

**EPA'S REVIEW OF REVISIONS TO
MINNESOTA'S WATER QUALITY STANDARDS:
TIERED AQUATIC LIFE USES AND BIOLOGICAL CRITERIA
(Minn. R. ch. 7050 and 7052)¹
Adopted October 16, 2017**

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¹ This submission is also documented and all electronic files are maintained in the Region 5 Water Quality Standards Tracking System (WQSTS) as submission number: MN2017-773. The proposed rules are documented as submission number: MN2008-290.

EXECUTIVE SUMMARY

Minnesota adopted revisions to their water quality standards rules on October 16, 2017, and submitted them to EPA Region 5 for approval with a letter dated December 16, 2017. These revisions pertain to the State's rules governing water quality: Minnesota Rules, Chapter 7050 (Water Quality Standards for Protection of Waters of the State) and 7052 (Lake Superior Basin Water Standards) and specifically pertain to rules relating to Tiered Aquatic Life Uses (TALU) and modification of Class 2 beneficial use designations and associated numeric biological criteria (biocriteria). Minnesota's existing system of aquatic life (Class 2) beneficial uses assigns each water body a use class (e.g., Class 2A) based on the fundamental type of the water and aquatic life community supported (e.g., cold water aquatic biota). The adopted rules revise this existing system by adding an additional subclass designator within each use class based on a tiered system that reflects whether or not the water is impacted by some form of essentially permanent human disturbance that limits its biological potential.

Section II of this document describes EPA's analysis and determination that the revised WQS are consistent with the Clean Water Act (CWA) and implementing regulations at 40 CFR 131. EPA therefore approves the creation of the new Class 2 aquatic life subclasses (Exceptional, General, and Modified) to establish the TALU framework as well as the associated numeric biocriteria. Except for 141 waterbodies, the adopted revisions assign a default General Use to all waters where the level of protection is equivalent to the existing non-tiered Class 2 beneficial use. For 141 waterbodies in 12 watersheds, Exceptional or Modified Use designations were assigned and approved by EPA. These individual waterbodies are described in detail in Section II. As described in Section III, EPA determines that approving the adopted revisions to Minnesota's WQS would have no effect on threatened and endangered species or their critical habitat under the Endangered Species Act. Finally, Section IV describes the consultation conducted with the potentially impacted tribes in Minnesota.

I. DESCRIPTION OF RULE REVISIONS AND STATE SUBMITTAL

A. Introduction

Minnesota adopted revisions to their water quality standards rules on October 16, 2017 and submitted them to EPA Region 5 for approval with a letter dated December 16, 2017. The submission package included a letter from the Minnesota Pollution Control Agency (MPCA) Legal Counsel certifying that the standards were duly adopted pursuant to State law. Receipt of the revised standards on January 2, 2018 initiated EPA's review pursuant to section 303(c) of the CWA. These revisions pertain to the State's rules governing water quality: Minnesota Rules, Chapter 7050 standards for protection of waters of the state and those that apply within the Lake Superior Basin (ch. 7052) and specifically pertain to rules relating to TALU and modification of Class 2 beneficial use designations and associated numeric biocriteria.

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 are subdivided into cold water (Class 2A) and warm/cool water (Classes 2B and 2C) habitats. Under the existing rules, all Class 2 streams within a subclass are held to the same chemical, physical, and biological protection and restoration goals. The TALU framework further classifies streams into subcategories or “tiers” based on the biological condition that is attainable and establishes associated numeric biocriteria that are tailored to assess and manage these aquatic life use goals.

B. Description of the rule revisions

Minnesota’s WQS in Minn. R. chs. 7050 and 7052 include methods and pollutant-specific numeric standards to protect the beneficial (aka designated) uses of surface waters specific to human health: drinking water, fish consumption, and recreation.² The adopted amendments incorporate the TALU framework requirements into Minn. R. ch. 7050, identify specific streams as Modified or Exceptional Use in Minn. R. ch. 7050, remove references to Class 2C in Minn. R. ch. 7050, make minor changes to Minn. R. ch. 7052 to remove references to Class 2C, make water classification reference lists more accessible, and in both chapters make minor administrative changes.

The adopted amendments:

1. Incorporated subcategories or tiers in aquatic life beneficial use (Class 2) classification to address the diversity of aquatic resources in Minnesota. Class 2 aquatic life beneficial uses were refined by the addition of Exceptional, General, and Modified TALU tiers to the base Class 2 designation.
 - a. **Exceptional Use:** Exceptional Use streams are those that are closest to natural or undisturbed conditions.
 - b. **General Use:** The General Use maintains the current default aquatic life use goal.
 - c. **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) that limit the biological potential of affected streams. These limitations are related to poor habitat and not chemical pollutants. Consistent with 40 CFR 131.10(g), this use and the associated biological criteria establish the highest attainable use for waters so classified.
2. Improved standards by incorporating numeric biological criteria directly into rule. Numeric biological criteria stratified by stream class and TALU tier were added to Minn. R. 7050.0222 to better clarify the biological expectations for Minnesota’s streams.
3. Created more clarity in rule by documenting the methods used to establish biological conditions and biological criteria.
4. 141 stream reaches were reclassified based on 2012 and 2013 Intensive Watershed

2 Class 2 surface waters include aquatic life protection as another beneficial use; therefore, toxic pollutants are also evaluated for their acute and chronic effects to aquatic organisms. In the Lake Superior basin, fish-eating wildlife are also considered when developing a chronic standard. MPCA’s methods for toxic pollutants address toxicity to all these populations of interest; the final, most stringent criterion are identified as being either aquatic toxicity-, human health-, or wildlife-based (Minn. R. 7050.0218, 7050.0222 and 7052.0100).

Monitoring efforts in 14 watersheds.

5. Eliminated redundancy by removal of the Class 2C designation and all waters classified as 2C were moved to 2B.
6. Made reference lists more complete, understandable, and readily updated than is currently available. Replaced the list in Minn. R. 7050.0470 with a series of more comprehensive documents that are incorporated into the rules by reference. The incorporated documents provide data for all waters of the State and provide electronic access to extensive information, including TALU classification.

C. Rule development and submittal history

Outreach to the public for developing the rules proposal began in January 2009. At that time, five informational meetings were held around the state to let stakeholders know that the MPCA was interested in pursuing use of TALU and obtaining feedback. In February and March 2009 additional meetings were held with different sectors that would be potentially impacted by the TALU framework. In June 2013 the MPCA held a webcast informational meeting concerning a document that described an implementation framework for the TALU rule.

On August 25, 2014, the MPCA published its Request for Comments (RFC) in the State Register. On August 25, 2014, the MPCA also notified interested parties who are subscribed to the TALU Rulemaking GovDelivery list of the RFC. As of December 15, 2016, there were nearly 2,100 subscribers to that list. On August 25, 2014, the MPCA posted the RFC on its Public Notices webpage at <https://www.pca.state.mn.us/public-notice>. On August 25, 2014, the MPCA posted and published a "plain language" version of the RFC, together with an explanatory "TALU Concept Plan," on the MPCA's TALU webpage at <https://www.pca.state.mn.us/water/tiered-aquatic-life-use-talu-framework>.

On December 19, 2016, the MPCA published the *Statement of Need and Reasonableness* (SONAR), the Dual Public Notice, and the proposed rules in the State Register. On December 19, 2016, the MPCA e-mailed the SONAR, its Dual Notice, and the proposed rules to all persons subscribed to the GovDelivery TALU rulemaking list, tribal authorities and designated contact persons of Minnesota's tribal communities, Minnesota Soil and Water Conservation Districts, and Minnesota Watershed Districts. As of December 19, 2016, there were no persons registered to receive MPCA rulemaking notices via U.S. Mail. On December 19, 2016, the MPCA mailed a copy of the Dual Notice, the SONAR, and the proposed rule amendments to legislators who were chairs and ranking minority party members of the legislative policy and budget committees with jurisdiction over the subject matter in the proposed rule amendments, and the Legislative Coordinating Commission. On December 19, 2016, the MPCA sent an e-mail to each Minnesota city mayor and county chairperson whose information was obtained from lists purchased from the League of Minnesota Cities and the Association of Minnesota Counties. The e-mails included a hyperlink to the MPCA's Dual Notice, the SONAR, and the proposed rule amendments. A mailing list purchased from the Association of Minnesota Townships was used to send the same information to each township clerk.

In its December 19, 2016 notifications, the MPCA requested comments on the proposed rules be submitted by 4:30 p.m. on February 2, 2017, 45 days later. By February 3, 2017, the MPCA had received individual comments from 16 people or organizations. The MPCA also received two sets of letters from individuals, each set with identical content. More than 25 people requested a hearing. On February 3, 2017, a Notice of Hearing was sent to all persons who had requested a hearing. At least 32 people attended the hearing, nine provided verbal questions and comments and four provided written comments. During the 5-day open rebuttal period immediately following the close of the 45-day comment period, the MPCA and one individual filed a reply to previously submitted comments.

1. State Consideration and Response to Public Comments

All comment letters and verbal comments made during public hearings were included in the State's submittal package (see Appendix A). These comments were summarized in a post-hearing response to public comments document that included the MPCA's responses to the comments. The comments generally fit into one of the following categories:

- A. Comments supporting adoption of the proposed amendments, TALU framework, or concepts underlying the TALU framework
- B. Comments related to designated use list and format
- C. Comments related to the documentation of the science supporting the proposed amendments
- D. Comments suggesting clarifications to proposed rule language
- E. Comments related to adoption of documents by reference
- F. Comments related generally to use attainability analysis (UAA) implementation
- G. Comments related to application of Index of Biotic Integrity (IBI) models, biological criteria, and UAA tools
- H. Comments related to the proposed Modified Use provisions
- I. Comments related to specific proposed use designations or the beneficial use tables
- J. Comments related to the proposed UAA process for designating Exceptional Uses
- K. Comments related to economic analysis, cost of compliance, and cost of implementation
- L. Comments related to public participation

EPA reviewed and considered all of the public comments and MPCA's responses in deciding whether the adopted WQS rule revisions are consistent with the CWA and federal regulations at 40 CFR 131.10.

D. Documents included in the submittal

On January 2, 2018, EPA received the formal request for approval of the subject rules from the MPCA. This submittal, dated December 14, 2017, included the certification from an MPCA attorney that the amended State WQS rules were duly adopted pursuant to the Minnesota Administrative Procedures Act. The submission included numerous documents following the requirements of 40 CFR 131.6 that are itemized in Appendix A.

E. Data and rationale submitted by the State in support of the WQS rule revision

The MPCA's authority to adopt water quality standards and to classify waters of the state is found in Minn. Stat. §115.03 (2006), particularly subdivisions 1(b) and 1(c). Subdivision 1(b) authorizes the Agency to classify waters, while subdivision 1(c) authorizes the MPCA 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..." Additional authority for adopting standards is established under Minn. Stat. §115.44, subd. 2 and 4. Under these statutory provisions, the MPCA has the necessary authority to adopt WQS rules.

The primary documents in support of the rule revisions include: the associated *Statement of Need and Reasonableness* (SONAR) (MPCA 2016), List of Minor Errors in the TALU SONAR (MPCA 2017), and *Technical Guidance for Reviewing and Designating Tiered Aquatic Life Uses in Minnesota Streams and Rivers – Draft* (MPCA 2015). These document reference numerous exhibits that were also submitted (see Appendix A). The revisions made to aquatic life uses and the new numeric biocriteria are based on available and reliable scientific data and information as described in the technical guidance, primarily from scientific literature and MPCA studies. The following four documents are directly referenced in Minn. R. ch. 7050.0222:

Calibration of the Biological Condition Gradient for Streams of Minnesota, Gerritsen et al. (2012). The document is available on the agency's Web site at www.pca.state.mn.us/regulations/minnesota-rulemaking;

Fish Data Collection Protocols for Lotic Waters in Minnesota, Minnesota Pollution Control Agency (2017). The document is available on the agency's Web site at www.pca.state.mn.us/regulations/minnesota-rulemaking;

Macroinvertebrate Data Collection Protocols for Lotic Waters in Minnesota, Minnesota Pollution Control Agency (2017). The document is available on the agency's Web site at www.pca.state.mn.us/regulations/minnesota-rulemaking; and

Development of Biological Criteria for Tiered Aquatic Life Uses, Minnesota Pollution Control Agency (2016). The document is available on the agency's Web site at www.pca.state.mn.us/regulations/minnesota-rulemaking.

