multiplier effect within the local economy, which means that the economy gains more than a dollar for every additional dollar spent in the community. The multiplier effect occurs when a portion of the revenues are invested locally through additional consumption in other local industries by those employed in tourism and recreation industries. Minnesota citizens also reap a benefit from the intrinsic value of protecting threatened or endangered species that depend on exceptional aquatic resources.

Citizens may see the following benefits:

- Maintained and improved opportunities for outdoor recreation;
- Increased property values;
- Jobs and income from tourism;
- Increased tax revenue to cities and counties for reinvestment in the community;
- Ecosystem services benefits (e.g., nutrient processing, fishing, and aesthetics); and
- Reduced mitigation/restoration costs in the future or for downstream users (e.g., reduced costs for treating waters or mitigating negative water quality impacts).

### **ii. Permitted dischargers**

The MPCA determined that the proposed cold water habitat designations are unlikely to impact any existing NPDES/SDS permits. Some permits have the potential to be impacted by the proposed use designations, but whether or not they will be impacted could not be determined in this analysis. The MPCA evaluated its regulatory water permit information to estimate how many current permittees might be affected by the proposed cold water habitat designations. There were determined to be 30 NPDES/SDS permittees that discharge directly to or upstream of a stream that is proposed to be



designated cold water habitat under this rulemaking. These 30 NPDES/SDS permittees are grouped into the following five categories and discussed below: 1) Municipal Separate Storm Sewer System (MS4) permits; 2) sand and gravel mining; 3) municipal wastewater; 4) industrial stormwater; and 5) other.

- MS4 permits:** There are 13 MS4 NPDES/SDS permittees located adjacent to or upstream of proposed cold water habitats. Of these, nine are located within one mile of proposed cold water habitats. All of these waters were designated as trout waters by the MDNR so the MPCA's use designation proposals are an alignment with the MDNR list. As a result of these use designation proposals, MS4 permittees may be required to develop, implement, and enforce a regulatory mechanism (e.g., city ordinance) which construction activities must follow. These controls will need to be as stringent as the Construction Stormwater General Permit for erosion, sediment, and waste controls. Since these designations are cold water habitats (i.e., trout streams), their designation could result in additional requirements for construction projects if these activities discharge to trout streams. However, since these requirements are already implemented through the Construction Stormwater General Permit, the cost of BMPs would not be expected to be greater than if the MS4 permit was not present. The only costs to the MS4 would be developing a regulatory mechanism (if one is not already in place) and then implementing and enforcing it for construction activities within their jurisdiction. In addition, if these waters become impaired because of the proposed use designation, a USEPA-approved TMDL could assign a wasteload allocation to the MS4 permittee. In the draft MS4 permit, those permittees will need to develop and implement a plan to reduce loading of the relevant pollutant(s) over the five-year permit term (e.g., implementation of infiltration practices, disconnection of impervious surfaces, improve riparian vegetation). Although required through the MS4 permit, the actions needed to restore these cold water habitats, would be similar to those without a MS4 permit. For waters that are not impaired, existing water quality protections implemented through the MS4 permit should be sufficient to maintain the existing use in these waters. Mechanisms to implement protections would not be through the current MS4 program, but would be through WRAPS and other voluntary programs. Therefore, there may be a cost for the protection of these waters, but these actions will be specific to the parameters that may pose a risk to each of these waterbodies. In other words, there are no prescribed requirements for water quality protection for these waterbodies and protections, if necessary, will be tailored to each water body.
- Sand and gravel mining:** There are seven (non-metallic) sand and gravel mining permits covered by the Nonmetallic Mining/Associated Activities General Permit which are located adjacent to or upstream of a proposed cold water habitat stream section. Of these, three have facilities located within one mile of the proposed cold water habitat. Through the general permit, these facilities are allowed to discharge uncontaminated stormwater or to dewater groundwater/stormwater to surface waters. These permits are required to meet applicable standards. The facilities within one mile of the proposed cold water habitat designation could be required to adopt additional BMPs if they are necessary to protect the cold water habitat. In addition, if these three permittees do not have a waiver from benchmark monitoring, the stormwater intervention limit value will change from 100 to 65 mg/L. If additional BMPs are needed to protect these waters there could be costs to the permittee. However, the likelihood of these increased BMPs or their associated costs is speculative at this time.
- Municipal wastewater:** There are three NPDES/SDS-permitted municipal facilities that discharge treated wastewater upstream of a proposed cold water habitat stream section. Only one of these facilities discharges to or within one mile of a proposed cold water habitat. One facility is a wastewater treatment facility with a continuous discharge to a warm/cool water stream reach. Before reaching the proposed cold water habitat stream reach, the effluent flows approximately 7.5 miles in a warm/cool water habitat stream. It should also be noted that this proposed use

