Minnesota Pollution Control Agency

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December 19, 2016

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RE: Proposed Amendments to Minnesota Rules, Chapters 7050 (Water Quality Standards for Protection of Waters of the State) and 7052 (Lake Superior Basin Water Standards), relating to Tiered Aquatic Life Uses and Modification of Class 2 Beneficial Use Designations

Dear Librarian:

Enclosed is a copy of the Minnesota Pollution Control Agency's (MPCA's) Statement of Need and Reasonableness (SONAR) for the proposed rule amendments referenced above. The MPCA will be publishing a Dual Notice of intention to adopt these proposed rule amendments without a public hearing unless 25 or more persons request a hearing, and notice of hearing if 25 or more requests for hearing are received for this rulemaking, in the December 19, 2016, *State Register*. As required by Minn. Stat. § 14.131 and Minn. Stat. § 14.23, the MPCA is sending an electronic copy of this SONAR to the Legislative Reference Library at the time the agency is mailing our Dual Notice to the required parties.

If you have any related questions, please contact me at 651-757-2577.

Sincerely,

Kevin Molloy
Rulemaking Coordinator
Resource Management and Assistance Division

KM:cp

Enclosure

Minnesota Pollution Control Agency

Environmental Analysis and Outcomes Division

STATEMENT OF NEED AND REASONABLENESS

In the Matter of proposed revisions of Minnesota Rules, chapters 7050 and 7052, relating to Tiered Aquatic Life Uses (TALU) and modification of Class 2 beneficial use designations

December 15, 2016

The *State Register* notice, this Statement of Need and Reasonableness (SONAR) and the proposed rule will be available during the public comment period on the MPCA's Public Notices website: http://www.pca.state.mn.us/news/data/index.cfm?PN=1

Alternative Format:

Upon request, this Statement of Need and Reasonableness (SONAR) can be made available in an alternative format, such as large print, Braille, or audio. To make a request, contact Kevin Molloy at the Minnesota Pollution Control Agency, Resource Management and Assistance Division, 520 Lafayette Road North, St. Paul, MN 55155-4194; telephone 651-757-2577 or e-mail kevin.molloy@state.mn.us.

General MPCA information 800-657-3864 (or use your preferred relay service)
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Contents

List of Tables

List of Figures

Acronyms or Abbreviations

§	Section
APA	Minnesota Administrative Procedures Act (Minn. Stat. ch. 14)
AUID	Assessment Unit Identification
AWQC	Ambient Water Quality Criteria
BCG	Biological Condition Gradient
BMP	Best Management Practice
BWSR	Minnesota Board of Water and Soil Resources
CBOD	Carbonaceous Biochemical Oxygen Demand
CFR	Code of Federal Regulations
ch.	Chapter
CWA	Clean Water Act (33 U.S.C. § 1251 et seq.)
EPA	U.S. Environmental Protection Agency
HUC 8	8-digit Hydrological Unit Code
IBI	Index of Biological (Biotic) Integrity
IWM	Intensive Watershed Monitoring
MBI	Midwest Biodiversity Institute
MDA	Minnesota Department of Agriculture
MDH	Minnesota Department of Health
MNDNR	Minnesota Department of Natural Resources
METC	Metropolitan Council
mg/L	Milligrams per Liter
MMB	Minnesota Management and Budget
Minn. R.	Minnesota Rules
Minn. Stat.	Minnesota Statutes
MN	Minnesota
MnDOT	Minnesota Department of Transportation
MNTEC	Minnesota Reservation Technical Staff Environmental Council
MPCA or Agency	Minnesota Pollution Control Agency
MS4	Municipal Separate Storm Sewer System
MSHA	Minnesota Stream Habitat Assessment
NPDES/SDS	National Pollutant Discharge Elimination System/State Disposal System
OAH	Office of Administrative Hearings
ORVW	Outstanding Resource Value Waters
QHEI	Qualitative Habitat Evaluation Index
PLS	Public Land Survey
RFC	Request For Comments
SONAR	Statement of Need and Reasonableness
TALU	Tiered Aquatic Life Uses
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
UAA	Use Attainability Analysis
U.S.C.	United States Code
WQS	Water Quality Standards
WRAPS	Watershed Restoration and Protection Strategy

Definitions

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

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

Aquatic Biota: The aquatic community composed of game and nongame fish, minnows and other small fish, mollusks, insects, crustaceans and other invertebrates, submerged or emergent rooted vegetation, suspended or floating algae, substrate-attached algae, microscopic organisms, and other aquatic-dependent organisms that require aquatic systems for food or to fulfill any part of their life cycle, such as amphibians and certain wildlife species. See proposed definition in Minn. R. 7050.0150, subp. 4 (S-3).

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

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

Assemblage: A taxonomic subset of a biological community such as fish in a stream community. See proposed definition in Minn. R. 7050.0150, subp. 4 (S-3).

Beneficial Use: A designated use described under existing Minn. R. 7050.0140 (S-4) and listed under existing Minn. R. 7050.0400 (S-5) to Minn. R. 7050.0470 (S-6) for each surface water or segment thereof, whether or not the use is being attained. (The term "designated use" may be used interchangeably.) See also "Existing Use."

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

Biological Assessment: An evaluation of the biological condition of a water body using surveys of the structure and function of an assemblage of resident biota. It also includes the interdisciplinary process of determining condition and relating that condition to chemical, physical, and biological factors that are measured along with the biological sampling. Guidance for performing biological assessments in Minnesota is described in S-7 (https://www.pca.state.mn.us/sites/default/files/wq-iw1-04.pdf). (The term "bioassessment" may be used interchangeably.)

Biological Condition Gradient (BCG): A concept describing how aquatic communities change in response to increasing levels of stressors. In application, the BCG is an empirical, descriptive model that rates biological communities on a scale from natural to highly degraded. See proposed definition in Minn. R. 7050.0150, subp. 4 (S-3).

Biological Criteria,[1] **Narrative or Biocriteria, Narrative:** Written statements describing the attributes of the structure and function of aquatic assemblages in a water body necessary to protect the designated aquatic life beneficial use. See proposed definition in Minn. R. 7050.0150, subp. 4 (S-3).

Biological Criteria,[1] **Numeric or Biocriteria, Numeric:** Specific quantitative measures of the attributes of the structure and function of aquatic communities in a water body necessary to protect the designated aquatic life beneficial use. See proposed definition in Minn. R. 7050.0150, subp. 4 (S-3).

Biological Integrity: The ability of an aquatic ecosystem to support and maintain an assemblage of organisms having a species composition, diversity, and functional organization comparable to that of natural habitats within a region (S-9).

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

Clean Water Act (CWA): An act passed by the U.S. Congress to control water pollution (formally referred to as the Federal Water Pollution Control Act of 1972). 33 U.S.C. § 1251 et seq. (S-10)

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

Clean Water Act Objective: "The objective of this Act is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters" CWA Section 101(a). It has been described as "*supporting and maintaining a balanced, integrated, adaptive community of organisms having a composition and diversity comparable to that of the natural habitats of the region*" (S-11).This is the long-term objective of the CWA and it is consistent with natural or near-natural conditions (S-12).

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

Designated Use: See "beneficial use."

Ecoregion: An area of relative homogeneity in ecological systems based on similar soils, land use, land surface form, and potential natural vegetation. Minnesota ecoregions are shown on the map in existing Minn. R. 7050.0468 (S-13). See existing definition in Minn. R. 7050.0150, subp. 4 (S-14).

Existing Use: Those uses actually attained in the surface water on or after November 28, 1975. See proposed definition in Minn. R. 7050.0130, subp. 4 (S-3).

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[1] The term "biological criteria" can be used interchangeably with "biological standard." Minnesota rule uses the term "standard" to mean "*a number or numbers established for a pollutant or water quality characteristic to protect a specified beneficial use*" (Minn. R. 7050.0218, subp. 3; S-8). The EPA's use of the term "criteria" is similar to Minnesota's use of "standard." "Biological criteria" and "biocriteria" are the terms most commonly used in the United States to refer to numerical values which represent the biological condition or health necessary to protect designated uses. Using Minnesota rule terminology, these values would be called "biological criteria" or "biocriteria" before promulgation and "biological standards" following promulgation in rule. However, to be consistent with the terminology used by federal agencies and by other states and tribes, the terms "biological criteria" and "biocriteria" are used in this document and in rule to refer to both the promulgated and unpromulgated values. Additional explanation of these terms is provided in Part 2.B.

Hydrological Unit Code (HUC): Watersheds in the United States are divided in to a series of hierarchical units. Each watershed at each level is designated by a hydrological unit code. At the highest level (Level 1), watersheds are divided into regions and are assigned a two-digit code. For example, the Upper Mississippi watershed is assigned the two-digit code "07" (see below). The region is subdivided in to subregions and an additional two digits are added to the code for each of the subregions creating a unique four-digit code for each. Each subsequent level is subdivided and assigned a unique, hierarchical code down to level six. The seventh level is part of the Minnesota Department of Natural Resources (MNDNR) watershed system. The minor watersheds are a further division of the 12-digit HUCs and are similar to 14-digit HUCs. These watersheds are used to organize water quality monitoring, assessment, and management activities.

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

Index of Biological Integrity or Index of Biotic Integrity (IBI): An index developed by measuring attributes of an aquatic community that change in quantifiable and predictable ways in response to human disturbance, representing the health of that community. See existing definition in Minn. R. 7050.0150, subp. 4 (S-14).

Lentic: Relating to still or stationary water bodies such as lakes, ponds, and wetlands.

Lotic: Relating to flowing or moving water bodies such as streams, rivers, and ditches.

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

Natural Condition: As described in existing Minn. R. 7050.0170 (S-15): "Natural conditions exist where there is no discernible impact from point or nonpoint source pollutants attributable to human activity or from a physical alteration of wetlands." This includes the multiplicity of factors (e.g., pH, temperature, and species) that determine the physical, chemical, or biological conditions that would exist in a water body in the absence of measurable impacts from human activity or influence.

Nondegradation: See "antidegradation".

Reference Water Body:[2] A water body minimally or least impacted by point or nonpoint sources of pollution that is representative of water bodies of a similar surface water-body type and within a geographic region such as an ecoregion or watershed. Reference water bodies are used as the basis for comparing the quality of similar water bodies in the same geographic region. See modified definition in proposed Minn. R. 7050.0150, subp. 4 (S-3).

[2] The term "water body" is a general term that includes streams, rivers, ditches, lakes, ponds, wetlands, etc. This document is largely concerned with flowing waters such as streams, rivers, and ditches so the term "reference stream(s)" is most commonly used. The definition for "reference water body" is equivalent to the term "reference stream".

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

Stressors: Physical, chemical, and biological factors that can adversely affect aquatic organisms. The effect of stressors is apparent in biological responses because stressor conditions are outside the conditions for which an organism is adapted. This leads to changes in the fitness of organisms and changes in the composition of organisms found in aquatic communities. Under the effect of stressors, the normal functioning of organisms is disturbed (e.g., increased metabolism, interruption of behavior) which results in negative impacts such as decreased fitness, reduced growth, increased disease prevalence, interruption of reproductive behavior, increased emigration, and increased mortality. Examples of stressors in aquatic systems are low levels of dissolved oxygen, suspended sediments, toxic pollutants, habitat alteration, altered hydrology, and reduced connectivity.

Use Attainability Analysis (UAA): A structured scientific assessment of the physical, chemical, biological, and economic factors affecting attainment of the uses of water bodies. A UAA is required to remove a designated use specified in section 101(a)(2) of the CWA that is not an existing use. The allowable reasons for removing a designated use are described in 40 CFR § 131.10 (g). See proposed definition in Minn. R. 7050.0150, subp. 4 (S-3).

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

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

Total Maximum Daily Load (TMDL): The maximum amount of a pollutant that a body of water can receive while still meeting WQS. Alternatively, a TMDL is an allocation of a water pollutant deemed acceptable to still attain the beneficial use assigned to the water body. See 40 CFR § 130.7 (S-16).

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

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

1. Introduction and statement of general need

A. Summary of proposed amendments

The Minnesota Pollution Control Agency (MPCA) is proposing amendments to its water quality rules to improve protection for Minnesota's water quality and the aquatic life (e.g., fish, insects, mussels, plants) that depend on healthy streams.[3] The improved protection comes from implementation of Tiered Aquatic Life Uses, or TALU, which is a framework for classifying streams based on the aquatic life each supports or has the potential to support. The TALU framework represents a significant revision to the water quality standards (WQS) of the state's aquatic life beneficial use classification. The framework builds upon existing WQS with a goal of improving how water resources are monitored and managed. Because of improvements in biological, habitat, and water quality monitoring tools, amending the MPCA's water quality rules to include the TALU framework will lead to better management outcomes for assessing and ensuring the protection of aquatic life and better restoration efforts to reach water quality goals.

Minnesota Rules and the CWA require states to develop WQS to protect or restore beneficial uses such as healthy communities of aquatic life. This includes the protection of aquatic biota which consists of fish, mussels, snails, insects, crustaceans, 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. Healthy biological communities in streams contain all or most of the species that would be found in a natural or undisturbed stream. As a result, these aquatic habitats maintain the ecosystem functions (e.g., decomposition, export/import of nutrients and sediments) of a natural system.

To measure the health of aquatic biota in a stream, the MPCA samples fish and macroinvertebrate communities. Fish and macroinvertebrate data are summarized using a tool called the Index of Biological Integrity (IBI) (Minn. R. 7050.0150 subp. 6; S-14). Biologists collect fish and macroinvertebrates at a site using standard methods and count the number of fish and macroinvertebrate taxa and individuals.[4] These counts are converted into an IBI score, which is then compared to the IBI scores from reference streams of the same type. In general, a low IBI score indicates a compromised stream with low biological health, while a high IBI score indicates a healthy stream. The output from IBI models are a continuous gradient of quality which allows quality to be assessed incrementally and against multiple use tiers (i.e., TALUs).

The TALU framework will partition Class 2 (Minn. R. 7050.0140, subp. 3; S-4) streams into three subcategories of uses based on aquatic life attainability: Exceptional, General,[5] and Modified Uses.