The biocriteria for Minnesota streams are based on data collected over a 15-year period (1996-2010) from more than 2,800 sampling sites. The dataset includes not only biological data (i.e., fish and macroinvertebrates), but chemical, physical, and land use data that were integral to developing protective goals for Minnesota streams.

To translate biological data into a form that can be used to determine attainment of aquatic life use goals in assessments, the MPCA uses indices of biological integrity or IBIs to measure biological condition. IBIs are the most common analytical tools in the United States used to measure the condition of aquatic communities. The formal development of IBIs in Minnesota began in the 1990s. During this period, the biomonitoring program was expanded and the

collection of more data allowed development of watershed specific IBIs in the 1990s and early 2000s (e.g., Bailey et al. 1993, Niemela et al. 1999, Niemela & Feist 2000, Niemela & Feist 2002, Chirhart 2003, Genet & Chirart 2004). Using these new refined IBIs, the MPCA developed class-specific biocriteria based on robust reference datasets. This effort resulted in nine different IBIs for each biological assemblage which are tailored to different ecological regions and waterbody types in Minnesota.

A more detailed description of these IBIs and their development can be found in MPCA (2014a, b, c).

The adopted numeric biocriteria can be found in the following rule subparts:

- 7050.0222, subp. 2d. Biological criteria for lotic cold water stream and river aquatic life and habitats (Class 2A).
- 7050.0222, subp. 3d. Biological criteria for lotic warm or cool water stream and river aquatic life and habitats (Class 2Bd).
- 7050.0222, subp. 4d. Biological criteria for lotic warm or cool water stream and river aquatic life and habitats (Class 2B).

The MPCA used a multiple lines of evidence approach that relied most heavily on Reference Conditions and the Biological Condition Gradient (BCG). The Reference Condition is the long-standing approach for setting biocriteria and follows EPA guidance (USEPA 1990). The MPCA determined that the Reference Condition approach alone was not sufficient for setting accurate TALU numeric biocriteria that reflect Minnesota's aquatic life use goals. As a result, both methods were used together to strengthen Minnesota's approach to setting biocriteria. A comparison of the biological thresholds developed using each method demonstrated that the results were similar which resulted in greater confidence in the biocriteria. The MPCA's technical guidance (MPCA 2015) provides details on the development of these approaches and how they were used together to develop Exceptional, General, and Modified Use biocriteria for Minnesota streams.

The BCG was integral to the biocriteria development process as was the reference condition approach (MPCA 2014a, Bouchard, et al. 2016). Other states have used the BCG or similar concepts to develop biocriteria (e.g., Maine; USEPA 2011, USEPA 2016). Application of the new tools and data resulted in biocriteria for three tiers of aquatic life use protection that are consistent with biological condition narratives for all stream classes. By linking the biocriteria to the BCG, Minnesota can provide narrative descriptors to the biological criteria developed for Minnesota Streams. These are as follows:

Exceptional Use: *Minimal to evident changes in structure due to loss of some rare native taxa; shifts in relative abundance; ecosystem level functions fully maintained.* (BCG Levels 2 and 3)

General Use: *Overall balanced distribution of all expected major groups; ecosystem functions largely maintained through redundant attributes.* (BCG Level 4)

Modified Use: *Sensitive taxa markedly diminished; conspicuously unbalanced distribution of major taxonomic groups; ecosystem function shows reduced complexity and redundancy.* (BCG Level 5)

Biocriteria for the Exceptional Use were developed using reference sites and BCG models (MPCA 2014a, Bouchard, et al. 2016). The 75th percentile of IBI scores was used as the baseline for Minnesota streams. However, some stream types had too few reference sites to effectively and accurately be used to develop Exceptional Use biocriteria. As a result, it was determined that the 75th percentile of IBI scores for BCG Level 3 was most similar to the 75th percentile of IBI scores for reference sites. There were sufficient numbers of BCG Level 3 sites for all stream types so this statistic was used to determine the biocriteria for the Exceptional Use. As a result, these biocriteria are linked to both the reference condition and the BCG and provide a consistent and protective goal for high quality streams across the state of Minnesota.

Aquatic life goals or biological criteria for Modified Uses are determined using a set of “reference” channelized water bodies (MPCA 2014a, Bouchard et al. 2016). This process involves the selection of ditches or channelized water bodies with appropriate buffers (i.e., 1 rod or 16.5 feet) and without obvious dissolved oxygen or eutrophication stressors. The use of reference water bodies establishes biological criteria that are attainable for these water bodies when appropriate best management practices (BMPs) are used. Although the selection of water bodies for a Modified reference condition used ditches estimated to have appropriate buffers, this does not preclude the use of other BMPs to achieve similar results. There is considerable diversity in the physical structure and hydrology in these systems which will require different approaches for protecting or restoring these waters to meet at least Modified Use goals.

Modified Use biological criteria are not included in the proposed amendments to Minn. R. 7050 for:

- fish and macroinvertebrates in large rivers;
- fish and macroinvertebrates in cold water streams; and
- macroinvertebrates in northern high gradient streams.

Modified Use goals for these stream types are not included because channelized or altered waters in these water-body types are uncommon and because the MPCA has found that altered waters in these stream types often attain at least the current aquatic life use goals (i.e., General Use biological criteria).

The BCG was relied on more heavily for certain streams to establish biocriteria. While there is still a need to choose an impairment threshold along the BCG the decision is informed by aligning known ecological endpoints (i.e. BCG levels) with Minnesota’s aquatic life use goal narratives. To do this, classes with a sufficiently large reference site sample size (i.e., northern and statewide classes) were used to determine the relationship between the Reference Condition and BCG level threshold that could be applied to the other classes to determine thresholds (Gerritsen et al. 2012). Finally, the biocriteria for all stream classes were based on statistics derived from the BCG to ensure consistency for goals across stream classes and across the state. Despite limitations of the Reference Condition for some classes, these two approaches largely identified similar thresholds that provided better confidence in the final biocriteria. When the General Use biocriteria are not met by one or both biological assemblages, a detailed analysis is performed using data collected for the Minnesota Stream Habitat Assessment role or MSHA

(MPCA 2014d) and any other additional data that may be available. The MSHA is discussed in the TALU supporting technical guidance (MPCA, 2015; Midwest Biodiversity Institute, 2016).

II. EPA's REVIEW FOR CONSISTENCY WITH THE CWA AND FEDERAL REGULATIONS

WQS requirements of CWA Sections 101(a)(2) and 303(c)(2) are implemented through federal regulations contained in 40 CFR 131. WQS requirements of CWA Section 118, specific to waters of the Great Lakes System, are implemented through federal regulations in 40 CFR 132. Consistent with federal regulations at 40 CFR 131.21, new or revised WQS do not become effective for CWA purposes until they are approved by EPA. The criteria by which EPA evaluates State-adopted WQS are identified in 40 CFR 131.5(a)(1) through 40 CFR 131.5(a)(8); EPA discusses each of these criteria below. Because the use designations included in this rule package do not revise Minnesota's existing antidegradation policy or its implementation, grant any WQS variances, or affect Minnesota's compliance schedule provisions, the WQS requirements in 40 CFR 131.5(a)(3), (4) and (5) are not relevant in considering whether to approve Minnesota's use designations.

A. Whether the State has adopted designated water uses that are consistent with the requirements of the Clean Water Act (40 CFR 131.5(a)(1)).

Section 101(a)(2) of the CWA 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."*

Section 303(c)(2)(A) of the CWA requires states to establish water quality standards for their waters, taking into consideration the use of waters for "propagation of fish and wildlife" among other uses. The federal regulations at 40 CFR 131.10 govern designation of uses for surface waters. With respect to the uses specified in Section 101(a)(2) of the CWA (hereafter collectively referred to as "101(a)(2) uses"), states must adopt uses consistent with those specified in Section 101(a)(2) of the CWA or demonstrate why attaining these uses is not feasible through a UAA (40 CFR 131.10(g)).

Minnesota's existing system of aquatic life (Class 2) beneficial uses assigns each water body a use subclass (e.g., Class 2A) based on the fundamental type of the water (e.g., cold water aquatic biota). The adopted rules revise this existing system by adding an additional designator within each use subclass based on a tiered system that reflects whether or not the water is impacted by some form of permanent or long-term human disturbance that limits its biological potential.

- Exceptional Use ("e") – Minimal to evident changes in structure due to loss of some rare native taxa; shifts in relative abundance; ecosystem level functions fully maintained (BCG Levels 2 and 3).
- General Use ("g") – Overall balanced distribution of all expected major groups; ecosystem functions largely maintained through redundant attributes (BCG Level 4).
- Modified Use ("m") – Sensitive taxa markedly diminished; conspicuously unbalanced

distribution of major taxonomic groups; ecosystem function shows reduced complexity and redundancy (BCG Level 5).

The Exceptional and General uses are intended to be consistent with Section 101(a)(2) goals of the CWA for the protection and propagation of fish, shellfish and wildlife (SONAR p. 42). "The Exceptional Use goal is consistent with the CWA objective to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." (33 U.S.C. § 1313 (a)-(c)). The General Use goal is equivalent to the CWA interim goal which is described as: "...water quality that provides for the protection and propagation of fish, shellfish, and wildlife." (SEC. 101(a)(2) [33 U.S.C. § 1251]).

MPCA also explained that the Modified Use goal does not fully meet the CWA interim goal and requires a UAA as described in Section 2.D.v. of the SONAR. This goal includes biological assemblages with reduced taxonomic complexity and ecosystem function in comparison to the expected biological condition for General Use waters. However, this condition accurately describes the consequence of practices that create and maintain stream channels to promote drainage at the expense of stream habitat complexity. Despite the limitations imposed by drainage activities, physically altered streams can and do provide habitat for aquatic life. Therefore, goals for these water bodies should be consistent with what is attainable with appropriate landscape and riparian management. (MPCA 2016b, pg 42). MPCA also explained that the Modified Use is assigned to waters where long-term anthropogenic disturbance limits the attainable biological community and are therefore unable to fully support the uses specified in Section 101(a)(2) of the CWA. The Modified Use designation is reserved for those streams that have been the subject of a UAA, "where it is determined that attainment of the General Use beneficial use is not feasible because of human-induced modifications of the physical habitat. These modifications are the result of direct alteration to the channel, such as drainageway maintenance, bank stabilization, and impoundments" (Minn. R. 7050.0222 Subps. 2d, 3d and 4d).

The Minnesota TALU framework utilizes a UAA process that is driven primarily by biological condition as measured through analytical tools using data obtained from their biological monitoring program. Establishing a Modified Use tier in Minnesota complies with CWA provisions that allow for the establishment of subcategories of the major uses when existing uses are maintained (40 CFR § 131.10(c)). In accordance with the CWA, the MPCA performs a UAA to determine that the water body cannot meet the General Use. For a water body to be designated as Modified Use the UAA must find that:

1. One or both biological assemblages do not meet the General Use goals;
2. The physical habitat structure is limiting the attainment of the General Use aquatic life goals;
3. The physical habitat has been directly altered by legal human activities (e.g., channelization, drainage maintenance, impoundment);
4. The modified attributes cannot be reversed with proven restoration designs, or 40 CFR § 131.10(g)(3) or (4) applies, or natural recovery to General Use conditions is not likely in the near-term; and
5. The activity is consistent with existing use provisions (40 CFR § 131.3(e)).

The SONAR and other MPCA documentation such as the Technical Guidance (MPCA 2015) describe this process in more detail (see the Figure 3 flowchart that summarizes the steps and is reproduced below).

Except for the 141 waterbodies discussed below, the adopted revisions assign a default General Use to all waters. As discussed in the SONAR (p. 13-14) and below, the narrative and numeric criteria for the General Use designation are the same as for the existing non-tiered Class 2 designated use and EPA approves these changes from Class 2 to General Use.

For 141 waterbodies in 12 watersheds, MPCA reviewed the designated uses for selected waters and designated the Exceptional or Modified Use for numerous stream segments. These changes are detailed in Tables 2 through 13 and summarized in [Table 1](#) below.