designation is an approximately 0.8 mile extension of an existing cold water habitat designation. As a result, this use designation only moves the start of the cold water habitat 0.8 mi closer to the discharge. Due to the distance between the proposed use designation, the presence of an existing downstream cold water habitat, and a review of the current permit that indicates it is sufficient to protect the new downstream use, the MPCA does not expect any costs will be incurred as a result of the cold water habitat designation. The second facility is a municipal pond system with a controlled discharge that discharges in the spring and fall. Given that the discharge is seasonal, more than 2 miles from the proposed cold water habitat, and a review of the current permit indicates it is sufficient to protect the new downstream use, the MPCA does not expect this permit to be impacted by the cold water habitat use designation and no additional costs will be incurred. The third facility is a wastewater treatment facility with a continuous discharge to a limited resource value (Class 7) stream reach. The designation of this stream reach to Class 2Ag (cold water habitat) carries stricter standards for several relevant effluent constituents compared to the Class 7 designation. These include ammonia, metals, and nitrogen and a review of these parameters was performed to determine if this facility would incur costs as a result of the use designation. The current permit and operation of the facility indicates it is sufficient to protect the Class 2Ag designated use of the receiving water from metals, ammonia, and nitrogen. The limits for metals and nitrogen do not need to be changed to protect the Class 2Ag. The ammonia limit will need to be reduced for this facility, but analysis indicates that these limits are currently attained. This conclusion is due to the current 10 mg/L total nitrogen limit which requires that the facility must be designed and operated to first nitrify (i.e., remove ammonia) and then denitrify (i.e., remove TN). This means that the design of the facility was already configured and operated to produce low levels of ammonia in the effluent. Therefore, there should be no added costs to this facility in order to meet potential ammonia effluent limits that may be assigned as a result of designating the receiving water as a cold water habitat.

4. **Industrial stormwater:** There are six industrial stormwater permits that are located upstream of a proposed cold water habitat stream section. Three of these permits are within one mile of the proposed use designation. These facilities are covered by the Industrial Stormwater Multi-sector General Permit. The MPCA determines that there will be no impact to facilities with a discharge that does not flow to or is more than one mile from a proposed cold water habitat. The three permits within one mile of the proposed cold water habitat designation could be required to adopt additional BMPs if they are necessary to protect the cold water habitat. In addition, if these five permittees do not have a waiver from benchmark monitoring, the stormwater intervention limit value will change from 100 to 65 mg/L. If additional BMPs are needed to protect these waters there could be costs to the permittee. However, the likelihood of the need for such BMPs or their associated costs is speculative.
5. **Other:** This category of permit includes one permitted discharger located upstream of a proposed cold water habitat stream section. This facility is a fish hatchery that currently discharges directly to an existing cold water habitat stream section. The proposed cold water habitat reach is downstream of this existing cold water habitat. Since this permit currently discharges directly to a cold water habitat, the MPCA does not expect any adverse impact or cost to the discharger as a result of this proposed cold water habitat designation.

The result of this analysis indicates that there are not any existing MPCA-permitted discharger that are likely to require additional treatment or incur additional costs. Some permits may have additional costs associated with the protection of cold water habitats. However, in many cases these waters have already been designated by the MDNR and any potential costs are extant. Overall, there are unlikely to be permittees that will be impacted in order to protect the 38 water bodies this rulemaking is proposing to designate as cold water habitat.

### **iii. Non-point sources of pollution**

The proposed use designations could expand the MPCA's regulatory authority over a small number of non-point pollution sources. For example, activities that require a NPDES/SDS Construction Stormwater General Permit could be impacted by this rulemaking because cold water habitats are "special waters" as defined in the general permit (S-53). Dependent upon the type of construction activities and proximity to the water body, the permittee may be required to implement additional BMPs.