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

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

[5] Although not currently defined as "General Use" in Minnesota rule, the current protections for aquatic life under Class 2 are equivalent to the proposed General Use. In this SONAR, the term "General Use" is used for both the

- Exceptional Use streams are the highest quality waters with fish and macroinvertebrates at or near natural conditions.
- General Use streams are waters with populations of fish and invertebrates that meet or should meet the interim goal of the CWA.[6]
- Modified Use streams are waters with legally altered habitat that prevents fish and macroinvertebrate communities from meeting the CWA interim goal.

Each of these TALU classifications will have specific written expectations and biological criteria for fish and macroinvertebrates.

Adopting the TALU framework in rule:

- **Will** provide a framework for a more direct and accurate assessment of the biological condition of aquatic life in Minnesota's streams;
- **Will** produce more accurate and representative aquatic life use designations;
- **Will** allow for documentation of incremental improvement in stream condition, further enhancing protection from "backsliding" through the existing use language of the CWA;
- **Will** provide more defined protections for high quality waters and the aquatic life they support;
- **Will** set appropriate aquatic life goals for waters affected by legal historical impacts, such as channelized streams;
- **Will** provide the public with a better defined and greater range of management options for aquatic resource planning that can promote increased public involvement;
- **Will** better balance the requirement and need to protect and restore aquatic resources while balancing important socio-economic needs;
- **Will** improve the outcomes of water quality management programs, such as watershed restoration and protection strategies (WRAPS); and
- **Will** result in better protection and restoration outcomes for aquatic life uses and improved water quality in Minnesota streams.

The TALU framework:

- **IS NOT** a change to Minnesota's definition of "Waters of the State" (Minn. Stat. § 115.01, subd. 22; S-17);
- **IS NOT** a change to aquatic life use goals for lakes, ponds, wetlands and other non-flowing waters (i.e., lentic waters);[7]

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current protection and restoration goal for aquatic life and the proposed General Use since they are equivalent in theory and practice. Following adoption of this rule amendment, the General Use for warm water streams will be the default use for the protection of aquatic life and recreation.

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

[7] The TALU framework only affects streams, rivers, drainageways and other flowing waters (i.e., lotic waters). There is no fundamental or theoretical reason the TALU framework could not be applied to other water-body types in Minnesota. In Minnesota, there is a longer history of using biological assemblages to assess aquatic life use attainment. As a result, the technical capabilities needed to support a TALU framework are available for these water bodies. Although the current rule revision is limited to these water-body types, tools for assessing other

- **IS NOT** a fundamental shift from chemical standards to biological criteria for monitoring and assessing the attainment of aquatic life use goals;[8]
- **IS NOT** a rationale for the *a priori* relaxation of pollution controls or the removal of waters from the impaired waters list;[9]
- **IS NOT** a mechanism for downgrading the existing beneficial use class for a water body.[10] All existing beneficial uses will continue to be protected and all changes to the designated beneficial use must be made through rulemaking;
- **IS NOT** a change to any of the existing chemical or physical standards established in Minn. R. ch. 7050 and Minn. R. ch. 7052; and
- **IS NOT** a change to the list of Class 2 lakes and wetlands identified in Minn. R. 7050.0470 (S-6) or to any use class other than Class 2.

In addition to establishing the TALU framework and adding TALU biological criteria, in this rulemaking the MPCA is also:

- Removing Class 2C because it is redundant with Class 2B;
- Reclassifying specific streams that have been assessed with adequate data and a UAA to either Exceptional or Modified Use, where applicable; and
- Revising the format of the waters listed in Minn. R. 7050.0470 (S-6) to provide more complete information in a more organized and accessible way.

B. Statement of general need

The proposed amendments are needed to move Class 2 WQS from a "one-size-fits-all" or "pass/fail" classification system to a system that more accurately reflects the ecological diversity of Minnesota's waters. 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 actual values used to protect or calculate protective values may differ, but these water bodies are all held to the CWA Interim Goal.

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water-body types such as lakes may become sufficient to support a TALU framework in the future. At that time the MPCA could pursue a rule revision to adopt a TALU framework for these water-body types.

[8] The MPCA has been using biological monitoring and IBIs to assess aquatic life since the 1990s, and waters have been added to the CWA 303(d) impaired waters list based on biological impairments since the early 2000s. The TALU framework is an improvement to this approach that enhances the MPCA's ability to more accurately identify impairments to aquatic life uses. Water quality assessments of chemical standards for the attainment of aquatic life use goals will continue. The TALU framework will enhance these assessments.

[9] The TALU framework may affect existing pollution controls or water quality management activities, in some cases making them more or less stringent. TALU designations are dependent on a rigorous and objective scientific assessment of the physical, chemical, biological, or economic factors that affect attainment of the uses in a water body. This assessment is called a use attainability analysis (UAA) and is required by the CWA (40 CFR § 131.10(g)) (S-2, S-10, S-18).

[10] 40 CFR § 131.3(e) (S-1) Existing uses are those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the WQS. See proposed definition in "Definitions" and in the proposed rule language.

The CWA and Minnesota Rules support the use of biological assessments to establish WQS to protect designated beneficial uses (S-14, S-19). Minnesota, along with other states, currently uses biological assessments to support CWA § 303(d) impaired waters listings and the CWA § 305(b) report (S-20). The U.S. Environmental Protection Agency (EPA) provides guidance and technical support to states in using biological assessments to establish WQS. This technical support includes development of BCG models, development of biological criteria, improving the capability to discriminate biological change along a gradient of stress, and more precise definition of designated aquatic life uses (S-12, S-21, S-22). The TALU framework classifies streams into subcategories or "tiers" based on the biological condition that is attainable. The TALU framework improves on the "one-size-fits-all" approach by stratifying WQS in accordance with aquatic life potential. This refinement leads to more effective water quality management choices and outcomes by tailoring water quality protection and restoration activities to attainable goals.

The proposed amendment will meet the following needs:

1. **Incorporate subcategories or tiers in aquatic life beneficial use (Class 2) classification to address the diversity of aquatic resources in Minnesota.** Minnesota's aquatic resources are varied and diverse and the existing "one-size-fits-all" approach fails to recognize critical differences, which can result in less effective management of these waters. The TALU framework results in attainable and appropriate goals for aquatic life beneficial uses in streams. It is consistent with the concept of protecting existing uses while simultaneously providing higher goals for waters with demonstrated exceptional biological quality, maintaining current goals for General Use waters, and setting attainable aquatic life goals for waters previously modified by legal human activities (e.g., maintaining channels for drainage). To accomplish this, Class 2 aquatic life beneficial uses will be 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. There is a need to protect and maintain high quality streams in Minnesota. Establishing an Exceptional Use tier will help ensure that existing water quality rules, such as antidegradation, can adequately protect high quality streams.

    b. **General Use:** The General Use maintains the current default aquatic life use goal (Class 2B).

    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). These limitations are related to poor habitat and not chemical pollutants. A reasonable and attainable goal is needed so that water quality management activities can be tailored to the biological potential of these waters.

2. **Improve standards by incorporating numeric biological criteria directly into rule.** WQS can be either narrative or numeric. Narrative standards describe water quality conditions that are not allowed because the conditions negatively affect beneficial uses (e.g., "the species composition shall not be altered materially" Minn. R. 7050.0150 subp. 3; S-14). Numeric standards establish numeric thresholds for pollutants that, when violated, indicate a polluted condition (e.g., a minimum of 5 mg/L of dissolved oxygen). The MPCA currently uses biological criteria to quantitatively translate the narrative biological standards in Minn. R. 7050.0150, subp. 3 (S-14). The TALU framework amendments bring biological criteria directly into rule as a clear numeric standard. Numeric biological criteria stratified by stream class and TALU tier will be added to Minn. R. 7050.0222 (S-23) to better clarify the biological expectations for Minnesota's streams. Such added clarity about biological expectations provides greater certainty to stakeholders and regulated parties.

3. **Create more clarity in rule by documenting the methods used to establish biological conditions and biological criteria.** For clarity, consistency in application, and transparency, the TALU framework amendments include descriptions of each tiered aquatic life use (i.e., Exceptional, General, and Modified). The amendments also provide an explanation of the specific scientific methods used to measure biological condition and derive the biological criteria. This includes documentation of the development of Minnesota's fish and benthic macroinvertebrate IBIs and the BCG, which together support biological condition determinations and biological criteria.
4. **Improve targeting of water management resources.** Water-body assessments are used to make decisions about water quality management activities. Greater assessment accuracy leads to increased water quality management efficiency because resources are not used to restore waters beyond what is currently attainable nor are high quality waters under-protected. The TALU framework refines Minnesota's aquatic life use classification framework and improves the management of streams by assigning appropriate and attainable beneficial use classifications. The TALU framework thereby recognizes the diversity of attainable conditions in Minnesota streams so that management of these waters can be tailored to these conditions. This results in better use of protection and restoration resources with a goal of maintaining and improving conditions.
5. **Improve identification of impaired waters and the stressors that are responsible for these impairments.** The TALU framework is part of a broader evolution and modernization of WQS, both in Minnesota and nationally, to better tailor WQS to the different characteristics of water bodies. Historically, the protection of aquatic life has focused on chemical and physical WQS. Although these regulations are based on sound science, they are a surrogate for measuring attainment of aquatic life goals (i.e., it is assumed that if a chemical standard is attained the aquatic life use is protected). However, chemical and physical sampling is generally limited to a small suite of parameters over a relatively short period of time. This means that pollution or stressors may be missed by sampling chemical and physical parameters alone. By directly measuring biological communities, there is much greater confidence in the assessment of attainment or nonattainment of aquatic life use goals. Biological data can then be used to determine the stressors that are contributing to nonattainment. In addition, this information can be used to identify stressors that are not pollutants (e.g., habitat, altered hydrology).

The MPCA has identified three additional needs, not specifically related to the TALU framework, that are appropriate to address as part of this rulemaking. These are as follows:

1. **141 stream reaches will be reclassified based on 2012 and 2013 Intensive Watershed Monitoring (IWM) efforts in 14 watersheds.** The MPCA is reclassifying specific streams using the TALU framework where adequate existing monitoring data and a UAA, where applicable, have demonstrated the need for a more accurate use designation. Based on monitoring data from fourteen 8-digit Hydrological Unit Code (HUC 8) watersheds representing the 2012 and 2013 IWM efforts, the MPCA is proposing to reclassify 141 stream reaches from the existing General Use to either Exceptional or Modified Use. The MPCA intends to make future TALU proposals annually or biennially following the IWM schedule. These future rule changes will follow the Minnesota Administrative Procedures Act (APA).
2. **Remove redundancy.** The WQS for Classes 2B and 2C are nearly identical; removing Class 2C will simplify the rules without impacting water quality management. The MPCA is removing all references to Class 2C and reclassifying all Class 2C waters as Class 2B.

3. **Make reference lists more complete, understandable, and readily updated than is currently possible.** Minn. R. 7050.0470 (S-6) identifies several hundred waters that are specifically classified as:

   - Cold water aquatic life and habitat (Class 2A);
   - Surface waters protected for drinking (Class 1 and 2Bd);
   - Limited resource value waters (Class 7);
   - Outstanding resource value waters (ORVW) (prohibited and restricted categories); or
   - Wild rice waters.

This extensive list of very specifically listed waters, identified by township, range and section numbers, is of limited practical use. The current form of the list includes only a fraction of the waters in Minnesota, is difficult to read, and does not provide information other than the use class or special designation. In addition, the list as it is currently formatted is difficult to amend, which can cause problems and delays for the MPCA and for the community of regulated or interested parties.

The MPCA proposes to replace the list in Minn. R. 7050.0470 (S-6) with a series of more comprehensive documents that are incorporated into the rules by reference. The incorporated documents will provide data for all Waters of the State and will provide electronically available access to extensive information, including TALU classification. The MPCA will still be required to conduct rulemaking to change a beneficial use class identified in the incorporated documents, but the process of making those amendments will be greatly simplified and ensure that the use classifications of waters are promptly updated, and therefore, more accurate.

NOTE: The MPCA has initiated a separate rulemaking that affects the identification of wild rice waters. See https://www.pca.state.mn.us/water/protecting-wild-rice-waters for all documents related to the wild rice rulemaking. The proposed changes to the reference lists in the TALU framework rulemaking does not include any substantive changes to the current list of wild rice waters.

C. Scope of the proposed amendments

Two chapters of Minnesota Rules (Minn. R.) are affected by the proposed changes.

- Minn. R. ch. 7050. This chapter establishes the WQS for protection of the Waters of the State.
- Minn. R. ch. 7052. This chapter establishes WQS for the protection of the Lake Superior Basin.

The proposed amendments incorporate 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 as required by the Revisor of Statutes.

2. Background

A. SONAR information

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

In this SONAR the MPCA provides the following information:

Chapter 1. Introduction, statement of need and discussion of scope. Provides a short summary of the amendments being proposed, a general discussion of need and identifies the rule chapters being amended.

Chapter 2. Background. Describes the information provided in this SONAR, specific terms used, WQS in general and the TALU framework.

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

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

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

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

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

Chapter 8. Consideration of economic factors. Discusses the economic factors related to the TALU framework including the costs and benefits associated with stream reclassifications to the TALU classifications of Exceptional and Modified Use.

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

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

B. Defining terms: "Water Quality Standards," "Standards," and "Criteria"

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

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

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

In particular, Minnesota's water quality rules use this terminology – referring to narrative and numeric criteria as "the standards" – in a way that differs slightly from the terminology used by the EPA. As defined in Minnesota Rules, pollutant-specific numeric **criteria,** when adopted through rulemaking, are called numeric **standards**. Minn. R. 7050.0218, subp. 3(UU) (S-8) defines a "**standard**" as: *"…a number or numbers established for a pollutant or water quality characteristic to protect a specified beneficial use as listed in parts 7050.0221 to 7050.0227…*."