Table 1 Summary of Use Changes by Watershed (HUC 8)

Watershed (HUC 8)	2B → 2Bm	2C → 2Bm	2A → 2Ae	2B → 2Be	Total
South Fork Crow River	33	2	0	0	35
Zumbro River	7	0	0	0	7
Red Lake River	6	1	0	0	7
Grand Marais Creek	3	0	0	0	3
Lake of the Woods	1	0	0	0	1
Lake Superior - North	0	0	28	0	28
Mississippi River - Headwaters	1	0	0	1	2
Rum River	4	2	0	0	6
Minnesota River - Mankato	30	0	0	0	30
Watonwan River	11	2	0	0	13
Snake River	5	0	0	0	5
Two Rivers	4	0	0	0	4
Total	105	7	28	1	141

EPA reviewed each individual use change in this rule package (see Appendix A of SONAR) by following the above designation procedures, as discussed below. EPA's approval determinations for each individual stream segment are presented in Tables 1 through 13.

1. Designated use changes to Minnesota surface waters requiring a UAA

Summary of Minnesota's WQS revisions:

As part of this rulemaking, Minnesota has designated 112 waters as Modified Use (Class 2Bm)³. For each of these stream segments, MPCA evaluated the physical habitat and submitted documentation that habitat limitations resulting from historic channel modification and ongoing

³ For seven of these waters, the adopted rules also revise the use class from 2C to 2Bm. The discussion in this section applies only to the designation of the Modified Use to these waters. Table 14 below (Minn. R. ch. 7050.0222, subp. 4) provides EPA's review of the re-designation from Class 2C to Class 2B.

drainage maintenance prevent attainment of the General Use biocriteria. When the General Use biocriteria are not met by one or both biological assemblages, a detailed analysis is performed using data collected for the MSHA (MPCA 2014d) and any other additional data that may be available. The MSHA is discussed in the TALU supporting technical guidance (MPCA, 2015; Midwest Biodiversity Institute, 2016). Consistent with Minnesota's proposed rules at R. 7050.0222 Subps. 2d, 3d and 4d, in designating waters as Modified Use, MPCA determined that, "attainment of the [General Use] beneficial use is not feasible because of human-induced modifications of the physical habitat. These modifications must be the result of direct alteration to the channel, such as drainageway maintenance, bank stabilization, and impoundments." On page 29, the SONAR describes the process followed by MPCA to assign a water to the Modified Use:

"...if the habitat is limited by legal, human activities (e.g., maintained for drainage under Minn. Stat. § 103E) then a determination of whether or not the altered habitat can be restored or is likely to recover on its own in five years is needed. If the water body can be restored or will recover on its own, then the water body would be designated General Use. If there are no feasible options for restoration or recovery, a review is needed to determine if the human-caused physical habitat alterations (e.g., channel maintenance activities) are preventing attainment of the General Use. If the limiting habitat is not the result of legal human activities, then the water body would be designated General Use. If human-caused conditions or modifications preclude the attainment of the beneficial use (i.e., either 40 CFR 131.10(g)(3) or (4)) apply, then a review is required to determine if the General Use was attained on or after November 28, 1975. If the General Use was attained on or after this date, it is an existing use that must be maintained. If the General Use is not an existing use, then the water body is a candidate for a Modified Use."

Consistent with this process and Minnesota's proposed rules R. 7050.0222 Subps. 2d, 3d and 4d, waters proposed for Modified Use are those for which MPCA has concluded that General Use is not an existing use as defined at 40 CFR 131.3(e) and it is not feasible to attain the biological community quality described by the biological criteria for General Use due to physical modifications of the surface water to alter the hydrology, either for drainage (channelization) or water storage (impoundment).

Federal requirements regarding designation of aquatic life uses

Section 101(a)(2) of the CWA 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. [emphasis added]

As specified at 40 CFR 131.10(j), a UAA is required whenever:

- (1) The State designates for the first time, or has previously designated for a water body, uses that do not include the uses specified in section 101(a)(2) of the Act; or

(2) The State wishes to remove a designated use that is specified in section 101(a)(2) of the Act, to remove a sub-category of such a use, or to designate a sub-category of such a use that requires criteria less stringent than previously applicable.

Per 40 CFR 131.10(g), if a State adopts a new or revised WQS based on a required UAA, the State must adopt the highest attainable use.

Consistent with this, the federal regulations at 40 CFR 131.10(g) describe what is necessary to document that the uses described in section 101(a)(2) of the CWA are not attainable for a given surface water. These are:

- that the use in question is not an existing use as defined in 40 CFR 131.3 and
- that it is not feasible to attain the use or uses based on at least one of the six reasons specified in 40 CFR 131.10(g)(1) – (6).

These 40 CFR 131.10(g) factors are excerpted below:

- (1) Naturally occurring pollutant concentrations prevent the attainment of the use; or
- (2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or
- (3) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
- (4) Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or
- (5) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or
- (6) Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact.

Minnesota's designation of Modified Use for the surface waters identified in Minnesota's revised water quality standards is consistent with the CWA and federal regulations and is approvable by EPA if the supporting documentation demonstrates that Minnesota's General Use aquatic life use is neither an existing use of the constructed channel, as defined at 40 CFR 131.3(e), nor is it feasible to attain per 40 CFR 131.10(g)(4).

Minnesota's demonstration that General Use is not an existing use for any of the waters that Minnesota proposes to designate as Modified Use

As described in the SONAR on page 29 and in figure 2-3 on page 30, Minnesota's use attainability analysis process includes consideration of whether a water attained General Use on or after November 28, 1975:

"If human-caused conditions or modifications preclude the attainment of the beneficial use (i.e., either 40 CFR 131.10(g)(3) or (4)) apply), then a review is required to determine if the General Use was attained on or after November 28, 1975. If the General Use was attained on or after this date, it is an existing use that must be maintained. If the General Use is not an existing use, then the water body is a candidate for a Modified Use."

The MPCA's technical guidance (MPCA 2015) describes in detail the process used by MPCA to assign tiered aquatic life uses to rivers and streams in Minnesota; Section 3.1.9 addresses the consideration of existing uses.

Following a determination that the reach cannot be restored, available information should be used to determine if the modifications occurred on or after November 28, 1975. This review will most likely be performed using historical aerial imagery. Presently, there are limited digital versions of these photos available, so this review may not be possible at this time. However, the USGS Historical Topographic Map Explorer does include many maps that can help to narrow down the modification date (<http://historicalmaps.arcgis.com/usgs/>). Other records such as ditch liens can also be used to determine the date of ditching; however, this information is largely available in hard copy from the county in which the ditch is located. If it is determined that the activity is not consistent with existing use the activity would need to be reviewed and the appropriate use would need to be determined. For example, a stream reach that was channelized after November 28, 1975, would not be eligible for a Modified Use and in most cases would be designated General Use.

If a review indicates that the channel was ditched before November 28, 1975, then the reach can be recommended for a Modified Use designation. If **both** biological assemblages meet the Modified Use biocriteria then the recommendation at the station level could be Modified Use. This process is similar to that described for General Use assessment (see Section 3.2).

Additionally, MPCA evaluated the biological communities in these streams and submitted documentation that these stream segments do not currently attain and have not attained in the past (at a minimum on or after the WQS existing use regulatory date of November 28, 1975) any of the aquatic life uses that meet Section 101(a)(2) of the CWA. Consequently, there are no available data (including historic aerial photography) indicating that the General Use has been attained in these stream segments in the past such that the General Use is an existing use (as defined in 40 CFR 131.3(e) and as required under 40 CFR 131.10(h)(1)).

MPCA has met EPA's expectation that in designating aquatic life uses, states should consider the available biological data as an indicator of both water quality and the actual use, in conjunction with any available chemical water quality data. Where data may be limited or inconclusive, EPA expects states to consider the quantity, quality and reliability of the different types of available data to describe the existing use as accurately and completely as possible and to resolve any apparent discrepancies based upon that evaluation⁴. Based on this discussion and the discussion in the SONAR described above, EPA concludes that General Use is not an existing use for the waters that Minnesota is proposing to designate as Modified Use, consistent with the requirements of 40 CFR 131.10(g), and where General Use was attained, General Use is retained as the designated aquatic life use even if that use is not currently attained.

Minnesota's demonstration that it is infeasible for the waters designated Modified Use to attain General Use

As discussed in the SONAR and MPCA's technical guidance (MPCA 2015) (see Figure 3, excerpted below) Minnesota's process for assigning the Modified Use begins with the observation that the aquatic community of a given water does not meet expectations as articulated by Minnesota's biocriteria. Minnesota next looks at the habitat data for the site to determine if habitat is a possible explanation for the observed biological performance and whether the habitat limitations at the site are a result of anthropogenic activities such as impoundment or channelization. If yes, the next step in the assessment process is to evaluate the potential for active restoration or natural recovery. Only if this evaluation determines that restoration or recovery are not feasible does Minnesota proceed to consider assigning Modified Use to the water based on either 40 CFR 131.10(g)(3) or (4).

As discussed in MPCA's technical guidance (MPCA 2015), current restoration technologies were considered such that:

Under current technologies, the ability to construct multiuse drainage ways (i.e., channels that provide drainage and protect aquatic life) has not been fully demonstrated – especially on a large scale. As a result, most maintained drainage ways are not presently restorable without a huge investment with uncertain results. However, in some cases short reaches (e.g., <0.25 miles) that are part of a largely unmodified stream system may be considered restorable using current technologies (e.g., re-meandering, 2-stage ditches).

Thus, Minnesota has demonstrated that it is not currently feasible to restore channelized streams unless the extent of the alteration is limited in scale. Minnesota's process (MPCA 2015) is intended to be used at the Assessment Unit or Water ID (WID) level and "should not result in many small (e.g., <0.25 miles) reaches with different uses. Instead the purpose of this review is to characterize and recommend the overall use for larger reaches." Consistent with this, none of the 112 waters designated as Modified Use are small reaches that would be considered to be restorable based on Minnesota's demonstration. The MPCA further states that the potential for restoration for these 112 waters may be re-evaluated based on technological advances: "as

⁴ from September 5, 2008 letter from Denise Keehner, Director Standards and Health Protection Division, USEPA to Derek Smithee, Oklahoma Water Resources Board.

channel restoration technology improves it will become feasible to restore larger sections and complexes of altered channels. Over time this will alter the threshold for this decision step.” Any new information regarding the potential for restoration of these waters would also need to be considered every three years as part of Minnesota’s triennial review, as required under 40 CFR 131.20(a).

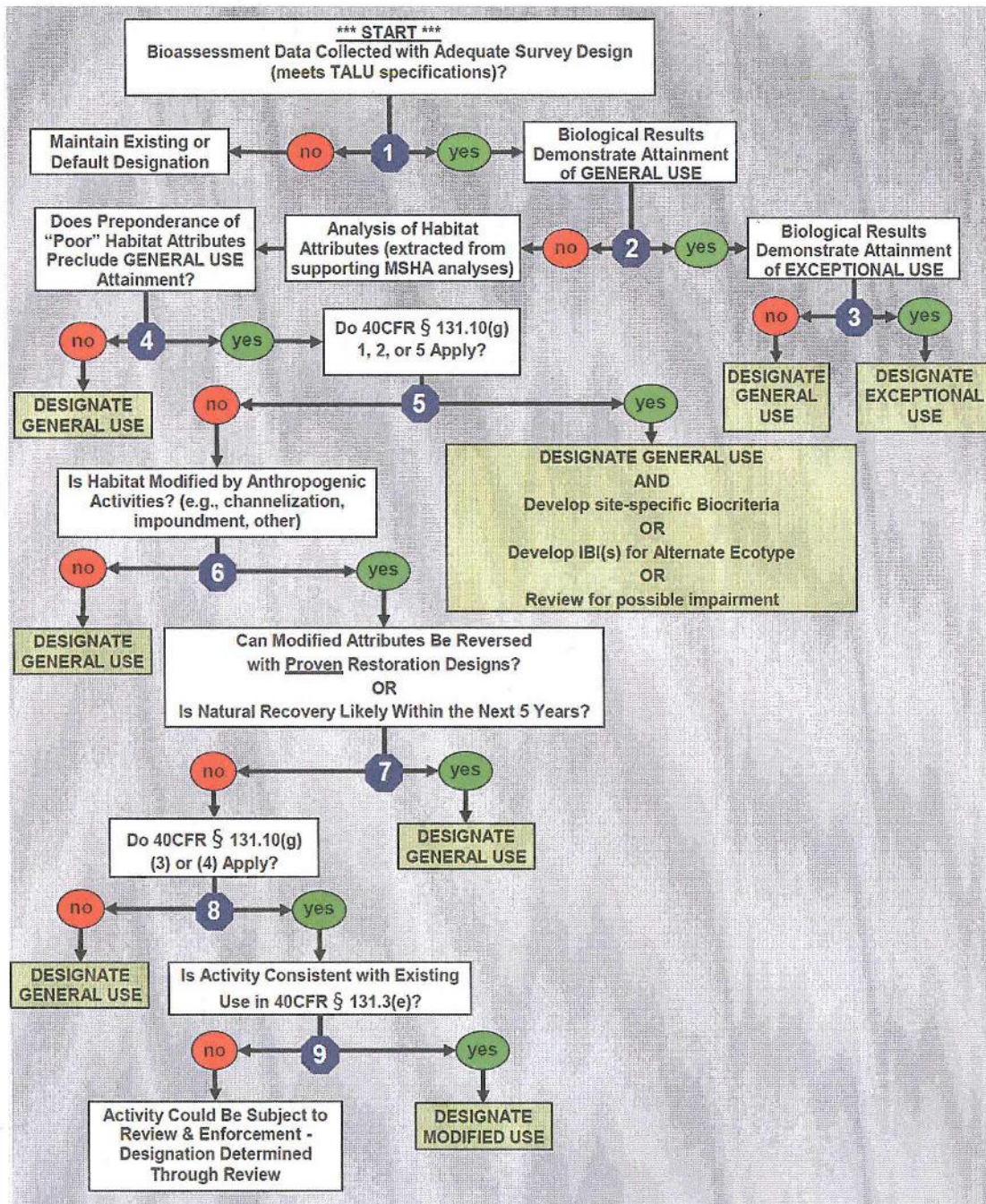


Figure 2-3. Process for using biological assessments to make use designation decisions within a TALU framework in Minnesota (see S-63).