## **D. Warm and cool water aquatic life and habitat**

Warm and cool water habitats (Classes 2Bd, 2Bde, 2Bdg, 2Bdm, 2B, 2Be, 2Bg, 2Bm) support the propagation and maintenance of a healthy community of cool or warm water aquatic biota and their habitats. The proposed warm and cool water habitat designations are based on a demonstration that this designation is the existing use. The designation of a warm/cool water habitat carries with it some changes in the standards applied to these waters. The biological criteria change because different IBI models are used to assess the condition of fish and macroinvertebrate assemblages. However, the biological criteria for warm and cool water habitats cannot be considered more or less stringent than the biological criteria for cold water habitats. In other words, the General Use biological criteria can be considered equivalent in terms of biological condition and are both consistent with the CWA interim goal. However, a small subset of chemical and physical standards are less stringent in warm and cool water habitats compared to cold water habitats including: ammonia, dissolved oxygen, nitrate, total suspended solids, and some metals. As a result, the proposed warm and cool water designations are not expected to incur costs and may instead result in cost savings by applying appropriate goals and water quality management actions.

### **i. Minnesota citizens**

Through payment of taxes, Minnesota citizens support public water management efforts at the local, county, and state levels. Water management authorities can prioritize their efforts better with more precise stream classifications. The warm and cool water habitat designation recognizes the natural habitat type which can support the natural aquatic biota adapted to waterbodies with thermal regimes largely driven by surface water and shallow subsurface water. When appropriate, these designations set attainable goals that reflect the natural condition of these systems. Establishing realistic goals for water bodies that reflect natural conditions and existing uses allows water management entities to most effectively direct resources among all waters under their authority. This results in greater economic and environmental returns.

### **ii. Permitted dischargers**

Dischargers to waters designated as warm and cool water habitat are held to equivalent biological goals consistent with the CWA interim goal. In addition, many of the same non-biological standards that apply to cold water habitats apply to warm and cool water habitats. All discharges will be required to meet Class 2B and 2Bdg chemical and physical standards and will incur the costs that are associated with meeting those standards. Since no chemical and physical standards are more stringent for Classes 2B and 2Bd compared to Class 2A, no permits that discharge to or upstream of a proposed cool/warm water habitat will incur costs as a result of their receiving water being designated as cool/warm water habitat.

However, designation of a stream as a cool/warm habitat may result in savings to some dischargers if the water body was previously designated as a cold water habitat as some chemical/physical standards are less stringent for cool/warm habitats. Savings may also result from the more accurate characterization of the attainability of the aquatic life use. For example, a more accurate designation of

a water body as cool/warm habitat may mean it is not listed as impaired. This is important because the use review determined that cold water habitat was not an existing use and it was not attainable. If the water body is not listed as impaired, a discharger will not be subject to the conditions of a TMDL study that would have been required for a stream listed as impaired. Dischargers would benefit by not incurring costs associated with their involvement in reviews to determine if their discharge is causing or contributing to the impairment.

### **iii. Non-point sources of pollution**

The cool/warm habitat designation does not increase the MPCA's regulatory authority over non-point pollution sources. Therefore, there are no direct impacts or costs to entities responsible for non-point discharges to cool/warm water streams. However, there may be some cost savings compared to the current designation. Currently these waters are held to cold water biological goals which were determined to result in unattainable goals for these water bodies. In addition, some chemical and physical standards would be less stringent. In some circumstances, the application of inappropriate goals and standards could lead to recommendations for additional BMPs that will not be effective in creating cold water habitats in these water bodies. By designating these streams as warm/cool water, attainable biological goals will be established so that BMPs can be implemented in a manner that actually provides for improved water quality. The result of this is better outcomes for protection and restoration of water quality in these waters and better deployment of limited water quality management resources.

## **9. Authors, witnesses, and SONAR exhibits**

### **A. Authors**

The lead scientist and primary author of this SONAR is R. William Bouchard, Jr., Ph.D., Research Scientist, MPCA.

### **B. Witnesses**

The MPCA anticipates that if a hearing is held on the proposed rules the following persons will testify as witnesses in support of the need for and reasonableness of the rules.

1. Lead Scientist, R. William Bouchard, Jr., Ph.D., Research Scientist, MPCA. Dr. Bouchard is the primary author of the SONAR and lead scientist in the rule amendment development. Dr. Bouchard will testify on the rule amendment and SONAR.
1. Legal Counsel, Jean Coleman, MPCA. Ms. Coleman is Legal Counsel to the MPCA for this rule. She will introduce the required jurisdictional documents into the record.
2. Rule Coordinator, Mary H. Lynn, MPCA. Ms. Lynn is a contributing author of the SONAR and is the project coordinator. She will testify on any Minnesota Administrative Procedures Act process-related questions.