In contrast to the federal usage of the term **criteria**, Minn. R. 7050.0218, subp. 3(T) (S-8) describes a "**criterion**" as: *"…a number or numbers established for a pollutant derived under this part,… or issued by the USEPA, to protect aquatic life, humans, or wildlife.*" Minnesota's rules distinguish between "standard" and "criteria" primarily to emphasize the fact that the EPA's national criteria lack regulatory applicability until adopted as WQS in state rules. Numeric standards are specifically listed in the water quality rules while criteria are not.

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

C. Water quality standards

It is important to have a basic understanding of Minnesota's WQS to understand the proposed TALU framework amendments.

As required by the CWA § 303 (S-24) and Minn. Stat. § 115.44 (S-25), WQS form the fundamental regulatory foundation to preserve and restore the quality of all Waters of the State. WQS consist of three elements:

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

Assigning an appropriate beneficial use, and establishing numeric and narrative standards to protect the beneficial use, are responsibilities assigned to the MPCA by Minn. Stat. § 115.03 (S-26) and Minn. Stat. § 115.44 (S-25). The assigned beneficial use, and the accompanying supporting numeric and narrative standards, are fundamental considerations in decisions relating to the establishment of discharge effluent limitations, implementation of antidegradation requirements and impaired water assessments, and other water quality management activities. Assigning the appropriate beneficial use is an important first step in the process of assuring that the goals for each water body are attainable and can be protected.

Minnesota has designated seven beneficial uses associated with surface waters: Class 1 through Class 7 (Table 2-1).[11]

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

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

Most Waters of the State are designated Class 2 for the protection of aquatic life and recreation beneficial use.[12] This beneficial use is protected in aquatic systems which include streams, rivers, drainage ways, lakes, ponds, wetlands and other waters listed in Minn. Stat. § 115.01, subd. 22 (S-25, S-27). The habitats in these systems include permanently or intermittently wetted areas which support aquatic and semiaquatic organisms. This beneficial use protects the organisms that live in or on the water or aquatic substrates as well as the organisms that depend on aquatic habitats to fulfill any part of their life cycle. Within Class 2 there are five subclasses: 2A, 2Bd, 2B, 2C, and 2D:

[11] The numbers 1 – 7 do not imply a priority ranking.

[12] The only waters not designated for a Class 2 beneficial use are waters that have had a use attainability analysis (UAA) conducted as the basis for a Class 7 designation.

1. Class 2A is assigned to surface waters to "permit the propagation and maintenance of a healthy community of **cold** water sport and commercial fish and associated aquatic life and their habitats" (Minn. R. 7050.0222, subp. 2; S-23). Class 2A waters are also protected as a source of drinking water.
2. Class 2Bd is assigned to waters to "permit the propagation and maintenance of a healthy community of **cool or warm** water sport or commercial fish and associated aquatic life and their habitats" (Minn. R. 7050.0222, subp. 3; S-23). Class 2Bd waters are also protected as a source of drinking water.
3. Class 2B is assigned to waters to "permit the propagation and maintenance of a healthy community of **cool or warm** water sport or commercial fish and associated aquatic life, and their habitats" (Minn. R. 7050.0222, subp. 4; S-23). Class 2B waters are not protected as a source of drinking water. Class 2B is the most commonly assigned Class 2 use classification for surface Waters of the State.
4. Class 2C is assigned to waters to "permit the propagation and maintenance of a healthy community of indigenous fish and associated aquatic life, and their habitats" (Minn. R. 7050.0222, subp. 5; S-23).
5. Class 2D is assigned to waters to "permit the propagation and maintenance of a healthy community of aquatic and terrestrial species indigenous to wetlands, and their habitats" (Minn. R. 7050.0222, subp. 6; S-23).

Among these subclasses, only streams in Classes 2A, 2Bd, 2B, and 2C will be affected by the TALU framework amendments. In addition, the TALU framework amendments only affect the aquatic life portion of Class 2 and do not affect the WQS for recreation.

Certain waters are specifically listed in Minn. R. 7050.0470 (S-6) to identify their beneficial uses. The waters listed in Minn. R. 7050.0470, while numerous, are only a fraction of the total number of waters in Minnesota. Examples of waters that are specifically listed include: cold waters, surface waters protected for drinking, ORVWs, and limited resource value waters. All waters not listed in Minn. R. 7050.0470 have a default designation of protection for aquatic life and recreation (Class 2), plus additional designations as Classes 3, 4, 5 and 6 (Minn. R. 7050.0430; S-28).

D. Background about TALU

i. TALU framework overview

TALU is a framework that classifies streams based on the biological condition that is or can be attained. Under the TALU framework, streams may be classified as Exceptional, General, or Modified Use. The specific classification of a stream is based on available monitoring and other relevant data including biological condition and habitat quality. The CWA authorizes the use of a TALU framework as part of a state's WQS. In 2001, the National Academy of Science's Committee to Assess Science in Total Maximum Daily Loads (TMDLs) (S-29) issued a critique of water quality programs and supported the expanded use of TALU biocriteria. The report concluded that states cannot effectively manage the complex mosaic of watershed level impacts without using a TALU framework and establishing biological criteria. EPA followed some of these recommendations with a program to support state development and implementation of a TALU framework (S-12, S-21, S-22).

The TALU framework is predicated on the development and implementation of an adequate biological monitoring and assessment program (S-21). The biological monitoring and assessment program must produce sufficient data to support a use attainability process, which is inherent to implementing TALUs. Biological monitoring and assessment is also needed to document the empirical relationships between

stressors that negatively impact living organisms (e.g., dissolved oxygen and sediment) and the biological condition of a water body. That relationship is then used to diagnose the cause(s) of any nonattainment of the appropriate biological criteria and set detailed and stratified management biological criteria and goals either at the existing or attainable biological condition (S-30).

Adoption of TALU frameworks into state rule can be traced back to the 1980s. Ohio and Maine were the first states to adopt a formal TALU framework (i.e., tiered biological criteria adopted into rule; S-31, S-32) in response to the challenges of managing aquatic resources using a one-size-fits-all framework. Since then, Vermont has also adopted a TALU framework and other states have developed aquatic life uses that essentially function as TALUs (e.g., Texas, Florida). In addition, many other states (e.g., Wisconsin, Illinois, Indiana, Connecticut, and Alabama) are currently pursuing development of a TALU framework or the tools (e.g., BCG) that support a TALU framework.

The EPA recommends that all states and tribes incorporate biological criteria into their WQS (S-33, S-34). As of 2001, 26 states had adopted, and 10 states were in the process of adopting, narrative or numeric biocriteria into WQS (S-20). The use of biological measurement tools (e.g., IBIs) provides a comprehensive and integrated determination of the health of water bodies and results in a direct assessment of attainment or nonattainment of aquatic life use goals (S-34, S-35, S-36). As a result, WQS programs that focus on biological outcomes will have more representative performance-based goals for aquatic life uses (S-31).

ii. Minnesota's readiness for TALU

Since its establishment in the 1960s, the MPCA has collected biological data to determine the condition of waters in Minnesota. In the last 20 years, the MPCA has been using fish and macroinvertebrate assemblage data to systematically monitor the condition of waters in the state. In this period, MPCA's biomonitoring program has collected thousands of fish and macroinvertebrate samples from streams throughout the state. The MPCA used this biological monitoring data to develop biological assessment tools (e.g., Indices of Biological Integrity (IBIs)) that were subsequently used to support the water-body assessment program and other MPCA functions (i.e., permitting, stressor identification). This experience laid the groundwork for a robust biological assessment program that was capable of supporting a TALU framework.

Recognizing the importance of biological assessments in WQS, a narrative assessment framework that included IBIs and narrative biocriteria for measuring impairment was added to Minn. R. 7050.0150 (S-14) and approved by the EPA in 1994. This narrative framework was updated in 2003 (S-37, S-38, S-39, S-40, S-41, S-42, S-43, S-44, S-45). The MPCA has used IBIs and biological criteria to assess waters for inclusion on the CWA § 303(d) impaired waters list and CWA § 305(b) report since 2002. These biological criteria were tailored to specific stream types (e.g., headwater vs. large river, cold water vs. warm water), but a single biological impairment threshold was set for each stream class, based on the CWA interim goal. The threshold was used primarily to determine the impairment status of each stream on a binary pass/fail basis. Channelized streams (e.g., ditches) had been included in assessments, but the MPCA discontinued this practice in 2007 pending adoption of a TALU framework that could establish appropriate biological criteria for ditches.

Although the current aquatic life use framework improves upon a chemical-only monitoring and assessment framework, it does not recognize the diversity of attainable conditions in Minnesota streams. Since 2002, the capabilities of Minnesota's biological monitoring and assessment program have greatly improved by enhancing the monitoring network and incorporating more sophisticated tools for measuring biological condition, UAAs, and stressor identification. These tools not only improve the

outcomes of biological monitoring and assessment, but they also make it possible to implement a TALU framework.

In 2002, 2006, 2012, and 2015, the capability of Minnesota's biological assessment program to support a TALU framework was tested through Biological Assessment Program Reviews by the Midwest Biodiversity Institute (MBI) (S-21, S-46, S-47). The program review used an EPA-supported process, termed the Critical Technical Elements Evaluation (S-21, S-48), that measures the technical rigor of a state's biological monitoring and assessment program.[13] The MPCA used the feedback gained from this series of Critical Technical Elements Evaluations to identify areas of the Agency's biological assessment program that needed to be strengthened and to ensure that the assessment program supports all relevant water quality management programs.

These reviews document a continuous enhancement of Minnesota's biological assessment program, with the 2015 review demonstrating that Minnesota's program can support a TALU framework at the highest level of rigor(S-46). The MPCA biological monitoring program has the technical capabilities to determine the biological condition of streams and to perform UAAs. Both of these activities are central to the ability to determine the attainability of aquatic life uses which is a key activity within a TALU framework.

iii. Minnesota's watershed approach

The progression to a high-level biological monitoring program was hastened by the adoption of the IWM approach that was implemented by the MPCA as a direct consequence of the 2006 Clean Water Legacy Act. This legislation provided funding to expand monitoring and to support CWA § 305(b) and CWA § 303(d) assessments. The Act encouraged a watershed focus and spurred the development of a watershed approach in Minnesota for water quality management. In 2008, Minnesota voters approved the Clean Water, Land, and Legacy Amendment, creating a long-term source of funding to support the Watershed Approach. As part of the Watershed Approach's expanded effort to enhance Minnesota's capacity to protect and improve water quality, the MPCA developed and revised a number of tools and technical capabilities. This included improving the existing IBIs for streams. These revisions made the IBIs applicable statewide and further minimized the effects of natural differences between streams across the state. These IBI improvements not only advanced Minnesota's capabilities to manage aquatic resources, but also established the foundation to support a TALU-based framework.

The watershed approach used in Minnesota to manage aquatic resources centers on 8-digit Hydrological Unit Code or HUC 8 watersheds (Figure 2-1). These HUC 8 watersheds serve as the framework to organize a 10-year rotating schedule for water quality monitoring, assessment, stressor identification, development of TMDLs, and WRAPS reports. Every year, the MPCA and its partners intensively monitor a network of stations in six to ten HUC 8 watersheds to gather data on the chemistry, biology, and physical factors of the surface waters. Sampling for biology, habitat and chemistry is performed in selected minor watersheds ("HUC 14") within each HUC 8 watershed with increasing levels of sampling effort (i.e., greater sampling frequency, measurement of additional parameters) at the outlets of

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

aggregated HUC 12 and HUC 8 watersheds. The data collected are used to support assessments, UAAs, modeling, permitting, and other water quality management activities.

The MPCA uses an IWM approach that follows a 10-year cycle which covers all HUC 8 watersheds in the state during that period. The 10-year cycle allows monitoring, assessment, and implementation of restoration and protection activities to take place before a watershed is revisited to evaluate changes in water quality. The advantage of the IWM approach is greater efficiency, saving resources and resulting in better protection and restoration of Minnesota's aquatic resources. The IWM approach also results in improved consistency in water quality management activities (e.g., assessments, TMDLs, etc.) among regions of the state, and therefore, creates more certainty with these activities. More information is available on the Watershed Approach webpage (https://www.pca.state.mn.us/water/watershed-approach-restoring-and-protecting-water-quality).

Figure 2-1. Minnesota's major watersheds (8-digit hydrologic units).

When biological impairments are identified, the water body undergoes a stressor identification process to determine which stressors (chemical, physical, and/or biological) are responsible for the nonattainment of the aquatic life goals. These stressors, along with any chemical impairments in the watershed, are used to develop WRAPS. The WRAPS include:

- A summary of scientific studies in the watershed, including the physical, chemical, and biological assessment of water quality in the watershed;
- Identification of impairments and water bodies in need of protection;
- Identification of stressors and sources of pollution;
- A scientific analysis of impairments (TMDLs) that determines the sources of pollution and the reductions needed to meet WQS; and
- An implementation table containing strategies and actions designed to achieve and maintain WQS and goals and address pollution sources or stressors that do not require a TMDL.