As Figure 2-3 from the SONAR illustrates and as summarized in the SONAR (MPCA 2016a, p. 29) and other supporting materials, Minnesota's process identifies either 40 CFR 131.10(g)(3), "Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place," or either 40 CFR 131.10(g)(4), "Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use," as the basis for why it is not feasible for the waters Minnesota designated as Modified Use to attain the biological criteria associated with General Use. Consistent with this, Appendix A of the SONAR identifies 40 CFR 131.10(g)(3) as the applicable factor for the 112 waters designated as Modified Use. However, in the 3/17/2016 Detailed Response to Comments document, MPCA reconsidered this factor:

In reviewing this consideration it was determined that in Hearing Exhibit D (i.e., the SONAR) in Appendix A, the reason stated for designating the Modified Use was incorrect. In Hearing Exhibit D (SONAR), 40 CFR 131.10(g) (3) is used, however, because these assessments are based on habitat limitation it is more appropriate to use 40 CFR 131.10(g) (4) ("Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use;").

MPCA subsequently amended Appendix A of the SONAR to revise the cited factor for all 112 Modified Use waters from 40 CFR 131.10(g)(3) to 40 CFR 131.10(g)(4). EPA agrees that channelization and drainage maintenance are the causes of the habitat quality that limits biological performance and renders Minnesota's General Use unattainable for these streams and therefore it is appropriate to identify 40 CFR 131.10(g)(4) as the basis for these use changes.

For each of these segments, MPCA submitted documentation that the stream segments currently attain or have the potential to attain the Modified Use and designated Class 2Bm as the highest attainable use, consistent with 40 CFR 131.10(g). Consequently, EPA concludes that these 112 use designations are consistent with the CWA and federal regulations at 40 CFR 131.10.

2. Designated use changes not requiring a UAA

As described at 40 CFR 131.10(k), a UAA is not required when:

- (1) The State designates for the first time, or has previously designated for a water body, uses that include the uses specified in section 101(a)(2) of the Act; or
- (2) The State designates a sub-category of a use specified in section 101(a)(2) of the Act that requires criteria at least as stringent as previously applicable; or
- (3) The State wishes to remove or revise a designated use that is a non-101(a)(2) use. In

this instance, as required by paragraph (a) of this section, the State must submit documentation justifying how its consideration of the use and value of water for those uses listed in paragraph (a) appropriately supports the State's action, which may be satisfied through a use attainability analysis.

As summarized in Table 1 above, Minnesota designated 29 stream segments with an aquatic life use designation that meets Section 101(a)(2) of the CWA (Exceptional Use) and requires criteria at least as stringent as previously applicable. Per 40 CFR 131.10(k)(1) and (2), a UAA is not required for these designations. For each of these 29 designations, MPCA evaluated the biological communities and physical habitat in these streams and, as described in the documentation listed in Appendix A, determined that the biological communities currently attain an Exceptional Use aquatic life tier and/or the physical habitat is capable of supporting an Exceptional Use aquatic life tier. Based on the considerations above, EPA concludes that for these 29 stream segments, Minnesota designated an aquatic life use consistent with Section 101(a)(2) of the CWA based on the information currently available. Consequently, EPA concludes that these 29 use designations are consistent with the CWA and federal regulations at 40 CFR 131.10.

As part of this rulemaking, Minnesota also eliminated the Class 2C use and redesignated all Class 2C waters as Class 2B. As discussed on pp. 48-49 of the SONAR, the Class 2C use was “nearly identical” to the Class 2B use with only the daily maximum temperature criterion differing between the two use classes (86°F for Class 2B versus 90°F for Class 2C). The designation of Class 2C versus Class 2B does not affect the criteria applicable to any water body except to apply more stringent daily maximum temperature to the water body that was formerly a Class 2C water. Further, when a higher temperature criterion may be appropriate, the MPCA can derive a site-specific temperature criterion. Because these use designations do not change whether or not the State has designated an aquatic life use consistent with Section 101(a)(2) of the CWA and requires criteria at least as stringent as previously applicable, EPA concludes that these changes are consistent with the CWA and federal regulations at 40 CFR 131.10.

Table 2. Aquatic life use designation revisions for the South Fork Crow River watershed (HUC 07010205), submitted by MPCA on December 14, 2017, and EPA’s CWA determinations.

Waterbody Name	AUID	Change	CWA Determination
Buffalo Creek	07010205-502	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Judicial Ditch 67	07010205-504	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Judicial Ditch 29	07010205-506	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].

Waterbody Name	AUID	Change	CWA Determination
Judicial Ditch 15	07010205-509	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Creek	07010205-529	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Creek	07010205-533	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Belle Creek	07010205-549	2C → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Judicial Ditch 18	07010205-550	2C → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 23	07010205-555	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Judicial Ditch 1	07010205-571	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Creek	07010205-585	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Judicial Ditch 8	07010205-591	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Ditch	07010205-592	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Big Kandiyohei Channel	07010205-607	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
State Ditch Branch 2	07010205-608	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 18	07010205-609	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].

Waterbody Name	AUID	Change	CWA Determination
County Ditch 24A	07010205-610	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Ditch	07010205-612	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
King Creek	07010205-613	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Creek	07010205-614	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Creek	07010205-615	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
McCuen Creek	07010205-616	2B → 2Bm	Approve. Fish do not meet General Use biocriteria. Macroinvertebrates narrowly met the General Use biocriteria but the individual metrics indicate that the macroinvertebrate community is composed of tolerant taxa that do not indicate a General Use community. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the stream to its original condition [40 CFR 131.10(g)(4)].
Unnamed Creek	07010205-617	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Judicial Ditch 1	07010205-620	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Creek	07010205-621	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Judicial Ditch 9	07010205-625	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Judicial Ditch 15 Branch	07010205-626	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Judicial Ditch 15 Branch	07010205-627	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].

Waterbody Name	AUID	Change	CWA Determination
Judicial Ditch 15 Branch	07010205-628	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Ditch	07010205-630	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 7A	07010205-631	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 13	07010205-639	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Otter Creek	07010205-642	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 9	07010205-648	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Crow River, South Fork	07010205-658	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].

Table 3. Aquatic life use designation revisions for the Zumbro River watershed (HUC 07040004), submitted by MPCA on December 14, 2017, and EPA's CWA determinations.

Waterbody Name	AUID	Change	CWA Determination
Unnamed Creek	07040004-578	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Trout Brook	07040004-585	2B → 2Bm	Approve. Fish do not meet General Use biocriteria. Macroinvertebrates narrowly met the General Use biocriteria but the individual metrics indicate that the macroinvertebrate community is composed of tolerant taxa that do not indicate a General Use community. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the stream to its original condition [40 CFR 131.10(g)(4)].
Unnamed Creek	07040004-633	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].

Waterbody Name	AUID	Change	CWA Determination
Judicial Ditch 7	07040004-966	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Zumbro River, North Fork	07040004-970	2B → 2Bm	Approve. Macroinvertebrates do not meet General Use biocriteria. Fish met the General Use biocriterion but, according to the Zumbro River Watershed Monitoring and Assessment Report, the fish IBI score was artificially high due to fish travelling from the downstream segment and, thus, the IBI score does not reflect the fish community that the stream actually supports. UAA indicates that poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the stream to its original condition [40 CFR 131.10(g)(4)].
Judicial Ditch 1	07040004-987	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Dodge Center Creek	07040004-988	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].

Table 4. Aquatic life use designation revisions for the Red Lake River watershed (HUC 09020303), submitted by MPCA on December 14, 2017, and EPA's CWA determinations.

Waterbody Name	AUID	Change	CWA Determination
Pennington County Ditch 76	09020303-505	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Ditch	09020303-545	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Judicial Ditch 60	09020303-546	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 43	09020303-547	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Creek (County Ditch 53)	09020303-549	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Burnham Creek	09020303-551	2C → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].

Waterbody Name	AUID	Change	CWA Determination
Black River	09020303-557	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].

Table 5. Aquatic life use designation revisions for the Grand Marais Creek watershed (HUC 09020306), submitted by MPCA on December 14, 2017, and EPA's CWA determinations.

Waterbody Name	AUID	Change	CWA Determination
County Ditch 2	09020306-515	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 43 (Judicial Ditch 75)	09020306-517	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Judicial Ditch 75	09020306-520	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition, the poor habitat condition cannot be remedied [40 CFR 131.10(g)(4)].

Table 6. Aquatic life use designation revisions for the Lake of the Woods watershed (HUC 09030009), submitted by MPCA on December 14, 2017, and EPA's CWA determinations.

Waterbody Name	AUID	Change	CWA Determination
County Ditch 20	09030009-560	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition the poor habitat condition cannot be remedied [40 CFR 131.10(g)(4)].

Table 7. Aquatic life use designation revisions for the Lake Superior – North watershed (HUC 04010101), submitted by MPCA on December 14, 2017, and EPA's CWA determinations.

Waterbody Name	AUID	Change	CWA Determination
Cross River	04010101-518	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Greenwood River	04010101-528	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Irish Creek	04010101-531	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Kimball Creek	04010101-532	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Manitou River	04010101-534	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].

Waterbody Name	AUID	Change	CWA Determination
Mistletoe Creek	04010101-536	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Two Island River	04010101-547	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Little Devil Track River	04010101-566	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Heartbreak Creek	04010101-569	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Houghtaling Creek	04010101-571	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Caribou River	04010101-573	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Caribou River	04010101-575	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Crown Creek	04010101-581	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Cascade River	04010101-590	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Bluff Creek	04010101-646	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Elbow Creek	04010101-717	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Wanless Creek	04010101-783	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Lullaby Creek	04010101-814	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Manitou River, South Branch	04010101-827	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Sixmile Creek	04010101-B35	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Swamp River	04010101-B66	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Baptism River, West Branch	04010101-D50	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Kadunce River (Kadunce Creek)	04010101-D53	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Portage Brook	04010101-D55	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Temperance River	04010101-D56	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Baptism River, East Branch	04010101-D58	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Woods Creek	04010101-D61	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].
Devil Track River	04010101-D79	2A → 2Ae	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].

Table 8. Aquatic life use designation revisions for the Mississippi River – Headwaters watershed (HUC 07010101), submitted by MPCA on December 14, 2017, and EPA’s CWA determinations.

Waterbody Name	AUID	Change	CWA Determination
Unnamed Ditch	07010101-747	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition, the poor habitat condition cannot be remedied [40 CFR 131.10(g)(4)].
Schoolcraft River	07010101-751	2B → 2Be	Approve. Meets CWA requirements [101(a)(2) and 40 CFR 131.10(a)].

Table 9. Aquatic life use designation revisions for the Rum River watershed (HUC 07010207), submitted by MPCA on December 14, 2017, and EPA’s CWA determinations.