### **C. SONAR exhibits**

- S-1. **Minn. R. 7050.0150, Determination of water quality, biological and physical conditions, and compliance with standards (2017)**
- S-2. **Minn. R. 7050.0140, Use classifications for Waters of the State (2017)**

- S-3. Minn. R. 7050.0400, Beneficial use classifications for surface waters; scope (2008)
- S-4. Minn. R. 7050.0470, Classifications for surface waters in major drainage basins (2017)
- S-5. MPCA (2018a) Guidance Manual for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment: 305(b) Report and 303(d) List, 2018 Assessment and Listing Cycle. Minnesota Pollution Control Agency, St. Paul, MN.
- S-6. Gerritsen J., L. Zheng, E. Leppo & C. O. Yoder (2012) Calibration of the biological condition gradient for streams of Minnesota. Prepared for the Minnesota Pollution Control Agency, St. Paul, MN.
- S-7. Gerritsen J., R. W. Bouchard Jr, L. Zheng, E. W. Leppo & C. O. Yoder (2017) Calibration of the biological condition gradient in Minnesota streams: a quantitative expert-based decision system. *Freshwater Science* 36: 427-451.
- S-8. Karr J.R. & D.R. Dudley (1981) Ecological perspective on water quality goals. *Environmental Management* 5: 55-68.
- S-9. Frey D. G. (1977) Biological integrity of water—an historical approach. In: *The integrity of water. Proceedings of a symposium. US Environmental Protection Agency. Washington, DC, USA* pp. 127-140.
- S-10. EPA (2016) A Practitioner’s Guide to the Biological Condition Gradient: A Framework to Describe Incremental Change in Aquatic Ecosystems. EPA 820-R-13-001. U.S. Environmental Protection Agency, Washington, DC.
- S-11. Minn. R. 7050.0255, Definitions (2016)
- S-12. Minn. R. 7050.0218, For toxic pollutants: definitions and methods for determination of human health-based numeric standards and site-specific numeric criteria for aquatic life, human health, and fish-eating wildlife (2017)
- S-13. Minn. R. 7050.0170, Natural water quality (2016)
- S-14. 40 CFR § 130.7, Total maximum daily loads (TMDL) and individual water quality-based effluent limitations (1985, as amended)
- S-15. Minn. R. 7050.0420, Trout waters (2016)
- S-16. 40 CFR § 131.10, Designation of uses (2015) (1983, as amended)
- S-17. Midwest Biodiversity Institute (2012) Framework and implementation recommendations for tiered aquatic life uses: Minnesota rivers and streams. Center for Applied Bioassessment and Biocriteria, Midwest Biodiversity Institute, Columbus, OH.
- S-18. 40 CFR § 131.3, Definitions (1983, as amended)
- S-19. State of Minnesota (2017) State Register, 16 October 2017. Volume 42, Number 16. pp. 441-451.
- S-20. Adler R. (1995) Filling the gaps in water quality standards: legal perspectives on biocriteria. In: *Biological Assessment and Criteria: Tools for Water Resource Planning and Decision Making. Lewis Publishers, Boca Raton, FL* (eds W. S. Davis & T. P. Simon) pp. 345-358. Lewis, Boca Raton, FL.
- S-21. EPA (2002) Summary of Biological Assessment Programs and Biocriteria Development for States, Tribes, Territories, and Interstate Commissions: Streams and Wadeable Rivers. U.S.

Environmental Protection Agency, Office of Environmental Information and Office of Water, Washington D.C.