The TALU framework is well suited for incorporation into Minnesota's existing Watershed Approach and the development of WRAPS. The adoption of the TALU framework into Minnesota's WQS refines the state's existing aquatic life use framework and will result in more accurate and effective management of streams. Ohio's TALU framework is the most similar to the framework proposed for Minnesota, reflecting similar water quality management challenges (e.g., point and nonpoint sources of pollution, habitat alterations) and water quality management tools (i.e., IBIs). In Ohio, a TALU framework has improved the ability to identify and diagnose water quality problems and protect and restore Ohio's waters (S-30, S-48, S-49). For example, full attainment of aquatic life for Ohio watersheds has increased from 46.6% in 2002 to 59.2% in 2014 (S-50). Maine has documented a 25.5% increase in the stream miles assigned to Maine's highest aquatic life use class (Class A/AA; S-12), which indicates water quality conditions have improved using the TALU framework. The experiences of these states demonstrate that biological assessment and refined biological goals lead to improved water quality conditions. Minnesota will benefit in a similar manner by adopting a TALU framework.

iv. Incorporation of the TALU framework into Minnesota's comprehensive statewide monitoring program

Minnesota's current Class 2 aquatic life use designations apply to all water bodies regardless of their biological potential, with the exception of specifically designated Class 7 waters. In other words, the same aquatic life use goal (i.e., CWA interim goal) applies to every Class 2 stream reach regardless of its inherent capability to achieve those biological targets. In contrast, TALU designations are based on a water body's demonstrated ability to meet or exceed aquatic life goals and are set by a detailed examination of the spectrum of aquatic life in different regions and stream types across Minnesota. The TALU framework:

- Refines Minnesota's WQS by recognizing differences in the potential for restoration and protection among streams;
- Provides additional protection to high quality streams;
- Sets attainable aquatic life goals for streams impacted by natural conditions or human-induced changes (e.g., channelized streams);
- Represents an integration of WQS, monitoring, and assessment and is derived directly from the cumulative knowledge about aquatic ecosystems that is central to aquatic ecological assessment (S-18); and
- Includes the following concepts and methods:

- Surface waters and the biological assemblages they support are predictably and consistently different across the continent and can be stratified by ecotype, along natural gradients, or using ecological regions concepts (S-35, S-51, S-52);
- Within the same ecological regions, different water-body types (e.g., headwater streams, wadeable streams, small rivers, large rivers, lakes, reservoirs, wetlands, etc.) support predictably different compositions of key aquatic assemblages (S-35, S-51, S-52, S-53, S-54);
- Within a given class or subclass of water bodies, the observed biological condition in a specific water body is a function of the level of stress (mostly of anthropogenic origin) to which the water body has been subjected (S-55);
- Similar stressors at similar intensities produce predictable and consistent biological responses in waters within a water-body type, and those responses can be detected and quantified along the BCG and also in terms of deviations from expected conditions (i.e., reference water bodies) (S-56, S-57);
- Water bodies exposed to higher levels of stress will exhibit biological performance that increasingly departs from the applicable reference condition (as defined by reference water bodies) than do waters exposed to lesser levels of stress (S-55, S-58); and
- The routine and systematic application of adequate monitoring and assessment (S-59) will generate sufficient data such that empirical relationships between biological condition and stressor variables can be determined and used to diagnose causes and set more detailed and stratified management biological criteria and goals (S-57).

The TALU framework is a recognition that the ecological potential of one water body can be very different from the ecological potential of another water body. The differences in ecological potential means that one water body should not be expected to attain the same level of beneficial use as another water body. For example, the West Branch of the Little Knife River (Figure 2-2) in northeastern Minnesota has a largely intact forested watershed, and fish and macroinvertebrate assemblages that greatly exceed current aquatic life use goals. The biological assemblages in this stream are close to natural, but they could be degraded down to minimum goals (i.e., General Use goals) if consideration is not given to protecting this exceptional quality. In contrast, the biological assemblages in Judicial Ditch 7 in southeastern Minnesota do not meet current biological criteria because the habitat is modified and legally maintained for drainage under Minnesota Drainage Law (Minn. Stat. § 103E; S-60). The process of maintaining ditches for drainage degrades the habitat necessary in Judicial Ditch 7 to support natural aquatic assemblages and precludes attainment of current goals. The attainable biological condition differs between these two examples; it is therefore necessary and reasonable that appropriate and attainable goals are established that recognize differences in the aquatic life potential. By recognizing those differences, resources can be best applied to efficiently achieve better water quality outcomes.

Figure 2-2. Examples of two Minnesota streams with different aquatic life potential.

At its core, the TALU framework is a refinement of the traditional application of general and fishery-based[14] uses and status-based[15] monitoring and assessment. Although it may seem that TALU-based decisions are either more or less stringent than decisions made under the existing framework, it is more appropriate to view TALU framework decisions as being more accurate rather than considering them as an "upgrade" or "downgrade." The more rigorous and systematic assessment procedures of a TALU framework more accurately reflect the verified potential and site-specific circumstances of a water body. This improved TALU framework for setting aquatic life use WQS results in better and more equitable management of Minnesota's streams.

v. Implementation of TALU

Federal regulations (40 CFR § 131.10(j); S-2) require states to conduct a UAA when designating beneficial uses that do not support the interim goals of the CWA ("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" (33 U.S.C. § 1251(a)(2); S-10)), or when designating new subcategories of uses that require less stringent WQS. To assign a water body into a beneficial use classification or subcategory that is less stringent than the CWA interim goal, the state must demonstrate that the aquatic life use is not attainable (i.e., an existing use[16]) because of natural conditions or human-induced changes, and that the water body has been in that condition since November 28, 1975 (S-62).

To determine the attainable use of a water body, a rigorous UAA process must be followed as required by the CWA (40 CFR § 131.10; S-2). Figure 2-3 outlines the UAA process for the TALU framework. A TALU framework UAA process is driven primarily by biological condition as measured through analytical tools

[14] Historically, some states have adopted aquatic life protections that are focused on protecting fisheries or leave the protection of aquatic life to a general or nonspecific use. However, the objective of the CWA is to restore the chemical, physical and biological integrity of our Nation's waters (Section 101(a)(2)) and just because a stream does not support a fishery, that does not mean it is not protected for aquatic life (S-62).

[15] Status-based monitoring and assessment programs are largely concerned with documenting the status of aquatic life condition. They do not have an adequate stressor identification process that can diagnose the cause of impairments. As a result, they are generally not sufficient to support regulatory actions to protect or restore the condition of these waters when they fail to meet aquatic life goals.

[16] An existing use is any use that has existed in a water body at any time since November 28, 1975 (40 CFR § 131.3; S-1).

(i.e., IBIs; S-63, S-64). Minnesota's biological monitoring program has been developed to support collection of the data necessary to perform TALU framework UAAs (Figure 2-3). The UAA will assign the highest beneficial use that has been demonstrated by the available monitoring data. In cases where the recommended TALU is Exceptional or Modified, a rulemaking will be required to adopt the new use.

When IBI monitoring data indicate that the General Use is not attained, the MPCA must assess habitat and other information to review the attainability of the use to determine if a lower use is appropriate (Table 2-2). In all cases, a water body must meet several requirements consistent with the CWA in order to be considered for a lower use (40 CFR § 131.10(g); S-2). This starts with a review of the habitat to determine if physical habitat structure is limiting the attainment of one or both biological communities (S-65). If habitat is not limiting attainment of either the fish or macroinvertebrate assemblages, then the water body would be designated General Use. If habitat structure is limiting and determined to be the result of natural conditions (e.g., wetland characteristics, bedrock substrate, barrier falls, etc.), then the options available are development of new IBI models for this type of water body or the development of a site-specific standard. However, if the habitat is limited by legal, human activities (e.g., maintained for drainage under Minn. Stat. § 103E; S-60) 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; S-2; Table 2-3), 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. A detailed description of the UAA process for designating TALUs is provided in S-62. Following a recommendation of an Exceptional Use or Modified Use for a water body, the MPCA will initiate a rulemaking that follows Minnesota and federal procedures and requirements.

Table 2-2. Tiered aquatic life use options based on evaluation of default uses currently in Minnesota Rule (Minn. R. 7050.0470; S-6).

Current Designated Aquatic Life Use	Monitoring Results	Attains Designated Use?	Management Options Under New TALU-Based Approach
General[17]	General Use Attainment	YES	Retain General designation because biocriteria demonstrate attainability.
General	General Use Non-attainment	NO	If habitat assessment indicates General is attainable, then retain General use; OR If habitat is impaired & due to applicable 40 CFR § 131.10(g) (S-2) factors, change use to Modified
General	Exceptional Use Attainment	YES	Revise use to Exceptional based on attainment of Exceptional biocriteria by ***both*** fish and macroinvertebrate assemblages.

[17] Although not currently defined in rule as a "General Aquatic Life Use" it is equivalent to the "General Use" defined in the proposed TALU framework rule revision. This aquatic life use is based on the CWA interim goal.

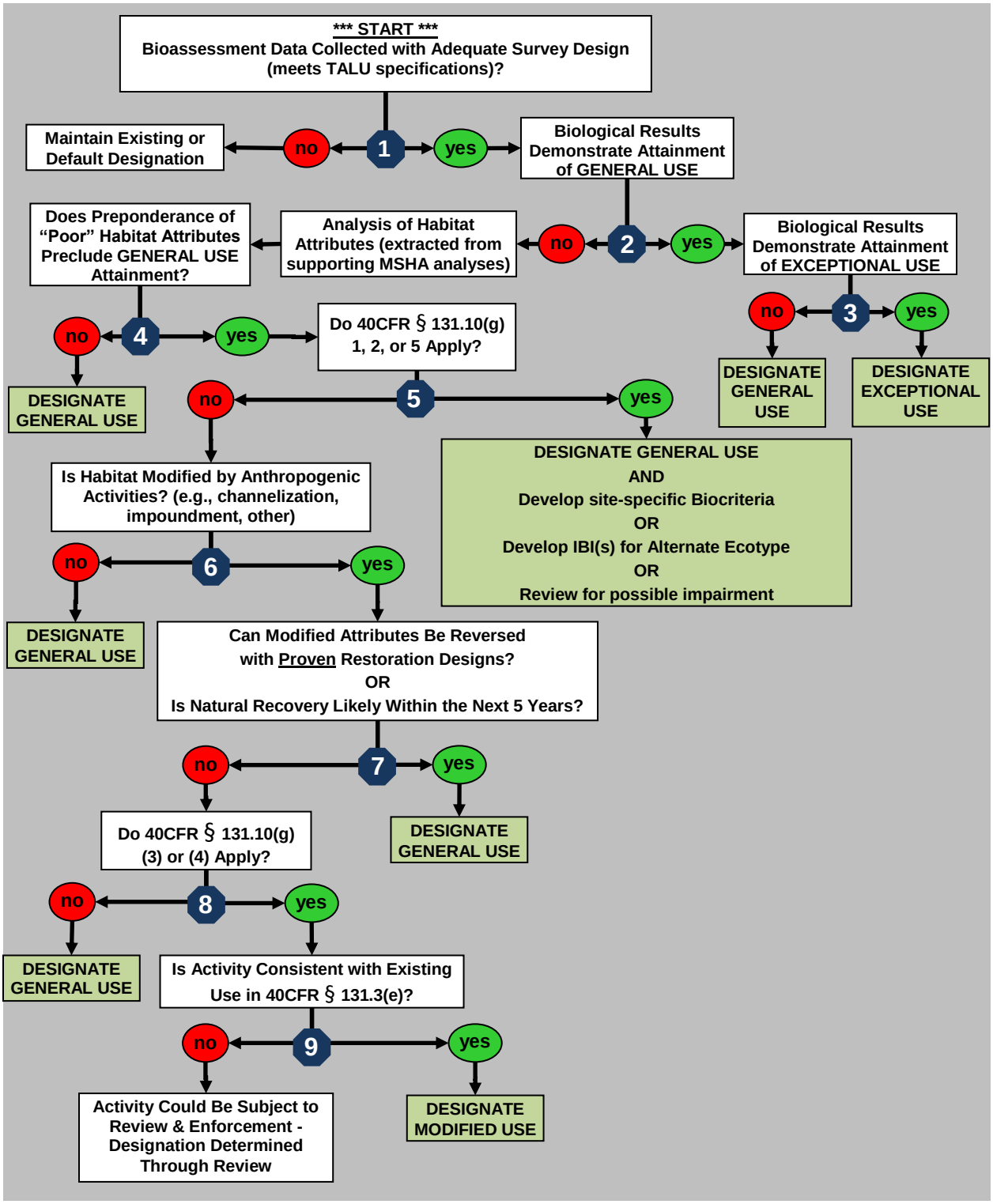

Figure 2-3. Process for using biological assessments to make use designation decisions within a TALU framework in Minnesota (see S-62).

Table 2-3. Clean Water Act rules relevant to designation of aquatic life uses.

40 CFR § 131.3(e) (S-1)**:** Existing uses are those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the WQS.

40 CFR § 131.10(g) (S-2)**:** States may remove a designated use which is not an existing use, as defined in § 131.3 (S-1), or establish sub-categories of a use if the State can demonstrate that attaining the designated use is not feasible because:

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.

3. Public participation and stakeholder involvement

The MPCA conducted several outreach activities while developing these rule amendments. This was done, in part, to comply with the requirements of Minnesota's rulemaking process, but also to notify, engage, and inform potentially interested parties about the TALU framework and solicit their input on pre-publication drafts of the amendments. These outreach activities, which began in early 2009 and continued into late summer 2016, provided a useful exchange of information between MPCA staff and other parties with an interest in, and knowledge of, water quality issues and the application of WQS. The remainder of this section describes the MPCA's public outreach efforts.

A. Webpages

In 2009, well before the MPCA published its Request for Comments (RFC) on its planned TALU framework rule amendments, the MPCA created a TALU framework webpage (http://www.pca.state.mn.us/talu). First developed to provide background information about the TALU framework concept and work taking place under the MPCA's TALU contract with MBI, the TALU framework webpage has been routinely revised to keep the public apprised of forthcoming stakeholder meetings and developments related to this rulemaking. The original technical background information

remains and the webpage now houses information relevant to this rulemaking (e.g., a draft of the rule amendments, supporting documents and a target schedule for adoption). The MPCA will continue to update the TALU framework webpage to include information about the proposed amendments and rulemaking documents, including a final version of this SONAR, the proposed rule language, and other supporting rulemaking documents. This will ensure that potentially interested parties can continue to participate in the rulemaking process after the MPCA publishes its Notice of Intention to Adopt in the *State Register*.

Another webpage relevant to this rulemaking is the MPCA Public Notice webpage: https://www.pca.state.mn.us/public-notices. The MPCA posted its RFC for the planned TALU framework amendments here the same day it was published in the *State Register* (August 25, 2014). Similarly, the public notice issued on May 6, 2016, to announce the MPCA's June 21, 2016, public informational meeting on the TALU framework rulemaking (discussed below) was posted at this location. Public notices remain posted for the entire term of the comment period. As discussed in Chapter 7, the MPCA will continue to post official public notices related to the proposed TALU framework rule on this webpage.