Waterbody Name	AUID	Change	CWA Determination
County Ditch 4	07010207-534	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 4	07010207-535	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Ditch	07010207-587	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Washburn Brook	07010207-641	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Tibbetts Brook	07010207-676	2C → 2Bm	Approve. Fish do not meet General Use biocriteria. Macroinvertebrates narrowly met the General Use biocriteria but the individual metrics indicate that the macroinvertebrate community is composed of tolerant taxa that do not indicate a General Use community. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the stream to its original condition [40 CFR 131.10(g)(4)].
Prairie Brook	07010207-684	2C → 2Bm	Approve. Fish do not meet General Use biocriteria and no macroinvertebrate data was available. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].

Table 10. Aquatic life use designation revisions for the Minnesota River – Mankato watershed (HUC 07020007), submitted by MPCA on December 14, 2017, and EPA's CWA determinations.

Waterbody Name	AUID	Change	CWA Determination
County Ditch 3	07020007-525	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Minneopa Creek	07020007-531	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 27	07020007-535	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Cherry Creek	07020007-541	2B → 2Bm	Approve. Fish do not meet General Use biocriteria. Macroinvertebrates met the General Use biocriteria but the individual metrics indicate that the macroinvertebrate community is composed of tolerant taxa that do not indicate a General Use community. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the stream to its original condition [40 CFR 131.10(g)(4)].
County Ditch 4/County Ditch 39	07020007-545	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Creek	07020007-548	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 56 (Lake Crystal Inlet)	07020007-557	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Judicial Ditch 48	07020007-593	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 52	07020007-636	2B → 2Bm	Approve. Macroinvertebrates do not meet General Use biocriteria. Fish met the biocriterion in two of three biological surveys but MPCA speculates that the IBI score may be artificially inflated because of proximity to a downstream river. Additionally, the specific taxa found in the segment are widespread and intermediately to highly tolerant and, thus, do not indicate a General Use community. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the stream to its original condition [40 CFR 131.10(g)(4)].

Waterbody Name	AUID	Change	CWA Determination
Unnamed Creek (County Ditch 11)	07020007-646	2B → 2Bm	Approve. Macroinvertebrates do not meet General Use biocriteria. Fish met the biocriterion but the specific taxa found in the segment are widespread and largely intermediately to highly tolerant. None of the taxa are associated exclusively with low disturbance/high quality habitat sites and most of the fish found in the segment are widespread and intermediately to highly tolerant. Thus, the fish score does not indicate a General Use community. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the stream to its original condition [40 CFR 131.10(g)(4)].
County Ditch 28-1	07020007-656	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 11	07020007-657	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 11	07020007-661	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 115	07020007-664	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 100	07020007-665	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Judicial Ditch 8	07020007-666	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 105	07020007-667	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 124	07020007-670	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 22	07020007-671	2B → 2Bm	Approve. Macroinvertebrates do not meet General Use biocriteria. Fish narrowly met the biocriterion but individual metrics indicate that the fish community is composed of tolerant taxa that do not indicate a General Use community. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the stream to its original condition [40 CFR 131.10(g)(4)].
County Ditch 115	07020007-673	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].

Waterbody Name	AUID	Change	CWA Determination
County Ditch 46A	07020007-678	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Altermatts Creek	07020007-681	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Little Rock Creek (Judicial Ditch 31)	07020007-686	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 106A (Fort Ridgley Creek)	07020007-688	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Shanaska Creek	07020007-692	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Creek	07020007-696	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Wabasha Creek	07020007-699	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Judicial Ditch 10	07020007-701	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 124	07020007-711	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Judicial Ditch 13	07020007-716	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].

Table 11. Aquatic life use designation revisions for the Watonwan River watershed (HUC 07020010), submitted by MPCA on December 14, 2017, and EPA's CWA determinations.

Waterbody Name	AUID	Change	CWA Determination
Unnamed Creek (Mountain Lake Inlet)	07020010-505	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].

Waterbody Name	AUID	Change	CWA Determination
Unnamed Creek	07020010-526	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Ditch	07020010-545	2B → 2Bm	Approve. Fish do not meet General Use biocriteria. Macroinvertebrates met the General Use biocriteria but the individual metrics indicate that the macroinvertebrate community is composed of tolerant taxa that do not indicate a General Use community. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the stream to its original condition [40 CFR 131.10(g)(4)].
Unnamed Creek	07020010-552	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
County Ditch 1	07020010-553	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Creek	07020010-555	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Watonwan River, North Fork	07020010-565	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Watonwan River	07020010-567	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Watonwan River, South Fork	07020010-569	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Spring Branch Creek	07020010-574	2C → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
St James Creek	07020010-576	2C → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Judicial Ditch 1	07020010-580	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Creek	07020010-584	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].

Table 12. Aquatic life use designation revisions for the Snake River watershed (HUC 09020309), submitted by MPCA on December 14, 2017, and EPA's CWA determinations.

Waterbody Name	AUID	Change	CWA Determination
Unnamed Ditch	09020309-515	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Ditch	09020309-518	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Ditch	09020309-529	2B → 2Bm	Approve. Macroinvertebrates do not meet General Use biocriteria. Fish met the biocriterion but the overall abundance was low and none of the specific taxa found in the segment are associated exclusively with low disturbance/high quality habitat sites. Most of the fish found in the segment are widespread and intermediately to highly tolerant. Thus, the fish score does not indicate a General Use community. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the stream to its original condition [40 CFR 131.10(g)(4)].
Middle River	09020309-538	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Middle River	09020309-541	2B → 2Bm	Approve. Macroinvertebrates do not meet General Use biocriteria. Fish met the General Use biocriterion but the Snake River Watershed Monitoring and Assessment Report indicates that the fish IBI score was artificially high due to fish travelling from the downstream segment and, thus, the IBI score does not reflect the fish community that the stream actually supports. UAA indicates that poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the stream to its original condition [40 CFR 131.10(g)(4)].

Table 13. Aquatic life use designation revisions for the Two Rivers watershed (HUC 09020312), submitted by MPCA on December 14, 2017, and EPA's CWA determinations.

Waterbody Name	AUID	Change	CWA Determination
Lateral Ditch 4 of State Ditch 91	09020312-515	2B → 2Bm	Approve. Macroinvertebrates do not meet General Use biocriteria. Fish met the biocriterion but none of the specific taxa found in the segment are associated exclusively with low disturbance/high quality habitat sites. Most of the fish found in the segment are widespread and intermediately to highly tolerant. Thus, the fish score does not indicate a General Use community. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the stream to its original condition [40 CFR 131.10(g)(4)].

Waterbody Name	AUID	Change	CWA Determination
Lateral Ditch 1 of State Ditch 95	09020312-539	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Ditch (along 210th Ave)	09020312-550	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].
Unnamed Ditch (along 190th Ave)	09020312-551	2B → 2Bm	Approve. Fish and macroinvertebrates do not meet General Use biocriteria. Poor habitat due to channel modification prevents attainment of the use and it is not feasible to restore the water body to its original condition [40 CFR 131.10(g)(4)].

B. Whether the State has adopted the criteria that protect the designated water uses based on sound scientific rationale consistent with 40 CFR 131.11 (40 CFR 131.5(a)(2)).

The tiered aquatic life uses, biological criteria, and use changes for 141 waterbodies that were adopted in this rulemaking do not change any of the chemical or other criteria currently in rule to protect designated uses. The scientific defensibility of the newly adopted numeric biological criteria is described in Sections I.E and II.

C. Whether the State has followed applicable legal procedures for revising or adopting standards (40 CFR 131.5(a)(6)).

In a letter dated December 12, 2017, from Jean L. Coleman, MPCA Attorney, to Robert Kaplan, Jean L. Coleman, MPCA Attorney certified that the amendments were duly adopted pursuant to the Minnesota Administrative Procedures Act. In adopting these rules, the MPCA also provided opportunities for public input as described in Section I.

D. Whether the State standards which do not include the uses specified in section 101(a)(2) of the Act are based on appropriate technical and scientific data and analyses (40 CFR 131.5(a)(7)).

The TALU WQS changes included 112 waterbody use changes to the non-101(a)(2) modified TALU use. These use changes were supported by approvable UAAs as described in Section II.A above.

E. Whether the State submission meets the requirements included in 40 CFR 131.6 of this part and, for Great Lakes States or Great Lakes Tribes (as defined in 40 CFR 132.2) to conform to section 118 of the Act, the requirements of 40 CFR 132 (40 CFR 131.5(a)(8)).

Minnesota's new and revised WQS that are at issue in this decision do not impact the regulations that Minnesota adopted and EPA-approved in accordance with 40 CFR Part 132 and so EPA need not evaluate whether they confirm to section 118 of the CWA and the requirements of 40 CFR 132.

As described below, Minnesota's submission satisfied the minimum requirements of a WQS submission included in 40 CFR 131.6.

1. 40 CFR 131.6(a): Use designations consistent with the provisions of section 101(a)(2) and 303(c)(2) of the Act.

As discussed in Section II.A above, all designated uses adopted in this rule package are consistent with Section 101(a)(2) or were otherwise supported with a UAA consistent with 40 CFR 131.10(j).

2. 40 CFR 131.6(b): Methods used and analyses conducted to support water quality standards revisions

Appendix A lists the supporting documentation provided by MPCA as part of this submittal. As described in the supporting documents, all biological and habitat data used to support these designated use changes were collected and analyzed using MPCA's methodology (MPCA 2015).

The MPCA cites the following documents by reference in the adopted rule amendments.

Calibration of the Biological Condition Gradient for Streams of Minnesota, Gerritsen et al. (2012). The document is available on the agency's Web site at www.pca.state.mn.us/regulations/minnesota-rulemaking;

Fish Data Collection Protocols for Lotic Waters in Minnesota, Minnesota Pollution Control Agency (2017). The document is available on the agency's Web site at www.pca.state.mn.us/regulations/minnesota-rulemaking;

Macroinvertebrate Data Collection Protocols for Lotic Waters in Minnesota, Minnesota Pollution Control Agency (2017). The document is available on the agency's Web site at www.pca.state.mn.us/regulations/minnesota-rulemaking; and

Development of Biological Criteria for Tiered Aquatic Life Uses, Minnesota Pollution Control Agency (2016). The document is available on the agency's Web site at www.pca.state.mn.us/regulations/minnesota-rulemaking.

Over the past several years, EPA worked with the MPCA in the development of their numeric biocriteria, data collection protocols and BCG calibration. These efforts are captured in the above documents and are summarized in Section I.E. above as forming the scientific basis for the new WQS.

3. 40 CFR 131.6(c): Water quality criteria sufficient to protect the designated uses

These rule revisions do not affect Minnesota's existing, EPA-approved and effective

water quality criteria.

4. 40 CFR 131.6(d): An antidegradation policy consistent with 40 CFR 131.12

These rule revisions do not affect Minnesota's existing, EPA-approved and effective antidegradation policy.

5. 40 CFR 131.6(e): Certification by the State Attorney General or other appropriate legal authority within the State that the WQS were duly adopted pursuant to State law

The Minnesota Pollution Control Agency Attorney's Office certified the rules in a letter from Jean L. Coleman, MPCA Attorney dated December 12, 2017.

6. 40 CFR 131.6(f): General information which will aid the Agency in determining the adequacy of the scientific basis of the standards which do not include uses specified in section 101(a)(2) of the Act as well as information on general policies applicable to State standards which may affect their application and implementation

As discussed in Section I.E above, all use designations affecting non-101(a)(2) uses are based on appropriate technical and scientific data and analyses. The data and analysis used to support the use designations adopted in this rule package are listed in Appendix A. The MPCA includes watershed monitoring and assessment reports, stressor identification reports, basin modeling reports with hydrology and sediment and water quality calibrations on their watershed website where additional relevant information is found: <https://www.pca.state.mn.us/water/watersheds>

1. Discussion of public comments made during rulemaking

Minn. Stat. ch. 14 is the state's Administrative Procedures Act (APA) that govern the state's rulemaking process. The state's formal submittal included a letter from the MPCA's Legal Services Unit dated December 12, 2017, that certified that the state had the legal authority to adopt these rules and that they were adopted in accordance with all applicable administrative procedures.

The MPCA received comments that are discussed in Section I.C. The comments were summarized along with the MPCA's responses in a document submitted with these rule amendments (see Appendix A). EPA reviewed the comments and MPCA's responses in deciding whether to approve Minnesota's new and revised water quality standards.