- S-22. EPA (2013) Biological assessment program review: Assessing level of technical rigor to support water quality management. EPA 820-R-13-001. Office of Science and Technology, Washington, DC.
- S-23. EPA (2011) A primer on using biological assessment to support water quality management. EPA 810-R-11-01. Office of Science and Technology, Office of Water, Washington, DC.
- S-24. Federal Water Pollution Control Act, 33 U.S.C. § 1313 (CWA section 303) (1972, as amended)
- S-25. Minn. Stat. § 115.03, Powers and duties (1945, as amended)
- S-26. Minn. Stat. § 115.44, Classification of waters; standards of quality and purity (1963, as amended)
- S-27. Minn. R. 7050.0430, Unlisted waters (2017)
- S-28. Minn. Stat. § 115.01, Definitions (1945, as amended)
- S-29. MPCA (2016) The use of the Tiered Aquatic Life Use (TALU) framework to designate beneficial uses for drainage ditches and altered watercourses. Minnesota Pollution Control Agency, St. Paul, MN.
- S-30. Minn. R. 7050.0222, Specific water quality standards for Class 2 Waters of the State; aquatic life and recreation (2018)
- S-31. State of Minnesota (2016) Statement of Need and Reasonableness: In the Matter of proposed revisions of Minnesota Rules, chapters 7050 and 7052, relating to Tiered Aquatic Life Uses (TALU) and modification of Class 2 beneficial use designations. December 15, 2016. pp. 99 (+ Appendices).
- S-32. MPCA (2019a) Updates to aquatic life (Class 2) use designations (+ appendices a-h). Minnesota Pollution Control Agency, St. Paul, MN.
- S-33. Minn. R. 6264.0050, Restrictions on designated trout lakes and streams (2018)
- S-34. Yoder C.O. & M.T. Barbour. (2009) Critical technical elements of state bioassessment programs: a process to evaluate program rigor and comparability. *Environmental Monitoring and Assessment* 150: 31-42.
- S-35. Midwest Biodiversity Institute (2004) Region V state bioassessment and ambient monitoring programs: initial evaluation and review (revised 2004). Report to U.S. EPA, Region V, Technical Report, Columbus, OH.
- S-36. Midwest Biodiversity Institute (2015) Refining State Water Quality Monitoring Programs and Aquatic Life Uses: Evaluation of the Minnesota PCA Bioassessment Program. Midwest Biodiversity Institute, Columbus, OH.
- S-37. MPCA (2015a) Technical guidance for designating aquatic life uses in Minnesota streams and rivers. Minnesota Pollution Control Agency, St. Paul, MN.
- S-38. State of Minnesota (2008a) State Register, 19 May 2008. Volume 32, Number 47. p. 2051.
- S-39. State of Minnesota (2008b) State Register, 20 October 2008. Volume 33, Number 16. pp. 708-712.
- S-40. State of Minnesota (2018) State Register, 30 April 2018. Volume 42, Number 44. pp. 1298-1341.

- S-41. **MPCA (2019b) Proposed Minn. R. 7050.0420 amendments.**
- S-42. **Comments received in response to the Request for Comments on Planned Amendments to Rules Governing Water Quality Standards - Use Classifications 2 and 7.**
- S-43. **MPCA (2018b) Request for Comments on Planned Amendments to Rules Governing Water Quality Standards – Use Classifications 2 and 7, Minnesota Rules chapter 7050, Revisor’s ID Number R-04561, September 24, 2018.**
- S-44. **MPCA (2015b) Statement of Need and Reasonableness in the matter of proposed revisions of Minnesota Rules ch.7050, relating to nondegradation and minor supporting changes to Minnesota Rules chs. 7052 and 7001, Minnesota Pollution Control Agency, St. Paul, MN.**
- S-45. **40 CFR § 131.12, Antidegradation policy (1983, as amended)**
- S-46. **40 CFR § 130.23, How do you develop and document your methodology for considering and evaluating all existing and readily available data and information to develop your list? (2002, as amended)**
- S-47. **Minn. R. 7050.0219, Human health-based criteria and standards (2017)**
- S-48. **Minn. R. 7050.0265, Antidegradation standards when changes in existing water quality are reasonably quantifiable (2017)**
- S-49. **Minn. R. 7050.0270, Antidegradation standards when changes in existing water quality are not reasonably quantifiable (2017)**
- S-50. **Ohio EPA (2017) Proposed rule – beneficial use designations: November 2017. Ohio EPA Division of Surface Water, Columbus, OH.**
- S-51. **Fletcher A. & Z. Christin (2015) The value of nature’s benefits in the St. Louis River watershed. Earth Economics, Tacoma, WA.**
- S-52. **Anderson, D. (2016) Economic impact of recreational trout angling in the Driftless Area. Trout Unlimited Driftless Area Restoration Effort.**
- S-53. **MPCA (2018c) Authorization to discharge stormwater associated with construction activity under the national pollutant discharge elimination system (NPDES)/state disposal system (SDS) program. Minnesota Pollution Control Agency, St. Paul, MN.**
- S-54. **Minn. Stat. § 103E, Drainage (2017)**
- S-55. **Drake M. & R. Valley. (2005) Validation and application of a fish-based index of biotic integrity for small central Minnesota lakes. North American Journal of Fisheries Management 25: 1095-1111.**
- S-56. **MPCA (2019c) Beneficial Use Designation Tables for Stream Reaches. Minnesota Pollution Control Agency, St. Paul, MN.**



## 10. Conclusion

The MPCA has established the need for and the reasonableness of the proposed amendments to Minn. R. ch. 7050 in this SONAR. The MPCA has also in this SONAR documented its compliance with all applicable administrative rulemaking requirements of Minnesota statutes and rules.

Based on the foregoing, the proposed amendments are both needed and reasonable.



7/19/19

Date

Laura Bishop, Commissioner  
Minnesota Pollution Control Agency