B. GovDelivery

GovDelivery is a self-subscription service the MPCA uses to electronically (email) notify interested or affected persons of various updates and public notices issued on a wide range of topics, including administrative rulemakings. Persons register and choose the notifications they want to receive at the following webpage: https://public.govdelivery.com/accounts/MNPCA/subscriber/new.

In 2012, the MPCA added the TALU framework rulemaking to the list of topics available for GovDelivery subscribers to select if interested in receiving related announcements and public notices. The MPCA then promoted and encouraged interested persons to subscribe to the list by: (a) posting a related announcement on the TALU framework webpage; (b) sending a GovDelivery notice, which announced the new list, to persons registered to receive all MPCA rulemaking notifications; and (c) informing those who attended the stakeholder meetings, listed below, of the availability of the list. As of June 2016, nearly 2,1000 persons are subscribed to this TALU framework rulemaking GovDelivery list.

More recently, on May 6, 2016, the MPCA sent another notice to subscribers that announced an informational meeting on the draft TALU framework rules would be held on June 21, 2016, as part of the MPCA Advisory Committee's regular meeting. The notice provided a link to the MPCA's public notice, the recent version of the draft rule, associated documents, and it encouraged recipients to attend and participate in the meeting.

C. Meetings

In the early stages of rule development, the MPCA held a series of informational meetings with interested parties to solicit input and feedback on the planned amendments. Each meeting began with MPCA staff presenting an overview of the TALU framework, providing technical documents to attendees, and then opening up the meeting for questions. Considerable discussion took place during these meetings, which were attended by various stakeholders, including representatives of Tribes, governmental agencies, environmental advocacy groups and business associations. The MPCA posted the same presentations and technical documents on the TALU framework webpage, referred to above, so that interested parties who may not have been able to attend a meeting could learn more about the planned amendments.

The first informational meetings were held at the MPCA's St. Paul, Duluth, Detroit Lakes, Marshall, and Rochester offices on January 12-16, 2009. The St. Paul meeting (January 12, 2009) was also webcast and recorded to allow those who could not attend in person to participate. A second series of meetings, held at the MPCA's St. Paul office on February 24-26, 2009, was specifically set up to discuss the concepts of the TALU framework with individual stakeholder groups so that MPCA staff could better understand each group's unique interests. A third informational meeting was held on June 13, 2012, at the Minnesota Department of Agriculture building in St. Paul. This meeting followed the publication of a TALU framework implementation report (S-18) and was also webcast to allow broader participation. On January 27, 2015, the MPCA presented an overview of the TALU framework to the now disbanded MPCA Citizens' Board at the MPCA office in St. Paul. This presentation was webcast and a recording of the meeting made available to the public.

During 2015-2016, the MPCA posted draft rules and a summary document on the TALU framework rulemaking webpage and again conducted a series of meetings with stakeholders to discuss the draft amendments and to solicit feedback on their anticipated effects. More recently, on June 21, 2016, the MPCA held a public informational meeting on the draft TALU framework rule amendments as part of the MPCA Advisory Committee's regular meeting, an audio recording of which is available upon request. A summary of that meeting is provided in Section 3D below.

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

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

Date	Interested Party/Parties or Stakeholder Meeting	Location	Major Topic(s)
1/12/2009	Stakeholders in general	MPCA Office, St. Paul, MN [also webcast and made available on the TALU webpage]	Informational meeting with a general overview of that TALU framework
1/13/2009	Stakeholders in general	MPCA Office, Duluth, MN	Informational meeting with a general overview of that TALU framework
1/14/2009	Stakeholders in general	MPCA Office, Detroit Lakes, MN	Informational meeting with a general overview of that TALU framework
1/15/2009	Stakeholders in general	MPCA Office, Marshall, MN	Informational meeting with a general overview of that TALU framework
1/16/2009	Stakeholders in general	MPCA Office, Rochester, MN	Informational meeting with a general overview of that TALU framework
2/24/2009	Biologists from other state agencies and universities	MPCA Office, St. Paul, MN	TALU framework with a focus on questions/issues raised by attendees
2/24/2009	Stakeholders from industry	MPCA Office, St. Paul, MN	TALU framework with a focus on questions/issues raised by attendees

Date	Interested Party/Parties or Stakeholder Meeting	Location	Major Topic(s)
2/25/2009	Agriculture stakeholders	MPCA Office, St. Paul, MN	TALU framework with a focus on questions/issues raised by attendees
2/25/2009	Stakeholders associated with waste water treatment facilities	MPCA Office, St. Paul, MN	TALU framework with a focus on questions/issues raised by attendees
2/26/2009	Stakeholders associated with stormwater	MPCA Office, St. Paul, MN	TALU framework with a focus on questions/issues raised by attendees
2/27/2009	University of Minnesota Water Resources Center Seminar	University of Minnesota, St. Paul, MN	Overview of TALU framework and rule
3/8/2009	Minnesota Center for Environmental Advocacy (MCEA)	MPCA Office, St. Paul, MN	TALU framework with a focus on questions/issues raised by attendees
2/4/2009	American Council of Engineering Companies of Minnesota (ACEC) Water Resources Committee Meeting	MPCA Office, St. Paul, MN	Overview of TALU framework and rule
10/20/2010	Minnesota Water Resources Conference attendees	River Center, St. Paul, MN	Development of biological criteria for TALUs
10/2/2010	MNDNR	Minnesota Department of Natural Resources Office, St. Paul, MN	Development of biological criteria for TALUs
5/29/2012	State Agency Leadership (MDA, MNDNR, METC, BWSR, MDH, MnDOT, MPCA)	MPCA Office, St. Paul, MN	Overview of TALU framework and rule
6/11/2012	Minnesota Department of Agriculture	Orville L. Freeman Building, St. Paul, MN	Overview of TALU framework and rule
10/16/2012	Minnesota Water Resources Conference	River Centre, St. Paul, MN	Development of TALU framework for Minnesota
11/13/2012	27th Annual Conference on the Environment	University of Minnesota, St. Paul, MN	Overview of TALU framework and rule
6/13/2013	Stakeholders in general	Orville L. Freeman Building, St. Paul, MN and by webcast	Presentation and discussion of TALU implementation framework
8/8/2013	EPA Region V and Region V states and tribes	MPCA Office, St. Paul, MN and by phone	Overview of TALU framework and rule
3/27/2013	Driftless Area Symposium	Radisson Hotel, LaCrosse, WI	Overview of TALU framework and rule with a focus on Driftless Area streams
6/19/2013	Lower Mississippi River Basin and Basin Alliance for the Lower Mississippi in Minnesota	MPCA Office, Rochester, MN	Overview of TALU framework and rule with a focus on Lower Mississippi basin streams

Date	Interested Party/Parties or Stakeholder Meeting	Location	Major Topic(s)
9/24/2013	MPCA Citizens' Board	MPCA Office, St. Paul, MN [also webcast]	Update on TALU framework and rule
11/7/2014	Clean/Comprehensive Water Management - Leadership Meetings (MNDNR, BWSR, MDA, MPCA)	MPCA Office, St. Paul, MN	Overview of TALU framework and rule
11/7/2014	Local Government Water Roundtable Meeting	Minnesota Counties Intergovernmental Trust (MCIT), St. Paul, MN	Overview of TALU framework and rule
11/19/2014	Minnesota Department of Agriculture	MPCA Office, St. Paul, MN	Overview of TALU framework and rule
12/8/2014	24th Annual Minnesota Association of Soil and Water Conservation Districts Trade Show	Double Tree by Hilton, Bloomington, MN	Overview of TALU framework and rule
1/27/2015	MPCA Citizen's Board	MPCA Office, St. Paul, MN [also webcast]	Overview of TALU framework and rule
9/9/2015	Metropolitan Council	MPCA Office, St. Paul, MN	TALU overview and removal of Class 2C designations for Minnesota River and Mississippi River reaches
12/9/2015	Minnesota Environmental Science and Economic Review Board (MESERB)	MPCA Office, St. Paul, MN	Meeting to discussing upcoming MPCA rules
12/10/2015	Drainage Workgroup	Minnesota Farm Bureau, Eagan, MN	Presentation and discussion of TALU framework and rule with a focus on impact to drainage systems
12/15/2015	Barr Engineering	By phone	Discussion of sampling needs to support TALU
12/18/2015	Metro Area Watershed Update Meeting	MPCA Office, St. Paul, MN	Overview of TALU framework and rule
1/7/2016	Lake Superior Stream Science Symposium II	University of Minnesota, Duluth, MN	Overview of TALU framework and rule with focus on the impacts to Lake Superior streams
1/20/2016	Minnesota Reservation Technical Staff Environmental Council (MNTEC)	Fond du Lac Resource Management Division and Tribal Courthouse, Cloquet, MN	Overview of TALU framework and rule
1/27/2016	Minnesota Department of Natural Resources (MNDNR)	Minnesota Department of Natural Resources Office, St. Paul, MN	Overview of TALU framework and rule
2/3/2016	Quarterly Mining Meeting	MPCA Office, St. Paul, MN and by phone	Overview of TALU framework and rule

Date	Interested Party/Parties or Stakeholder Meeting	Location	Major Topic(s)
3/23/2016	Red River Watershed Management Board, Drainage Seminar	Courtyard by Marriott, Moorhead, MN	Presentation of TALU framework and rule with a focus on impact to drainage systems
5/18/2016	Clean Water Fund Interagency Surface Water Monitoring & Assessment Subteam	MPCA Office, St. Paul, MN	Overview of TALU framework and rule
6/21/2016	MPCA Advisory Committee Meeting	MPCA Office, St. Paul, MN (audio recording made available following meeting upon request)	Overview of TALU framework and rule
6/30/2016	Minnesota Department of Transportation	Minnesota Department of Transportation Central Office, St. Paul, MN	Discussion of proposed TALU framework rule
7/20/2016	Minnesota Center for Environmental Advocacy	MPCA Office, St. Paul, MN	Discussion of proposed TALU framework rule
8/16/2016	Barr Engineering	Barr Office, Minneapolis, MN	Update interested Barr Engineering staff on TALU framework

D. Pre-proposal comments received

As noted above, the MPCA received several comments from interested parties during the process of developing the TALU framework amendments. These included comments from stakeholders who attended the meetings listed in Table 3-1 above, and also those received in four comment letters (S-67, S-68, S-69, S-70) sent to the MPCA after the RFC was published in the State Register on August 25, 2014 (S-71). The MPCA considered all comments received that were within the scope of the planned TALU framework, many of which were helpful in developing the proposed amendments and supporting documentation.

The written comments received in response to the RFC were generally supportive of the proposed changes, although some identified specific issues or raised questions regarding the TALU framework. The U.S. Environmental Protection Agency (EPA) commended the MPCA "in its effort to incorporate a refined aquatic life use classification system and corresponding biological standards into Minnesota's water quality standards." Ramsey County submitted comments that supported the TALU framework criteria, but questioned how the TALU framework will affect the streams currently listed in Minn. R. 7050.0470 (S-6) and how it will use reference streams to determine attainable use levels.

One commenter indicated support for including biological principles in the rules, but also identified a concern regarding how the Modified Use class will meet the CWA goal to "restore" waters to their original, native condition. This person further stated that: 1) there is a need for a short term and long term water restoration processes; 2) the designation of waters into TALU tiers should be conducted through a public process; and 3) the TALU tiers should be automatically incorporated into NPDES/State Disposal System (SDS) Permits. Another commenter questioned the relationship of the TALU framework with local zoning and planning rights and responsibilities. All comments received in response to the RFC

that were within the scope of this rulemaking were considered and addressed in the development of the rule amendments.

During the June 21, 2016, public informational meeting held on the draft TALU framework rule as part of the MPCA Advisory Committee's (AC) regular meeting, staff fielded questions from both the AC and members of the public (approximately 25 stakeholders attended the meeting). In general, the questions received can be summarized as follows:

- How does the TALU framework provide protections beyond antidegradation and how does it interact with antidegradation?
- How does the TALU framework impact the stormwater permitting process?
- Why isn't the TALU framework more widely adopted among states?
- Do other states use biocriteria for assessments?
- How is the variability of the IBIs addressed in the TALU designation process?
- How has the science that supports the TALU framework been peer reviewed?
- Is a list of draft TALUs and the schedule for proposing TALUs available?

After considering input received at this meeting and holding subsequent meetings with a few stakeholders to further discuss their comments (identified in Table 3 above), the MPCA made additional changes to the draft rule and SONAR. Further, the MPCA produced a new technical document to more clearly list stream reaches that this rulemaking proposes to reclassify using the TALU framework. Overall, the comments received during this informational meeting and the changes they elicited improved the draft rule and SONAR and the supporting documentation.

4. Statutory authority

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

The federal CWA requires states to establish WQS to meet the goals and objective of the CWA and to protect designated beneficial uses for water bodies (33 U.S.C. § 1313 (a)-(c); S-24). The objective of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" (33 U.S.C. § 1313 (a)-(c); S-24). The proposed TALU amendments are specifically directed at restoring and maintaining the biological integrity of Minnesota's waters. The EPA must approve of a state's WQS and any revisions to WQS to ensure they meet CWA goals and requirements. Minnesota WQS are established in Minn. R. ch. 7050.

In addition, the MPCA is authorized by Minn. Stat. § 115.03 (S-26) to enforce laws relating to pollution of Waters of the State, classify Waters of the State, and to adopt WQS.

> *115.03 POWERS AND DUTIES.*
>
> *Subdivision 1. Generally.*
>
> *The agency is hereby given and charged with the following powers and duties:*
>
> > *(a) to administer and enforce all laws relating to the pollution of any of the waters of the state;*
> >
> > *(b) to investigate the extent, character, and effect of the pollution of the waters of this state and to gather data and information necessary or desirable in the administration or enforcement of pollution laws, and to make such classification of the waters of the state as it may deem advisable;*

(c) to establish and alter such reasonable pollution standards for any waters of the state in relation to the public use to which they are or may be put as it shall deem necessary for the purposes of this chapter and, with respect to the pollution of waters of the state, chapter 116;

*****

(e) to adopt, issue, reissue, modify, deny, or revoke, enter into or enforce reasonable orders, permits, variances, standards, rules, schedules of compliance, and stipulation agreements, under such conditions as it may prescribe, in order to prevent, control or abate water pollution, or for the installation or operation of disposal systems or parts thereof, or for other equipment and facilities:

Minn. Stat. § 115.44 (S-25) provides additional authority for the MPCA to classify Waters of the State and to adopt WQS, specifically including establishing WQS for the protection of biological properties of Waters of the State.