F. Overview summary of all rule revisions and EPA actions

Table 14 provides a comprehensive listing of all rule changes (to Minn. R. chs. 7050 and 7052) and the EPA actions being taken.

Table 14 Comprehensive Listing of Rule Revisions to Minn. R. ch. 7050 and 7052

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
CHAPTER 7050 WATERS OF THE STATE			
Part 7050.0140 USE CLASSIFICATIONS FOR WATERS OF THE STATE			
7050.0140, subp. 3	The amendment changes the description of Class 2 waters by replacing "...fish, other aquatic life..." with "aquatic biota."	This is a reasonable clarification to make this term consistent with other parts of Minnesota rule and CWA guidance. In Minn. R. 7050 a number of different terms are used for what can be defined as aquatic biota. This includes "fish, other aquatic life" (Minn. R. 7050.0140 subp. 3), "fishery and lower aquatic biota upon which it is dependent" (Minn. R. 7050.0150 subp. 3), "fish and other biota" (Minn. R. 7050.0150 subp. 3 and Minn. R. 7050.0150 subp. 6), "fisheries and lower aquatic biota upon which they are dependent" (Minn. R. 7050.0150 subp. 6), "fish and aquatic life" (Minn. R. 7050.0217 subp. 1), "sport or commercial fish and associated aquatic life" (Minn. R. 7050.0222 subps. 2, 3, and 4). This does not change the meaning of the term as it is consistent with the intent described in previous rulemakings. This change unifies the terms "fish" and "other aquatic life" under a single term, which reduces confusion and simplifies the rule.	Approved. Wording change to make definition consistent with new wording used to describe the TALU and biocriteria and in other related guidance and scientific sources. The meaning of the definition is not being changed.
Part 7050.0150 DETERMINATION OF WATER QUALITY, BIOLOGICAL AND PHYSICAL CONDITIONS, AND COMPLIANCE WITH STANDARDS.			

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
7050.0150, subp. 3	The amendment changes the description of Class 2 waters by replacing "fishery and lower aquatic biota upon which it is dependent" with "normal aquatic biota." The term "the fish and other biota" is also proposed to change to "aquatic biota."	This is a reasonable clarification to make this term consistent with other parts of Minnesota rule CWA guidance. This does not change the meaning of the term as it is consistent with the intent described in previous rulemakings. The change of referring only to "aquatic biota" unifies several terms with the same meaning (e.g., "fish and other aquatic life, "normal fishery and lower aquatic biota") under a single term. This reduces confusion and simplifies the rule.	Approved. Wording change to make definition consistent with new wording used to describe the TALU and biocriteria and in other related guidance and scientific sources. The meaning of the definition is not being changed.
7050.0150. subp. 4	<p>The amendments:</p> <ul style="list-style-type: none"> • add new definitions: "Aquatic biota," "Assemblage," "Biological Condition Gradient," "Biological criteria, narrative," "Biocriteria, narrative," "Biological criteria, numeric," "Biocriteria, numeric," "Existing use," "Use attainability analysis," and "Water body type;" • revise existing definitions: "Index of biological integrity," "Normal fishery" and "normally present," and "Reference water body;" and • delete the definition of: "Fish and other biota" and "lower aquatic biota." 	The new definitions and the revised definitions provide supporting information for the proposed tiered aquatic life uses in Minn. R. 7050.0222, subparts 2, 3, and 4. Further discussion of the reasonableness for each new and revised definition is included below.	See specific EPA Action and comment below.

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
7050.0150, subp. 4(C)	<p>New definition: "Aquatic biota"</p> <p><u>"Aquatic biota" means 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.</u></p>	<p>A definition for "Aquatic biota" was added to more accurately reflect Minnesota and federal goals for the protection of aquatic life and create more consistency throughout Minn. R. ch. 7050 by using a single term for several interchangeable terms (e.g., "Fish and other biota" "Lower aquatic biota," "Fish, other aquatic life," "Normal fishery") currently in rule.</p>	<p>Approved. This more general term replaces the use of other related terms used throughout ch. 7050. The meaning of the definition is not being changed but the new term makes the wording used to describe the TALU and biocriteria more consistent with other related guidance and scientific sources..</p>
7050.0150, subp. 4(D)	<p>New definition: "Assemblage"</p> <p><u>"Assemblage" means a taxonomic subset of a biological community such as fish in a stream community.</u></p>	<p>The definition of "Assemblage" is based on the definition in common usage in scientific literature. The definition provides a clarifying example of what is considered to be an assemblage (fish in a stream community) without limiting the application of the term to that example.</p>	<p>Approved. The definition is consistent with the usage of this term in other scientific literature.</p>

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
7050.0150, subp. 4(E)	<p>New definition: "Biological Condition Gradient"</p> <p><u>"Biological condition gradient" means a concept describing how aquatic communities change in response to increasing levels of stressors. In application, the biological condition gradient is an empirical, descriptive model that rates biological communities on a scale from natural to highly degraded.</u></p>	The term "biological condition gradient" is a term of common use in the application of TALU. The proposed definition is based on accepted understanding of the term among water resource professionals.	Approved. The definition is consistent with the usage of this term in other scientific literature.
7050.0150 subp. 4(F)	<p>New definition: "Biological criteria, narrative" or "biocriteria, narrative"</p> <p><u>"Biological criteria, narrative" or "biocriteria, narrative" means 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. The singular form "biological criterion, narrative" or "biocriterion, narrative" may also be used.</u></p>	The terms "narrative biological criteria" and "narrative biocriteria" are commonly used to describe statements defining goals for designated aquatic life uses. The proposed definitions are based on accepted understanding of the terms among water resource professionals.	Approved. The definition is consistent with the usage of this term in scientific literature and EPA guidance (USEPA, 1990, USEPA 2016).

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
7050.0150, subp. 4(G)	<p>New definition: "Biological criteria, numeric"</p> <p><u>"Biological criteria, numeric" or "biocriteria, numeric" means 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. The singular form "biological criterion, numeric" or "biocriterion, numeric" may also be used.</u></p>	<p>The terms "numeric biological criteria" and "numeric biocriteria" are commonly used to describe the quantitative measures defining goals for designated aquatic life uses. The proposed definitions are based on accepted understanding of the terms among water resource professionals.</p>	<p>Approved. The definition is consistent with the usage of this term in scientific literature and EPA guidance (USEPA, 1990, USEPA 2016).</p>
7050.0150, subp 4(I) (former)	<p>Deleted definition: "Fish and other biota and lower aquatic biota"</p> <p>"Fish and other biota" and "lower aquatic biota" mean the aquatic community including, but not limited to, 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, and microscopic organisms. "Other biota" includes aquatic or semiaquatic organisms that depend on aquatic systems for food or habitat such as amphibians and certain wildlife species.</p>	<p>The aquatic community previously defined as "Fish and other biota and lower aquatic biota" will be redefined as "aquatic biota" to more accurately reflect Minnesota and federal goals for the protection of aquatic life. The change to "aquatic biota" also creates consistency throughout Minn. R. ch. 7050 by using a single term for several interchangeable terms currently in rule.</p>	<p>Approved. The removal of this term and definition follows the addition of the term, "aquatic biota" as described above in 7050.0150, subp. 4(C).</p>

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
7050.0150, subp. 4(Q)	<p>Revised definition: "Index of biological integrity"</p> <p>"Index of biotic integrity," "index of biological integrity," or "IBI" means 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.</p>	<p>This definition is only revised to add a new phrase, "index of biotic integrity" which is used interchangeably with "index of biological integrity." It is reasonable to include all variations of the same concept in the definition to avoid confusion.</p>	<p>Approved. Straightforward wording change to make definition consistent with new wording used to describe the TALU and biocriteria.</p>
7050.0150, subp. 4(W)	<p>Revised definition: "Normal fishery" and "normally present"</p> <p>"Normal fishery aquatic biota" and "normally present" mean the fishery and other a healthy aquatic biota community expected to be present in the water body in the absence of pollution of the water, consistent with any variability due to natural hydrological, substrate, habitat, or other physical and chemical characteristics. Expected presence is based on comparing the aquatic community in the water body of interest to the aquatic community in representative reference water bodies.</p>	<p>The definition of "normal fishery" is revised to remove the term "fishery" and replace it with "aquatic biota." The original definition was established in 2003 Minn. Laws ch. 128, § 156, subd. 1 (d), which added definitions to clarify terms used in Minn. R. 7050.0150, subp. 3. This original definition is slightly revised to more accurately reflect Minnesota and federal goals for the protection of aquatic life. The revision also creates more consistency throughout Minn. R. ch. 7050 by synchronizing this term with other similar usages.</p>	<p>Approved. Straightforward wording change to make definition consistent with new wording used to describe the TALU and biocriteria.</p>

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
7050.0150, subp. 4(AA)	<p>Revised definition: "Reference water body"</p> <p>"Reference water body" means a water body <u>minimally or least</u> impacted by point or nonpoint sources of pollution that is representative of water bodies in the same ecoregion or watershed of a <u>similar surface water body type and within a geographic region such as an ecoregion or watershed</u>. Reference water bodies are used as a base for comparing the quality of similar water bodies in the same ecoregion or watershed <u>geographic region</u>.</p>	<p>The definition of "reference water body" is revised to clarify two points. First, the definition is broadened to include consideration of water bodies that are minimally impacted, in addition to "least impacted." In practical application, both terms can reasonably apply to the waters used as reference water bodies.</p> <p>The second revision eliminates the requirement that the reference water body be in the same ecoregion or watershed. Although it is a reasonable assumption that waters within the same ecoregion or watershed will share similar qualities, this is not always the case. It is more important that the water bodies be a similar type than that they be within the same ecoregion. Therefore, the definition is reasonably revised to reflect the most important aspect, the similarity of water body types, and the reference to ecoregion or watershed are provided as examples of where similar water bodies might be located.</p>	<p>Approved. Straightforward wording change to make definition consistent with new wording used to describe the TALU and biocriteria. The definition is consistent with the usage of this term in scientific literature and EPA guidance (USEPA, 1990, USEPA 2016).</p>

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
7050.0150, subp. 4(MM)	<p>New definition: "Use attainability analysis"</p> <p><u>"Use attainability analysis" means a structured scientific assessment of the physical, chemical, biological, and economic factors affecting attainment of the uses of water bodies. A use attainability analysis is required to remove a designated use specified in section 101(a)(2) of the Clean Water Act that is not an existing use. The allowable reasons for removing a designated use are described in Code of federal Regulations, title 40, section 131.10(g).</u></p>	<p>The TALU framework establishes a system for the reclassification of waters, and the basis for reclassification is the "use attainability analysis." It is reasonable to provide a definition based on the general understanding of water resource professionals and the regulatory expectations of the USEPA. The proposed definition clearly identifies what is meant by this important aspect of the TALU framework.</p>	<p>Approved. The definition is consistent with the definition and use of the term found in EPA regulations at 40 CFR 131.3(g) and 131.10(g).</p>
7050.0150, subp.4(OO)	<p>New definition: "Water body type"</p> <p><u>"Water body type" means a group of water bodies with similar natural physical, chemical, and biological attributes, where the characteristics are similar among water bodies within each type and distinct from water bodies of other types.</u></p>	<p>The proposed amendments establishing the biological criteria that are the basis for the TALU framework use the term "water body type" to define groups of water bodies with similar natural attributes. It is reasonable to provide a definition of this new term and to base it on the generally accepted understanding as it is applied in the scientific literature and TALU programs in other states.</p>	<p>Approved. Term used in the establishment of biocriteria in 7050.0222, subps. 2c, 3c, and 4c and subps. 2d, 3d, and 4d. Term based on generally accepted use in scientific literature.</p>

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
7050.0150, subp. 6	<p>The amendment revises the description of how the Commissioner of the Minnesota Pollution Control Agency will evaluate the biological quality used to assess aquatic life goals.</p> <p>E. any other scientifically objective, credible, and supportable factors. A finding of an impaired condition must be supported by data for the factors listed in at least one of items A to C. The biological quality of any given surface water body will be assessed by comparison to the biological conditions determined for by the commissioner using a biological condition gradient model or a set of reference water bodies which best represents the most natural condition for that surface water body water body type within a geographic region.</p>	<p>The revised description of the biological quality used to assess aquatic life goals (i.e., use of the BCG) provides more clarity for the process used to develop biological criteria. The change to this subpart also updates terms to make them more consistent throughout the rules.</p>	<p>Approved. Straightforward wording changed to provide more clarity and make consistent with new wording used to describe the TALU and biocriteria.</p>
7050.0150, subp. 6	<p>The amendment changes the “normal fisheries and lower aquatic biota upon which they are dependent” with “normal aquatic biota.”</p>	<p>The change updates terms to make them more consistent throughout the rules.</p>	<p>Approved. Straightforward wording change to be consistent with new definition and rule text.</p>
Part 7050.0155 PROTECTION OF DOWNSTREAM USES			

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
7050.0155	All waters must maintain a level of <u>water quality that provides for the attainment and maintenance of the water quality standards of downstream waters, including the waters of another state.</u>		Approved. This provision is consistent with the requirements in 40 CFR 131.10(b).
Part 7050.0217 OBJECTIVES FOR PROTECTION OF SURFACE WATERS FROM TOXIC POLLUTANTS.			
7050.0217, subp. 1	The amendment changes "fish and aquatic life" to "aquatic biota."	The change updates terms to make them more consistent throughout the rules.	Approved. Straightforward wording change to be consistent with new definition and rule text.
Part 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.			
7050.0218, subpart 3, item S	The amendment eliminates the definition of "cold water fisheries."	This term is no longer used in the rules and is reasonably deleted from the definitions.	Approved. Straightforward wording change to be consistent with new definition and rule text.
7050.0218, subp. 4(B)	The amendment removes references to fisheries and references to the Class 2C use.	The reasonableness of removing the references to fisheries is discussed above for the changes to Minn. R. 7050.0150, subp. 3. The reasonableness of eliminating references to Class 2C is discussed in Section 5 A. 4. of the SONAR.	Approved. Straightforward wording change to be consistent with new definition and rule text and with the removal of the Class 2C designation as discussed below in 7050.0222, subp. 4.

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
7050.0218, subp. 9(D) (2) and (4)	The amendment removes references to the Class 2C use.	As discussed for the changes to Minn. R. 7050.0222, subp. 5, Class 2C has become outdated with the development of better aquatic life measurement tools. The proposed repeal of Class 2C will simplify Minnesota's aquatic uses by removing a Class that is not needed.	Approved. Straightforward wording change to be consistent with new definition and rule text and with the removal of the Class 2C designation as discussed below in 7050.0222, subp. 4.
7050.0218, subp. 10(A)	The amendment removes references to the Class 2C use.	As discussed for the changes to Minn. R. 7050.0222, subp. 5, Class 2C has become outdated with the development of better aquatic life measurement tools. The proposed repeal of Class 2C will simplify Minnesota's aquatic uses by removing a Class that is not needed.	Approved. Straightforward wording change to be consistent with new definition and rule text and with the removal of the Class 2C designation as discussed below in 7050.0222, subp. 4.
Part 7050.0219 HUMAN HEALTH-BASED CRITERIA AND STANDARDS.			
7050.0219, subp. 11	The amendment eliminates the phrase "for cold-water aquatic communities."	This term is no longer used in the proposed rules and is reasonably deleted.	Approved. Minor editorial change that eliminate an unused term.
Part 7050.0220 SPECIFIC WATER QUALITY STANDARDS BY ASSOCIATED USE CLASSES.			

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
7050.0220, subps. 1, 3a, 4a, 5a	The amendment updates the designated use narratives to include "aquatic life and habitat."	The updated language better reflects federal and Minnesota aquatic life use goals. As currently written, the rule implies that aquatic life use goals include only the protection of sport fish. Other parts of existing State rule clearly state that Minnesota's aquatic life use goals are more comprehensive (Minn. R. 7050.0150, subp. 6, 7050.0222, subps. 2, 3, 4, and 6). This change also reflects federal goals: <i>"The fact that sport or commercial fish are not present does not mean that the water may not be supporting an aquatic life protection function. An existing aquatic community composed entirely of invertebrates and plants, such as may be found in a pristine tributary alpine stream, should be protected whether or not such a stream supports a fishery. Even though the shorthand expression 'fishable/swimmable' is often used, the actual objective of the Act is to restore the chemical, physical and biological integrity of our Nation's waters (Section 101(a)(2)). The term 'aquatic life' would more accurately reflect the protection of the aquatic community that was intended in Section 101(a)(2) of the Act."</i>	Approved. Language changes to aquatic life use description to be more inclusive and better reflect use goals and to be consistent with the new TALU designations.
7050.0220, subps. 1, 3a, 4a, 5a	The amendments add identifiers for the subclasses of tiered aquatic life uses ("e," "g," and "m") to all references to Class 2.	The addition of the tiered aquatic life use identifiers is reasonable to reflect the changes to beneficial uses in Minn. R. 7050.0222, subps. 2, 3, and 4.	Approved. Editorial addition to reflect new TALU designations.

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
7050.0220, subp. 5a	The amendments delete the temperature standard relating to the Class 2C use.	The reasonableness of eliminating references to Class 2C, and the temperature standard language relating to Class 2C, reflects the repeal of the category of Class 2C beneficial uses in Minn. R. 7050.0222, subp. 5, and is discussed in Paragraph 5 A. 4. of the SONAR..	Approved. With the removal of the Class 2C designation, removal of the temperature standard is no longer needed.

7050.0220, subp. 6a(C)	The amendment clarifies but does not change the existing dissolved oxygen standard for Class 7 waters.	<p>The sentence structure of the current rule is confusing and does not clearly convey the MPCA's intent that the requirements are cumulative and not a choice of options. The existing standard could be misinterpreted to mean that the dissolved oxygen standard requires either the avoidance of odors/putrid conditions or maintaining a 1 milligram/L daily average. However, the MPCA's discussion of this standard in the SONAR developed when it was proposed, clarifies the MPCA's intent that dissolved oxygen be present at concentrations of at least 1 milligram/L, and also that dissolved oxygen must be present at levels that will avoid odors or putrid conditions. When this dissolved oxygen standard was proposed in 1981, the SONAR for that rulemaking stated: <i>"The staff believes that a 1 milligram per liter standard is adequate to provide aerobic conditions to avoid any obnoxious odor problems during biological oxidation of organic and inorganic matter. In the event that 1 milligram per liter of dissolved oxygen will not avoid anaerobic conditions, a higher concentration will have to be maintained to avoid odors or other putrid conditions."</i></p> <p>According to the 1981 SONAR discussion, the standard requires that a concentration of at least 1 milligram/L dissolved oxygen must be maintained. However, in those cases where that standard is insufficient to prevent</p>	Approved. Straightforward revision to rule language to clarify intent of Class 7 criteria. No change to the actual applicable Class 7 criteria.
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Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
		<p>obnoxious odor or putrid conditions, then whatever concentration is necessary to avoid those conditions must apply. Clarifying the original intent supports the MPCA's proposal to more clearly identify the three dissolved oxygen criteria as being all equally applicable and not an either/or choice.</p> <p>The third condition, that at all times the concentration must be above 0 milligrams/L, is an existing requirement being rephrased to clarify that it applies equally with both the requirement to prevent odors/putrid conditions and that the daily average must not be less than 1 milligram/L. It is the MPCA's intent that compliance with this dissolved oxygen standard requires meeting all three conditions.</p>	
Part 7050.0222 SPECIFIC WATER QUALITY STANDARDS FOR CLASS 2 WATERS OF THE STATE; AQUATIC LIFE AND RECREATION.			

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
7050.0222, subp. 2, 3, and 4	The amendments update the beneficial use narratives by replacing "sport and commercial fish and associated aquatic biota" with "aquatic biota." It also adds a reference to a new subpart, which describes how the aquatic life use is defined and measured.	The removal of "sport and commercial fish" is consistent with the CWA and Minnesota goals, which not only protect sport and commercial fish, but also protect other fish species and other forms of aquatic life. This change does not reduce protections for sport and commercial fish, but reasonably clarifies that protection is not limited to these species. The reference to the subpart being added in this rulemaking simply directs the reader to additional information that clarifies the definition of aquatic life use and how it is measured.	Approved. Language changes to aquatic life use description to be more inclusive and better reflect use goals and to be consistent with the new TALU designations.
7050.0222, subps. 2c, 3c, and 4c (new subparts)	The new subparts 2c, 3c and 4c of Minn. R. 7050.0222, add narratives for each TALU tier under Classes 2A, 2Bd, and 2B. These narratives describe the aquatic assemblage protected by each tiered aquatic life use, and provide references to how aquatic assemblage condition is measured, and describe how the biological criteria were developed.	The narrative language for the new tiered aquatic life uses reasonably describes the expectations for each tiered aquatic life use and provides the documentation necessary to justify each use.	Approved. See Section I.E for Minnesota's rationale and Section II for the basis for EPA's approval.
7050.0222, subp. 2d, 3d, and 4d (new subparts):	The new subparts establish for Classes 2A, 2Bd, and 2B, the biological criteria and relevant assemblage, as well as identify the water body type and TALU.	The addition of the biological criteria the MPCA currently uses or intends to use provides transparency and consistency regarding the MPCA's process of assessing aquatic life use goals.	Approved. See Section I.E for Minnesota's rationale and Section II for the basis for EPA's approval.

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
7050.0222, subp. 4,	The repeal of subpart 5, which establishes Class 2C WQS, also removes the site-specific standards for parts of the Mississippi and Minnesota Rivers. The existing site-specific language will be added under the dissolved oxygen standard for Class 2B to maintain the current standard for the Mississippi River from the outlet of the metro wastewater treatment works in Saint Paul (River Mile 835) to Lock and Dam No. 2 at Hastings (River Mile 815) and the reach of the Minnesota River from the outlet of the Blue Lake wastewater treatment works (River Mile 21) to the mouth at Fort Snelling.	It is reasonable to move these site-specific dissolved oxygen standards to subpart 4 to retain the current site-specific standards. The site-specific standards are not the subject of this rulemaking, and are therefore, reasonably retained.	Approved. The removal of the Class 2C designation simplified the aquatic life uses to be consistent with the establishment of the newly adopted tiered uses. All existing Class 2C designated waters were reclassified as the higher use Class 2Bg except for 7 waterbodies where UAAs resulted in reclassification as Class 2Bm. This is discussed in more detail in Section II.A. The site-specific DO standards were not re-opened in this rulemaking, just relocated to a more appropriate part of ch. 7050.
7050.0222, subp. 5	The amendment repeals the Class 2C use.	Class 2C has become outdated with the development of better stream classifications under Class 2 and updated aquatic life measurement tools (i.e., IBIs). The proposed repeal of Class 2C will simplify Minnesota's aquatic uses by removing a class that is no longer needed. Further discussion of the reasonableness of removing Class 2C is provided in Section 5. A. 4 of the SONAR. The site-specific standards previously identified in this part have been moved to subpart 4 without change.	Approved. The justification for removal of this use subclassification is provided by the state in Section 5.A.4 of the SONAR and is discussed in 7050.0222, subp. 4 above.
Part 7050.0227 SPECIFIC WATER QUALITY STANDARDS FOR CLASS 7 WATERS OF THE STATE; LIMITED RESOURCE VALUE WATERS.			