115.44 CLASSIFICATION OF WATERS; STANDARDS OF QUALITY AND PURITY.

*****

Subd. 2. Classification and standards.

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

Subd. 3. Adoption of classification.

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

(a) the size, depth, surface area covered, volume, direction and rate of flow, stream gradient and temperature of the water;

(b) the character of the district bordering said waters and its peculiar suitability for the particular uses, and with a view to conserving the value of the same and encouraging the most appropriate use of lands bordering said waters, for residential, agricultural, industrial, or recreational purposes;

(c) the uses which have been made, are being made, or may be made of said waters for transportation, domestic and industrial consumption, bathing, fishing and fish culture, fire prevention, the disposal of sewage, industrial wastes and other wastes or other uses within this state, and, at the discretion of the agency, any such uses in another state on interstate waters flowing through or originating in this state;

(d) the extent of present defilement or fouling of said waters which has already occurred or resulted from past discharges therein;

(e) the need for standards for effluent from disposal systems entering waters of the state;

(f) such other considerations as the agency deems proper.

Subd. 4. Standards.

The agency, after proper study, and in accordance with chapter 14, shall adopt and design standards of quality and purity for each classification necessary for the public use or benefit contemplated by the classification. The standards shall prescribe what qualities and properties of

*water indicate a polluted condition of the waters of the state which is actually or potentially deleterious, harmful, detrimental, or injurious to the public health, safety, or welfare; to terrestrial or aquatic life or to its growth and propagation; or to the use of the waters for domestic, commercial and industrial, agricultural, recreational, or other reasonable purposes, with respect to the various classes established pursuant to subdivision 2. The standards may also contain other provisions that the agency deems proper. ****

Subd. 5. Factors.

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

*****

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

Finally, the MPCA is authorized, under Minn. Stat. § 115.03, subd. 5 (S-26), to perform any and all acts minimally necessary, including the establishment and application of standards and rules, for the MPCA's ongoing participation in the National Pollutant Discharge Elimination System (NPDES) Permitting program. Ensuring that WQS reflect the best current scientific understanding is necessary for the continued implementation of the NPDES program and other CWA programs.

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

5. Reasonableness of the amendments

In addition to the discussion of reasonableness provided in this Part, the TALU framework and associated UAA process are discussed in detail in Part 2 of this SONAR which provides additional support for the general reasonableness of the proposed amendments.

A. General reasonableness

The TALU framework sets WQS for protecting and restoring aquatic life based on attainable biology. The TALU framework is a reasonable mechanism to address three major issues that arise from the "one-size-fits-all" WQS in the current Class 2 framework:

- In order to interpret the current Class 2 narrative biological standard, the MPCA must apply numeric biological criteria that are not established in rule;
- A single, statewide WQS places high quality waters at risk of being reduced in quality down to the minimum Class 2 WQS; and
- Waters with limited aquatic life potential, such as legally authorized channelized streams, are assigned goals that may not be attainable.

i. Incorporating numeric biological criteria directly into rule

To measure if aquatic life uses are protected in streams, the MPCA measures the health of fish and macroinvertebrate assemblages. Biological assemblages are taxonomic subsets of biological communities in ecosystems (e.g., fish in a stream community). The MPCA relies on the use of biological assemblages, such as fish and macroinvertebrates, to measure the biological integrity of aquatic ecosystems since it is not possible to sample and measure the condition of all aquatic biota assemblages. However, by measuring the condition of these two important aquatic assemblages, the

MPCA can use the advantageous attributes of these organisms to assess attainment of the aquatic life beneficial use. These assemblages assimilate the impacts of multiple stressors, which occur at both local and watershed-level scales. For example, aquatic communities negatively respond to the cumulative impacts of stressors such as toxic pollutants, eutrophication (i.e., increases in ecosystem productivity), altered hydrology, habitat modification, and reduced habitat connectivity. Therefore, directly measuring the condition of biological assemblages provides an integrated assessment of water quality conditions (S-22, S-66, S-48) and allows the MPCA to more accurately determine the stressors that are responsible for the biological assemblages not meeting aquatic life use goals (S-18). The advantages of using biological communities are driven by two major attributes of these assemblages:

1. Biological assemblages such as fish and macroinvertebrates are relatively long-lived, so stressors in the environment, even if they are intermittent and/or short-lived, are reflected in the condition of biological assemblages (S-22, S-31).
2. Biological assemblages integrate the effects of multiple stressors over time, so impacts that might be missed because the relevant chemical or physical parameter was not measured will be detected by changes in the condition of these assemblages (S-22).

Biological assemblages are effectively used to detect long- and short-lived stressors, cumulative impacts, and physical stressors (S-22, S-67). The use of two biological assemblages also has the advantage of improving the ability to detect different types of stressors (S-49). Fish and macroinvertebrate assemblages have different ecological requirements, so they respond to different stressors; their different responses provide a more comprehensive measure of aquatic life condition (S-18, S-49, S-56, S-68, S-69). The use of biological assemblages in assessments also has the advantage of translating the condition of a water body into more widely understandable terms such as biological health. As a result, it is EPA policy for states to incorporate biological assessments into their WQS programs (S-22, S-70). Biological criteria, along with chemical standards, are integral to a state's CWA program.

The proposed TALU framework adopts numeric criteria consistent with the CWA and Minnesota Rules. The objective of the CWA is to "*restore and maintain the chemical, physical, and biological integrity of the Nation's waters"* (33 U.S.C. § 1251 (a); S-10). Scientific literature describes an aquatic ecosystem that possesses chemical, physical, and biological integrity as "*a balanced, integrated, adaptive system having a full range of ecosystem elements (genes, species, assemblages) and processes (mutation, demographics, biotic interactions, nutrient and energy dynamics, metapopulation dynamics) expected in areas with no or minimal human influence*" (S-9, S-11, S-71). Water bodies that support and maintain such an aquatic ecosystem achieve the objective of the CWA.

In addition to the CWA objective, the CWA provides an interim goal for the Nation's waters:

> *"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" (U.S. Code title 33, section 1251(a)(2))*

These descriptions are used to develop WQS to protect aquatic life uses. In Minnesota, Class 2 uses (Aquatic Life and Recreation) are equivalent to the CWA interim goal. Minnesota protects all Class 2 waters for aquatic life beneficial uses. Waters in Minnesota are classified as Class 2 as a default classification making it one of the most important beneficial uses. Class 2 is defined in Minnesota rule as:

> *"Aquatic life and recreation includes all waters of the state that support or may support fish, other aquatic life, bathing, boating, or other recreational purposes and for which quality control is or may*

be necessary to protect aquatic or terrestrial life or their habitats or the public health, safety, or welfare." (Minn. R. 7050.0140, subp. 3; S-4)

Minnesota's narrative standards for the protection of aquatic life beneficial uses in Class 2 waters are:

"For all Class 2 waters, the aquatic habitat, which includes the waters of the state and stream bed, shall not be degraded in any material manner, there shall be no material increase in undesirable slime growths or aquatic plants, including algae, nor shall there be any significant increase in harmful pesticide or other residues in the waters, sediments, and aquatic flora and fauna; the normal fishery and lower aquatic biota upon which it is dependent and the use thereof shall not be seriously impaired or endangered, the species composition shall not be altered materially, and the propagation or migration of the fish and other biota normally present shall not be prevented or hindered by the discharge of any sewage, industrial waste, or other wastes to the waters."
(Minn. R. 7050.0150, subp. 3; S-14)

To achieve protection of Class 2 aquatic life beneficial uses, Minnesota uses narrative or numeric chemical, physical, and biological standards.[18] Numeric chemical standards are the most heavily relied upon. For example, Class 2A cold water streams must meet a minimum condition of 7.0 milligrams per liter (mg/L) of dissolved oxygen, which is a numeric chemical standard. This standard is based on scientific evidence that the aquatic biota specific to cold water streams require a minimum of 7.0 mg/L of dissolved oxygen to meet their life history requirements (i.e., reproduction, feeding, etc.). Another effective water quality management tool for aquatic life protection is the use of biological goals which directly measure whether or not aquatic communities are healthy and therefore meet beneficial use goals. Minnesota currently has biological standards adopted into rule, but these standards are narrative. For example, the current narrative biological standard that applies to Class 2A cold water streams requires that they be protected to "*permit the propagation and maintenance of a healthy community of cold water sport or commercial fish and associated aquatic life and their habitats"* (Minn. R. 7050.0222, subp. 2; S-23). The MPCA currently applies the narrative biological standard through the use of numeric biological criteria translators to assess biological condition. The proposed amendments reasonably incorporate numeric biocriteria directly into the WQS and eliminate the need for translators in the assessment of streams.

The MPCA has routinely monitored fish and macroinvertebrates in streams using standardized methods since the 1990s for the purpose of biological assessment. [19] To translate biological data into a form that can be used to determine attainment of aquatic life use goals, the MPCA uses indices of biological integrity, or IBIs, to measure biological condition. IBIs are the most common analytical tools used in the United States to measure the condition of aquatic assemblages. The first IBIs in Minnesota were developed in the 1990s and early 2000s and focused on specific major basins and ecoregions (e.g., S-72, S-73, S-74, S-75, S-76, S-77).

In the late 2000s, Minnesota's stream bioassessment tools (i.e., IBIs and biocriteria) were improved to better support aquatic life assessments and to support the development of the TALU framework (S-63, S-64, S-78, S-79). The updated IBIs included a natural stream typology to address natural differences in

[18] Biological standards are referred to as biological criteria (biocriteria) in this document.

[19] Biological monitoring of fish and macroinvertebrates in streams has been limited to perennial and intermittent streams with sufficient flow to allow for colonization of fish and macroinvertebrates. As a result, the biological tools (i.e., IBIs) developed using these data are applicable to similar streams and not to ephemeral systems. The use of biological tools in ephemeral systems would require the collection of additional data and the development of new tools that can account for natural differences in biological assemblages related to their flow regimes.

these water bodies so that anthropogenic impacts are more detectable. A stream typology was developed which divided streams into nine fish and nine macroinvertebrate types (i.e., 18 total). These types were differentiated by region, drainage area, gradient, and thermal regime and an IBI was developed for each individual stream type. The result was nine different IBI models (i.e., different stream types) for each biological assemblage. The improvements were made possible by a much larger statewide dataset and included improved empirical methods for developing IBIs (S-80), a more refined natural stream classification system, and new models for measuring biological condition (i.e., BCG models).

Using the new tools and data, biocriteria were developed for Minnesota's current aquatic life use goal (equivalent to the proposed General Use) and for two additional aquatic life use tiers (i.e., Exceptional and Modified) (Table 5-1; S-5, S-40). This work included the development of a technical report (S-40), which has been available for review on the TALU framework webpage since October 2014, and the development and publication of a peer-reviewed article (S-5).

The BCG was integral to the biocriteria development process as was the traditional reference condition approach (S-78, S-79). Other states have used the BCG or similar concepts to develop biocriteria (e.g., Maine; S-12, S-22). 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 (Figure 5-1) 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)

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); S-24). 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]; S-10). The Modified Use goal is below the CWA interim goal and requires a UAA as described in Section 2.D.v. (Implementation of TALU, page 28). This goal includes biological assemblages with reduced taxonomic complexity and ecosystem function that are not consistent with General Use goals. 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. Detailed descriptions of the IBIs and biological criteria can be found in S-63, S-64, S-78, and S-79.

Table 5-1. Draft biological criteria for Exceptional, General, and Modified Uses for fish and macroinvertebrates (Abbreviations: RR = high gradient, GP = low gradient).