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
7050.0227, subp. 2	The amendment clarifies but does not change the existing dissolved oxygen standard for Class 7 waters.	A discussion of the reasonableness of rephrasing the dissolved oxygen standard is provided in the discussion of the changes to Minn. R. 7050.0220, subp. 6(a)(C).	Approved. Straightforward revision to rule language to clarify intent of Class 7 criteria. No change to the actual applicable Class 7 criteria.
Part 7050.0430 UNLISTED WATERS.			
7050.0430	The information formerly located at the end of Minn. R. 7050.0470, subps. 1 and 2, regarding the streams, lakes and wetlands in the Boundary Waters Canoe Area Wilderness and the information at the end of Minn. R. 7050.0470, subp. 2, regarding the lakes and wetlands in Voyageurs National Park are relocated to this part. In addition, in subpart 1, the existing classification of 2Bd streams in the Boundary Waters and Voyageurs is amended to add the TALU subclass of 2Bdg.	The reasonableness of incorporating the lists of waters by reference is discussed for the changes to Minn. R. 7050.0470. Incorporating the lists by reference eliminates the language specific to the Boundary Waters, which will not be included in the documents incorporated by reference. In order to retain this information about the classification of those waters, it is reasonable to move it to Minn. R. 7050.0430.	Approved. This provision was updated to reflect the new tiered designation language.
Part 7050.0460 WATERS SPECIFICALLY CLASSIFIED; EXPLANATION OF LISTINGS IN PART 7050.0470.			
7050.0460, subp. 1	The amendment clarifies the method for describing the extent of stream reaches. The proposed amendment also describes the new approach for incorporating the beneficial use list by reference.	The added descriptions reasonably explain how the information about each listing is recorded and stored. This information is necessary because of the proposed changes to the format of how these listings are provided in Minn. R. 7050.0470.	Approved. Language changes to reflect new organization of 7050.0470.
7050.0460 MAP: MINNESOTA'S MAJOR WATERSHEDS			

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
7050.0460,	The adopted rules add this new subpart with a map of Minnesota's major watersheds (8-digit Hydrological Unit Codes (HUCs)).	Adding this map is reasonable to support the proposed changes to Minn. R. 7050.0470, which incorporates the beneficial use list for streams by reference. The incorporated beneficial use tables will be organized by major watersheds (8-digit HUCs) and this map will provide a reference to assist with locating the correct use table.	Approved. Does not change underlying rule provisions but provides additional reference and clarity for waterbody use listings in 7050.0470.
Part 7050.0470 CLASSIFICATIONS FOR SURFACE WATERS IN MAJOR DRAINAGE BASINS.			
7050.0470, subps. 1-9	The rules organize the beneficial uses for stream reaches by major watersheds (8-digit HUCs). These beneficial use tables will be incorporated by reference.	Incorporating the beneficial uses by reference will simplify the process of amending these lists and also provide additional information in a more understandable form. This does not change the process by which beneficial uses are changed; formal rulemaking through Minnesota's administrative process will still be required.	Approved. Does not change underlying rule provisions but provides additional reference to beneficial use tables and clarity for waterbody use listings in 7050.0470.

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
7050.0470, subps. 1-9	<p>141 stream reaches are proposed to be changed from Class 2 to a more specific TALU Class. The changes include:</p> <p>1) From default Class 2B to Modified Use Cool and Warm Water Aquatic Life and Habitat (Class 2Bm);</p> <p>2) From default Class 2B to Exceptional Use Cool and Warm Water Aquatic Life and Habitat (Class 2Be);</p> <p>3) From Class 2A to Exceptional Use Cold Water Aquatic Life and Habitat (Class 2Ae); and</p> <p>4) From Class 2C to Modified Use Cool and Warm Water Aquatic Life and Habitat (Class 2Bm).</p>	<p>The MPCA conducted UAAs for aquatic life use for 141 stream reaches. These reviews indicate that a use different than the default General Use are appropriate. In the case of the proposed Modified Use reaches, the channels have been legally modified and maintained for drainage and this practice has resulted in habitat loss and a loss of biological integrity. These habitats do not, and are unable to, support General Use goals for aquatic life. For the proposed Exceptional Use waters, the biological assemblages demonstrated the ability to meet a higher use tier. Appendix A provides the justification for each beneficial use change.</p>	<p>See Section II.A. for the detailed basis for EPA actions on the 141 stream use changes.</p>
7050.0470, subps. 1-9	<p>The rule designate all Class 2C waters to the default General Use Cool and Warm Water Aquatic Life and Habitat (Class 2Bg).</p>	<p>The repeal of Minn. R. 7050.0222, subp. 5, will remove the Class 2C beneficial use. Because of the similarities in the two use classes (discussed in more detail at Section 5.A.iv), it is reasonable to designate Class 2C streams as default General Use Cool and Warm Water Aquatic Life and Habitat (Class 2Bg).</p>	<p>Approved. See basis provided above under 7050.0222, subp. 4.</p>
Part 7052.0100 WATER QUALITY STANDARDS.			
7052.0100, subp. 5 & 6	<p>The amendments remove reference to Class 2C since deleted from the statewide rules at ch. 7050 (see discussion at 7050.0150, subp. 3)</p>	<p>This term is no longer used in the proposed rules and is reasonably deleted. The reasonableness of eliminating references to Class 2C is discussed in Section 5 A. 4. of the SONAR.</p>	<p>Approved. Editorial changes to make ch. 7052 consistent with Class 2 revisions as discussed above.</p>

Rule part	Description of rule change	Summary of MPCA Rationale	EPA Action and Basis
Part 7052.0110 METHODOLOGIES FOR DEVELOPMENT OF STANDARDS AND CRITERIA, AND BIOACCUMULATION FACTORS.			
7052.0110, subp. 3	The amendments remove reference to Class 2C since deleted from the statewide rules at ch. 7050 (see discussion at 7050.0150, subp. 3)	This term is no longer used in the proposed rules and is reasonably deleted. The reasonableness of eliminating references to Class 2C is discussed in Section 5 A. 4. of the SONAR.	Approved. Editorial changes to make ch. 7052 consistent with Class 2 revisions as discussed above.

G. Conclusion of EPA's CWA review.

For the reasons described above, EPA concludes that Minnesota's new and revised use designations are consistent with the WQS requirements of CWA Sections 101(a)(2) and 303(c)(2) and the implementing regulations at 40 CFR 131 and 132. EPA approves the establishment of tiered aquatic life uses, numeric biological criteria, and all use changes in this rule package.

III. ENDANGERED SPECIES ACT (ESA) REQUIREMENTS

As required under section 7 of the ESA and federal regulations at 50 CFR 402, EPA is required to consult with the U.S. Fish and Wildlife Service (FWS) on any action taken by EPA that may affect federally-listed threatened or endangered species or their critical habitat. Actions are considered to have the potential to affect listed species if listed species are present in the action area.

As described above, the rules adopted by Minnesota that are the subject of this review consist of rules relating to tiered aquatic life uses and modification of Class 2 beneficial use designations and adoption of numeric biological criteria used to assess the quality of aquatic communities and assess attainment of aquatic life uses. The rules adopted by Minnesota revise Minnesota's existing system of aquatic life uses for surface waters by adding a designator within each aquatic life use class to identify waters that either exhibit exceptional biological performance or are impacted by some form of permanent human disturbance that limits the biological potential of a surface water. The revised rules assign all but 141 waterbodies to a default General Use. Twenty-nine waters were identified as exceptional and 112 were designated as "modified" with lower biological expectations.

The changes to the aquatic life uses of surface waters in Minnesota are based solely on biological performance and potential. These changes do not affect the chemical-specific criteria applicable to any of the waters. Because the criteria applicable to Minnesota surface waters are not affected by these rules, permissible water quality and the level of protection afforded aquatic organisms in Minnesota will not be affected by the rules adopted by Minnesota that EPA intends to approve. Therefore, EPA concludes that approval of these WQS designated use rules will have **no effect** on any ESA-listed species or their critical habitat. Should Minnesota ever adopt rule revisions that modify the water quality criteria applied to specific classes of surface waters, EPA will review these revisions to evaluate the effect of these changes on the level of protection for listed species present in the affected waters and consult with FWS to ensure that it would not jeopardize any ESA-listed species or their critical habitat.

IV TRIBAL CONSULTATION

On May 4, 2011, EPA issued the "EPA Policy on Consultation and Coordination with Indian Tribes" to address Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments." EPA's Tribal Consultation Policy states that "EPA's policy is to consult on a government-to-government basis with federally recognized tribes when EPA actions and decisions may affect tribal interests."

Multiple tribes (11) have resources in the state of Minnesota. In a letter dated December 28, 2018, EPA Region 5 extended an invitation to these 11 tribes to consult on Minnesota's WQS for tiered aquatic life uses and biological criteria. A conference call to present the Minnesota rule revisions and take comments was held on January 23, 2018. One tribe, Shakopee Mdewakanton Sioux Community, attended the call for information purposes and not to initiate formal consultation. Grand Portage Band of Minnesota Chippewa later requested official consultation and a second conference call with just Grand Portage was held on February 5, 2018. Further, a comment period was established in the invitation letter ending on January 31, 2018. Written comments were received by EPA on February 15, 2018 (letter dated January 31, 2018) from Shakopee Mdewakanton Sioux Community.

Consultation was concluded with a letter sent from EPA Region 5 Acting Water Division Director, Linda Holst, to the chairpersons of the Grand Portage Band and the Shakopee Mdewakanton Sioux Community dated and sent on the same day of the approval of Minnesota's TALU/ biocriteria rulemaking. In this letter, EPA summarized the issues identified by the Tribes during consultation and provided EPA's responses to the Tribal comments.

V. LITERATURE CITED

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MPCA (2017a) Fish Data Collection Protocols for Lotic Waters in Minnesota. Minnesota Pollution Control Agency, St. Paul, MN. 29 pp.

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APPENDIX A: Submittal Documents

Documents Included in the Submittal

The following documents were received January 2, 2018

Transmittal letter from John Linc Stine, MPCA Commissioner, to Robert Kaplan, EPA Region 5 Acting Regional Administrator, dated December 14, 2017.

The Findings of Fact and Order Adopting Rules, signed by the MPCA Commissioner John Stine on September 21, 2017.

Letter from Jean L. Coleman, MPCA Attorney, to Robert Kaplan, dated December 12, 2017, certifying that the amendments were duly adopted pursuant to the Minnesota Administrative Procedures Act.

Notice of Adoption of Rules as published in the October 16, 2017 *State Register*.

A copy of the rules as adopted, showing strikeout/underlined changes since the rules were proposed.

Letter from Will Bouchard, MPCA to Thomas Poleck, EPA dated December 11, 2018 listing other submittal documents needed to satisfy 40 CFR 131.6 (see downloaded documents below. This is discussed above in section II.E).

The following documents (except where duplicates of above) were downloaded on December 15, 2017 from an MPCA ftp site and copied to a CD for storage in the Administrative Record file.

Statement of Need and Reasonableness (SONAR), signed and dated December 15, 2016, and a list of minor corrections made to the SONAR dated February 6, 2017.

Exhibits to the SONAR (full list of documents can be found on pages 91-98 of the SONAR). [14 files]. These files are also available on the MPCA's website:

<https://www.pca.state.mn.us/water/tiered-aquatic-life-uses-talu-framework>

Technical Support Documents including:

- Calibration of the Biological Condition Gradient for Streams of Minnesota, Gerritsen et al. (2012).
- Fish Data Collection Protocols for Lotic Waters in Minnesota, Minnesota Pollution Control Agency (2017).
- Macroinvertebrate Data Collection Protocols for Lotic Waters in Minnesota, Minnesota Pollution Control Agency (2017).
- Development of Biological Criteria for Tiered Aquatic Life Uses, Minnesota Pollution Control Agency (2016).
- Technical Guidance for Reviewing and Designating Tiered Aquatic Life Uses in

Minnesota Streams and Rivers – Draft (2015).

The designated use tables incorporated into rule by reference (80 files]. These files are also available on the MPCA website: <https://www.pca.state.mn.us/water/tiered-aquatic-life-uses-talu-framework>

Written comments received on the rule amendments including comments received before the hearing, during the hearing, following the hearing, and during the rebuttal period [7 files]

The MPCA's responses to comments including the response to written comments and comments received at the hearing (cover memo, spreadsheet summarizing the response, detail responses, and attachments) and the rebuttal response (5 files]

The public hearing transcript (1 file]

The report of the Administrative Law Judge [1 file]

The signed Order Adopting the Rules [1 file]

Notice of Final Adoption of the Rules as published in the State Register [1 file]

Other Supporting Documents

Minnesota Pollution Control Agency. 2016. Grand Marais Creek Watershed Monitoring and Assessment Report. Document # wq-ws3-09020306b.
<https://www.pca.state.mn.us/sites/default/files/wq-ws3-09020306b.pdf>.

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<https://www.pca.state.mn.us/sites/default/files/wq-ws3-07020010b.pdf>.

Minnesota Pollution Control Agency. 2016. Zumbro River Watershed Monitoring and Assessment Report. Document # wq-ws3-07040004b.
<https://www.pca.state.mn.us/sites/default/files/wq-ws3-07040004b.pdf>.

Minnesota Pollution Control Agency. 2016. Zumbro River Watershed Stressor Identification Report. Document # wq-ws5-07040004a.
<https://www.pca.state.mn.us/sites/default/files/wq-ws5-07040004a.pdf>.

Link to MPCA website where other supporting documents (watershed monitoring and assessment reports, stressor identification reports, basin modeling reports with hydrology and sediment and water quality calibrations) can be found:

https://cf.pca.state.mn.us/water/watershedweb/wdip/search_more.cfm