Type #	Type Name	Exceptional Use	General Use	Modified Use
Fish				
1	Southern Rivers	71	49	NA
2	Southern Streams	66	50	35
3	Southern Headwaters	74	55	33
4	Northern Rivers	67	38	NA
5	Northern Streams	61	47	35
6	Northern Headwaters	68	42	23
7	Low Gradient Streams	70	42	15
10	Southern Coldwater Streams	82	50	NA
11	Northern Coldwater Streams	60	35	NA
Macroinvertebrates				
1	Northern Forest Rivers	77	49	NA
2	Prairie and Southern Forest Rivers	63	31	NA
3	Northern Forest Streams RR	82	53	NA
4	Northern Forest Streams GP	76	51	37
5	Southern Streams RR	62	37	24
6	Southern Forest Streams GP	66	43	30
7	Prairie Streams GP	69	41	22
8	Northern Coldwater Streams	52	32	NA
9	Southern Coldwater Streams	72	43	NA

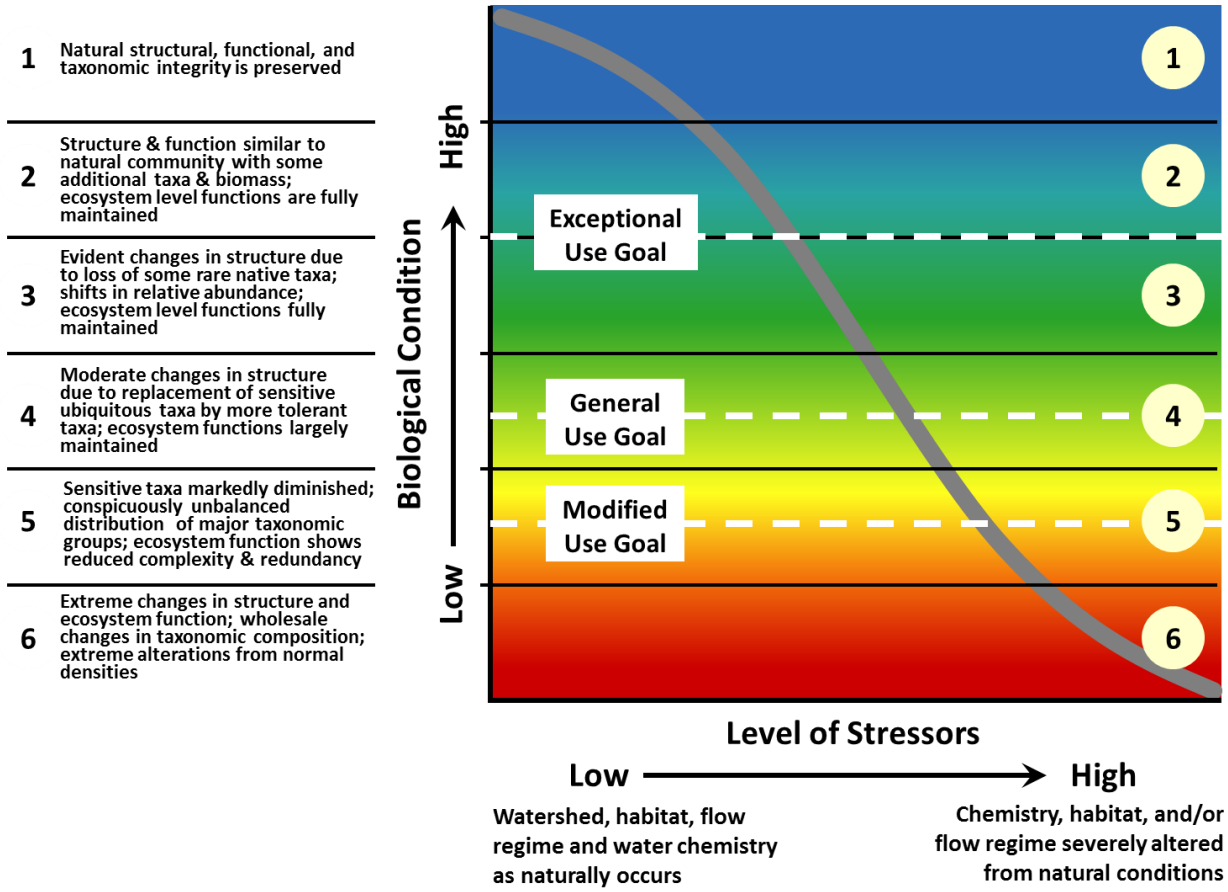

Figure 5-1. BCG illustrating the location of draft biocriteria for protection of Minnesota's tiered aquatic life use goals.

The MPCA also has a long history of using biological criteria to determine if waters are impaired for aquatic life use goals (i.e., CWA § 303(d) list waters). Currently, about half of Minnesota's aquatic life use impairments are the result of a biological assessment. The use of biological assessments to measure attainment of aquatic life goals has been a valuable tool that has been largely accepted by stakeholders involved with water quality management. Nearly all U.S. states have used biological information to assess attainment of aquatic life uses and to put waters on the impaired waters list (CWA § 303(d); S-24) and National Water Quality Inventory Report to Congress (CWA § 305(b); (S-22).

At present, the MPCA implements the narrative biological criteria (Minn. R. 7050.0150) using fish and macroinvertebrate IBI translators (Minn. R. 7050.0150, subp. 6). Adopting numeric biological criteria into rule is reasonable to formalize the existing narrative biological criteria (Minn. R. 7050.0150, subp. 6) (S-14). In addition, adopting the TALU framework and numeric biological criteria will better delineate stream potential across the state and clarify the aquatic life use goals for acceptable biological integrity that are commensurate with the goals of the CWA and Minnesota rule. The adoption of the TALU framework does not change the fundamental process the MPCA uses for assessing and measuring the attainment of aquatic life beneficial uses, but rather is a refinement of current aquatic life goals.

The current narrative translator results from a long history of using biological criteria in Minnesota. Minnesota incorporated the use of measures of biological integrity and the concept of biological criteria into rule in 1994. In 2003, the language regarding the use of biology in assessments was further refined to address the factors that would be considered when evaluating a water body using biology.

Specifically, the MPCA adopted rules that included fish, invertebrate, and plant-based IBIs as tools for measuring the attainment of narrative standards (Minn. R. 7050.0150, subp. 3; S-14, S-39). The adoption of the TALU framework is the next logical step in this process.

ii. Protecting high quality waters

The TALU framework protects high quality waters by recognizing exceptional waters and setting accurate aquatic life use goals for them, thereby providing a higher threshold of protection for them that is fully compliant with the CWA. Minnesota is fortunate to possess some of the highest quality waters in the United States and it is to the benefit of the state and its residents to protect these high quality waters. Establishing an Exceptional Use subcategory of Class 2 complies with CWA requirements which allow for the establishment of subcategories of major uses (e.g., aquatic life and recreation) when existing uses are protected. All Exceptional Use water bodies would be designated based on the fact that they have demonstrated attainment of Exceptional Use goals (i.e., biological criteria) on or after November 28, 1975 as described in 40 CFR § 131.3(e) (S-1; see Figure 2-3 [p. 30]). This demonstrated attainment makes the Exceptional Use an existing use that must be maintained or restored in the water body. In addition to the fundamental reasonableness of providing protection for high quality waters, protection of these waters has the additional advantage of being less costly than restoration of a water body after it is degraded.

Biocriteria for the Exceptional Use were developed using reference sites and BCG models (S-78, S-79). Ohio used the 75th percentile of IBI scores from reference sites (S-81). Minnesota also used the 75th percentile of IBI scores 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 (S-78, S-79). 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.

Minnesota's antidegradation rules (Minn. R. 7050.0180 (S-82) and Minn. R. 7050.0185 (S-83)) provide a process for protecting waters from degradation. Antidegradation provisions prevent unnecessary degradation of existing high water quality (i.e., quality better than standards) and maintain and protect the quality of waters identified for their outstanding value. Antidegradation allows the lowering of high water quality only when it is necessary to accommodate important economic or social development. However, even when the lowering of high water quality is allowed, existing beneficial uses must be preserved. By adding the new beneficial use subcategory of Exceptional Use, the TALU framework amendments provide an additional protection for high quality waters that is not currently provided through the antidegradation process. Under the current aquatic life use framework, water-bodies with exceptional characteristics could be degraded down to the General Use goal if deemed necessary for economic or social development. In contrast, the proposed TALU framework establishes a new, higher aquatic life use goal for waters designated as Exceptional Use. Because the Exceptional Use is established based on actual monitoring data, it becomes the existing beneficial use for that water body. This means that activities that will degrade Exceptional Use waters may be approved through antidegradation review if they are demonstrated to be necessary and important, but no activity can be approved if the extent of the degradation will cause a loss of its Exceptional Use classification.

In addition, antidegradation requirements are only effectively implemented through the issuances of water quality control documents (e.g., NPDES/SDS Permits, 401 Certifications). As a result, impacts from unregulated activities could result in the degradation of exceptional water bodies down to the General

Use goal without antidegradation review. The establishment of the Exceptional Use tier compliments antidegradation by ensuring protections for high quality waters though establishment of a higher existing use for certain waters and by expanding protection strategies to activities not regulated by antidegradation.

By establishing the Exceptional Use, high quality waters can be identified and protection strategies developed to maintain their biological condition. The TALU framework does not create new regulations for managing these high quality water bodies or prohibit economically or socially important projects, but it does create a framework for implementing existing water quality management tools to prevent their degradation.

iii. Setting goals for streams affected by human-induced legacy habitat alterations

The aquatic life condition of many streams in Minnesota is constrained (or limited) by physical modifications for drainage allowed under Minnesota statute. An analysis of streams in Minnesota determined that approximately 53% of stream miles are modified by humans either through channelization, channel creation, or impoundment (S-84). The majority of these alterations are the result of channelization to improve drainage in agricultural and urban areas of the state. These activities benefit the citizens of the state by making more land arable or suitable for development; however, these modifications result in water bodies with physical habitat structure which negatively affects the attainment of aquatic life use goals.

The relationships between aquatic assemblages and poor physical habitat condition have been well documented. Many papers describe how the loss of habitat, reduced connectivity with riparian habitats, and other degraded habitat characteristics are related to the condition of fish and macroinvertebrate communities (S-9, S-65, S-85, S-86, S-87, S-88, S-89, S-90, S-91, S-92, S-93, S-94, S-95, S-96, S-97, S-98, S-99, S-100). The biological limitation and reduced ecosystem function of these streams imposed by poor physical habitat structure is largely associated with ditch construction and maintenance activities (e.g., excavation, cleaning, snagging, repair of banks; S-49, S-101). As a result, some of these water bodies are not capable of supporting aquatic assemblages that meet Minnesota's current Class 2 aquatic life goals. It is therefore reasonable to set attainable and appropriate aquatic life use goals for those streams managed for drainage under Minn. Stat. § 103E (S-60), or otherwise legally altered.

Despite these limitations, modified water bodies can have functional aquatic assemblages that are capable of attaining a more modest aquatic life goal. These water bodies should not be considered incapable of supporting any aquatic life or providing benefits other than drainage. Nor should they be considered outside of the protection of WQS since these water bodies clearly fall under the definition of Waters of the State (Minn. Stat. § 115.01 subd. 22 S-27, S-102). An analysis of the legal applicability of the TALU framework to drainage ditches and altered watercourses is provided in S-27. The TALU framework reasonably provides some physically altered water bodies with aquatic life goals reflecting their actual biological potential and protects them for that potential.

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); S-2). In accordance with the CWA, the MPCA will perform a UAA to determine that the water body cannot meet the General Use (see Figure 2-3). 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 (S-2;Table 2-3), or natural recovery to General Use conditions is not likely within the next five years; and
5. The activity is consistent with existing use (40 CFR § 131.3(e) (S-1); Table 2-3).

These steps are described in more detail below.

Under the TALU framework, the process of determining whether a water body is eligible to be reclassified as Modified Use requires several determinations (a schematic of this process is provided in Figure 2-3). The MPCA must determine whether the biological assemblages meet or have met the beneficial use goals for General Use or higher on or after November 28, 1975 (40 CFR § 131.3(e); S-1). If they have, then General Use is the existing use that must be maintained or restored and the water body is not eligible to be reclassified as Modified Use. If the water body does not or has not met the General Use goals, then the MPCA must determine if the physical habitat alterations are limiting attainment of aquatic life goals. This involves the use of a habitat index (i.e., Minnesota Stream Habitat Assessment or MSHA) and other relevant evidence (S-65).[20] In most cases, when an analysis of the habitat data predicts that the physical habitat conditions will result in less than a 25% probability that the aquatic life goals will be attained, the water body is considered to be limited by habitat (S-62).

If the water body has not met the General Use goals since November 28, 1975, and physical habitat is the limiting factor, then the nature of the habitat alterations must be determined. Only water bodies where the limiting habitat is the result of direct physical modifications to the channel, such as water bodies that are maintained for drainage or that have had the bank altered to increase stability, are eligible for the Modified Use. Impounded water bodies could also be included in the Modified Use; however, the MPCA currently is not proposing any changes to this type of water body in this proposed rule amendment. The inclusion of impounded streams in the Modified Use would require the development of new or revised biological monitoring and assessment tools (i.e., sampling methods and IBIs) to measure the condition of these habitats. Water bodies with natural channels (i.e., not straightened or armored), but with poor physical habitat structure that is the result of upstream impacts such as hydrological modification (e.g., ditching, tile drainage, wetland drainage, impervious surfaces), are not eligible to be classified as Modified Use. The final considerations of the UAA review address specific provisions in the CWA (40 CFR § 131.10(g); S-2). These consider whether the stream: 1) can be restored; or 2) is likely to recover on its own in the next five years (S-18).

It is important to note that some modified or altered water bodies currently meet General Use Class 2 aquatic life goals or met them at some point since EPA's first WQS regulations were codified (November 28, 1975).[21] These water bodies will continue to be classified as General Use and not as Modified Use. In addition, the UAA review that is part of the TALU framework may determine that an altered water body is not eligible for classification as Modified Use for a number of other reasons, including physical habitat structure sufficient to meet the General Use goals or because it is likely to recover in five years or less. The TALU framework does not automatically reclassify all altered streams as Modified Use. The CWA

[20] A habitat index is a multimetric model that measures habitat condition as it relates to biological assemblages.
[21] November 28, 1975, is the date when antidegradation policy was included in EPA's first WQS regulation (40 CFR 130.17, 40 F.R. 55340-41, November 28, 1975; S-103).

requires a demonstration, through a UAA, that the CWA interim goal is not achievable. This determination must be followed by rulemaking to change the use classification.

Aquatic life goals or biological criteria for Modified Uses are determined using a set of "reference" channelized water bodies (S-78, S-79). 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 (Figure 5-2). The use of reference water bodies establishes biological criteria that are attainable for these water bodies when appropriate 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.

Figure 5-2. Examples of Modified reference condition ditches.

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).

iv. Removing Class 2C

The narrative WQS for Class 2B waters in Minn. R. 7050.0222, subp. 4 (S-23) describes the maintenance of a "*healthy community of cool or warm water sport or commercial fish,*" whereas the narrative standard in Minn. R. 7050.0222, subp. 5 (S-23), for Class 2C waters protects a "*healthy community of indigenous fish.*" The only difference in the standards for these two classes is a relatively small difference in the maximum daily temperature allowed. The maximum daily temperature is 86°F for Class 2B streams and 90°F for 2C streams. The Class 2C WQS creates a more complicated WQS framework without providing improved management tools. In addition, the Class 2C temperature standard has seldom been used in assessments, permit limits, TMDLs, or WRAPS. Removal of Class 2C would, therefore, have no to minimal impact on water quality management activities. If a temperature standard above 86°F is determined to be appropriate, a site-specific standard could be developed. The MPCA proposes to remove the Class 2C WQS from Minn. R. chs. 7050 and 7052 and reclassify current Class 2C streams as Class 2B waters, because the WQS for these two classes are nearly identical.

Class 2C was adopted in the 1960s when aquatic life use goals were focused on game fish and as a result, most of the streams classified as Class 2C were expected to only support limited game fish populations. However, since the 1960s the aquatic life use goals have shifted from solely sport fisheries-

based goals to goals that encompass all aquatic life (S-41). The shift is reflected in amendments to rules in 1993 and 2002 (S-39, S-41) that have largely brought Class 2C into alignment with Class 2B. Refinements to the beneficial use framework through adoption of the TALU framework with the use of IBIs and stream type classifications to compare similar streams (S-63, S-64) further address the needs that Class 2C originally fulfilled. Many streams currently designated as Class 2C with limited recreational fishing due to their small size are classified as headwater streams and compared to similar streams that have a naturally-limited fish assemblage. The fish and macroinvertebrate stream types set more practical expectations, based on the biological assemblages that are expected to occur in these habitats, than are established with the current Class 2C designation.

The narrative language of Classes 2B and 2C also differ in terms of the recreation they were intended to protect. The narrative language for Class 2B waters is described as being "*suitable for aquatic recreation of all kinds, including bathing*" while the narrative language for Class 2C waters is described as being "*suitable for boating and other forms of aquatic recreation.*" However, the numeric *Escherichia* (*E*.) *coli* standard associated with the protection of recreation is the same for Classes 2B and 2C, (Minn. R. 7050.0110, subp. 5a(D)) indicating that in practice these waters are managed similarly for aquatic recreation.

Two Class 2C stream reaches with site-specific dissolved oxygen WQS will be reclassified as Class 2B, but will retain their site-specific standards (Table 5-2). There is also a reach on the Mississippi River designated 2B that is included in the dissolved oxygen site-specific rule language for Class 2C in Minn. R. 7050.0222 subp. 5 (Table 5-2). This site-specific rule language is also repeated for Class 2B in Minn. R. 7050.0222 subp. 4 and this rule language will be retained (S-23).

Table 5-2. Stream reaches that will retain site-specific standards for dissolved oxygen. 2Bg = General Cool and Warm Water Aquatic Life and Habitat.

AUID	Watershed (HUC 8)	Water-body Name and Reach Description	Present Use Class	Proposed Use Class with TALU designation
07010206-504	Mississippi River	Mississippi River (outlet of Metro Wastewater Treatment Works in Saint Paul [River Mile 835.3] to Rock Island Railroad Bridge [River Mile 830])	2C	2Bg
07010206-502	Mississippi River	Mississippi River (Rock Island RR bridge [River Mile 830] to Lock and Dam #2 [River Mile 815.2])	2B	2Bg
07020012-505 (part)	Minnesota River	Minnesota River (from the outlet of the Blue Lake wastewater treatment works [River Mile 21] to the mouth at Fort Snelling [River Mile 0])	2C	2Bg

The dissolved oxygen site-specific standards for these reaches on the Mississippi and Minnesota rivers are:

> *For this reach of the Mississippi River the standard is not less than 5 mg/L as a daily average from April 1 through November 30, and not less than 4 mg/L at other times. For the specified reach of the Minnesota River the standard shall be not less than 5 mg/L as a daily average year-round.* (Minn. R. 7050.0222, subp. 5; S-23)

The dissolved oxygen standard for Class 2B waters and all other Class 2C waters is "*5 mg/L as a daily minimum.*" It is reasonable to retain the current site-specific standards for these reaches of the Mississippi River and Minnesota River.

v. Updating the structure of 7050.0470

The rule part in Minn. R. ch. 7050 that lists water bodies specifically identified as Class 2A and 2Bd (Minn. R. 7050.0470; S-6) will be changed and restructured as part of the TALU framework amendment. This change includes listing all stream reaches (not just those designated as 2A and 2Bd) in Minn. R. 7050.0470 (S-6) with a list of the beneficial uses that apply to each stream reach (see example in Appendix C). The proposed amendments also change the format of the water-body classification reference lists to make them easier to understand, use, and update. Minn. R. 7050.0470 (S-6) currently contains an extensive list, categorized by major basin, which is not user friendly. It does not address all waters or all classes. It does not include information other than the use class and special designations. In particular, the current format does not include assessment unit identification (AUID) numbers which are often used to search for water bodies that are on the CWA § 303(d) impaired waters list. Finally, the format makes amendments difficult and expensive.

It is reasonable to improve management of waters by upgrading the current process of documenting uses. The MPCA proposes to remove the listings for all the stream reaches previously identified in Minn. R. 7050.0470 (S-6) and in their place incorporate, by reference, documents that identify all stream reaches within each identified watershed. The lists of lakes and wetlands in Minn. R. 7050.0470 will be retained. The revised documents will provide the following improvements:

1. Identification of all streams, including those previously listed in Minn. R. 7050.0470 (S-6) and those not previously listed, by HUC 8 watershed to align with Minnesota's IWM strategy. This strategy intensively monitors 6 to 10 of Minnesota's 80 Hydrological Unit Code (HUC) 8 watersheds each year to achieve statewide coverage in 10 years. The MPCA expects to update the information in each watershed table at least every 10 years.
2. Restructuring the listed information to provide more complete and accessible information at the reach level, including AUID numbers, a description of the reach extent, and information on whether or not the beneficial use has been reviewed and confirmed.

In addition to providing more extensive information in a more accessible format, the incorporation by reference of restructured and expanded lists of waters is reasonable because it will allow the MPCA to more conveniently amend the rules when required to make use class changes. When it is necessary to modify a use classification, the MPCA can reference the specific document where that water is listed instead of citing the entire affected subpart of Minn. R. 7050.0470 (S-6) as was previously required. This represents a significant savings in the MPCA's rulemaking costs and a convenience to parties interested in participating in the rulemaking. The restructuring will also make updating these tables logistically easier and better link them to user access portals such as MPCA's Environmental Data webpage (https://www.pca.state.mn.us/quick-links/eda-surface-water-data).

vi. Designating more accurate aquatic life uses for selected streams

The proposed amendments include changes to beneficial uses classifications (Minn. R. 7050.0470; S-6) for 141 stream reaches. The proposed designation changes for these stream reaches are all reclassifications to the Exceptional or Modified Uses based on data from watersheds that were intensively monitored in 2012 and 2013. The process for determining these use classification changes is based on available data and the MPCA's assessment of a number of factors (e.g., biological condition, habitat, restoration potential; see Figure 2-3) as part of a UAA. The process of interpreting the data and

making the beneficial use determination involves several quantitative thresholds and other evidence to reasonably determine the appropriate use class within the TALU framework. A discussion of each step in the process of making those determinations is provided in "Draft technical guidance for designating aquatic life uses in Minnesota streams and rivers" (S-62). Appendix A provides stream-specific monitoring data that support each use class change being proposed. The proposed reclassifications are based on reasonable interpretations of the data and consistent application of the UAA process.

Following the adoption of the TALU framework and the redesignation of the 141 reaches proposed as part of this rule, additional use designations will be proposed when new data indicate it is appropriate. The schedule for these new use designations are intended to follow the IWM schedule and the MPCA intends that these will occur annually or biennially. These changes will follow a formal rulemaking procedure which includes public input and EPA approval.

The MPCA believes that the TALU framework is needed and reasonable and consequently, that it is reasonable to act as soon as possible to implement that framework in Minnesota. Likewise, it is reasonable to accurately classify streams as soon as there is adequate data to support the change. The MPCA has the expertise and data necessary to support the UAA process, and therefore, is proposing these changes concurrent with the adoption of the TALU framework.

Adopting the proposed use classification changes provides the additional benefit of demonstrating how the MPCA will document these types of changes in future rulemakings and the type of data necessary to support future proposals.

vii. Revising Minn. R. 7050.0150

The proposed amendments include the addition of new terms and definitions, modification of some existing definitions in Minn. R. 7050.0150 (S-14), and the incorporation by reference of MPCA's assessment guidance. The changes provide reasonable additions and clarifications to make it consistent with the proposed TALU framework.

viii. Making minor formatting changes

The proposed amendments will result in renumbering or changes to the lettering of several items and subitems in Minn. R. chs. 7050 and 7052. Formatting changes are made through the authority of the Office of the Revisor of Statutes (Minn. Stat. § 3C.10), and the MPCA is not required to provide a statement of reasonableness for those changes.

B. Proposed changes and specific reasonableness

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

Rule part	Description of proposed change	Specific reasonableness
CHAPTER 7050 WATERS OF THE STATE		
Part 7050.0140 (S-4)		
7050.0140, subp. 3	The proposed 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 (S-62). In Minn. R. ch. 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; S-104), "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 (S-39, S-41). This change unifies the terms "fish" and "other aquatic life" under a single term, which reduces confusion and simplifies the rule.
Part 7050.0150 (S-14)		
7050.0150, subp. 3	The proposed amendment changes the description of Class 2 waters by replacing "fishery and lower aquatic biota upon which it is dependent" with "aquatic biota." The term "the fish and other biota" is also proposed to be changed to "aquatic biota."	This is a reasonable clarification to make this term consistent with other parts of Minnesota rule and CWA guidance (S-62). This does not change the meaning of the term as it is consistent with the intent described in previous rulemakings (S-39, S-41). 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.

Rule part	Description of proposed change	Specific reasonableness
7050.0150, subp. 3a	The proposed amendment incorporates an MPCA reference document (Guidance Manual for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment: CWA § 305(b) Report and CWA § 303(d) List (2014 and as subsequently amended)) that describes the data and information necessary to perform water-body assessments. The document is available at: https://www.pca.state.mn.us/water/minnesotas-impaired-waters-list.	It is reasonable to incorporate this document by reference in order to provide transparency for the process, data and information the MPCA requires for water-body assessments. This MPCA guidance is updated every two years to coincide with publication of the impaired waters list. Public notice and opportunities to comment on the changes the MPCA may make to this guidance document are provided as part of the impaired waters listing process. This public notice process for revising the manual has been used for several impaired water listing cycles. This document has been updated and is expected to continue to be periodically updated based on the additions of new WQS, new scientific information, and feedback from stakeholders.
7050.0150. subp. 4	The proposed amendments will: Add new definitions: "Aquatic biota," "Assemblage," "Biological Condition Gradient," "Biological criteria, narrative," "Biocriteria, narrative," "Biological criteria, numeric," "Biocriteria, numeric," "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 TALU amendments in Minn. R. 7050.0222, subparts 2, 3, and 4. Further discussion of the reasonableness for each new and revised definition is included below.
7050.0150, subp. 4(C)	New definition: "Aquatic biota"	A definition for "Aquatic biota" will be 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.
7050.0150, subp. 4(D)	New definition: "Assemblage"	The proposed 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 (e.g., fish in a stream community) without limiting the application of the term to that example.

Rule part	Description of proposed change	Specific reasonableness
7050.0150, subp. 4(E)	New definition: “Biological condition gradient”	The term “biological condition gradient” is a term commonly used in the application of the TALU framework. The proposed definition is based on accepted understanding of the term among water resource professionals.
7050.0150 subp. 4(F)	New definition: “Biological criteria, narrative” or “biocriteria, narrative”	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.
7050.0150, subp. 4(G)	New definition: “Biological criteria, numeric” or “biocriteria, numeric”	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.
7050.0150, subp 4(I) (former)	Deleted definition: “Fish and other biota and lower aquatic biota”	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.
7050.0150, subp. 4(P)	Revised definition: “Index of Biological Integrity”	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.
7050.0150, subp. 4(V)	Revised definition: “Normal fishery” and “normally present” changed to “Normal aquatic biota” and “normally present”	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.

Rule part	Description of proposed change	Specific reasonableness
7050.0150, subp. 4(Z)	Revised definition: “Reference water body”	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. 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. The references to ecoregion or watershed are provided as examples of where similar water bodies might be located.
7050.0150, subp. 4(LL)	New definition: “Use attainability analysis”	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 EPA. The proposed definition clearly identifies what is meant by this important aspect of the TALU framework.
7050.0150, subp.4(NN)	New definition: “Water-body type”	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.
7050.0150, subp. 6	The proposed amendment changes the “normal fisheries and lower aquatic biota upon which they are dependent” with “normal aquatic biota.”	The change updates terms to make them more consistent throughout the rules.

Rule part	Description of proposed change	Specific reasonableness
7050.0150, subp. 6 (E)	The proposed amendment revises the description of how the Commissioner of the MPCA will evaluate the biological quality used to assess aquatic life goals.	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.
Part 7050.0217 (S-104)		
7050.0217, subp. 1	The proposed amendment changes "fish and aquatic life" to "aquatic biota."	The change updates terms to make them more consistent throughout the rules.
Part 7050.0218 (S-8)		
7050.0218, subpart 3, (S)	The proposed amendment eliminates the definition of "cold water fisheries."	This term is no longer used in the rules and is reasonably deleted from the definitions.
7050.0218, subp. 4(B)	The proposed 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. iv. of this SONAR.
7050.0218, subp. 9(D) (2) and (4)	The proposed 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 use class that is not needed.
7050.0218, subp. 10(A)	The proposed 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 use class that is not needed.
Part 7050.0219 (07010101-547)		
7050.0219, subp. 11	The proposed amendment eliminates the phrase "for cold-water aquatic communities."	This term only occurs once in 7050 and is not consistent with the current or proposed nomenclature in the rule. This term is also redundant and unnecessary because the sentence already references that it applies to Class 2A. Due to these considerations this term is reasonably deleted.

Rule part	Description of proposed change	Specific reasonableness
Part 7050.0220 (S-105)		
7050.0220, subps. 1, 3a, 4a, 5a	The proposed amendment updates the designated use narratives to include "aquatic life and habitat."	The proposed 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: "*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."* (S-61)
7050.0220, subps. 1, 3a, 4a, 5a	The proposed amendments add identifiers for the subclasses of TALU ("e," "g," and "m") to all references to Class 2.	The addition of the tiered aquatic life use identifiers is reasonable to reflect the proposed changes to beneficial uses in Minn. R. 7050.0222, subps. 2, 3, and 4.
7050.0220, subp. 5a	The proposed 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 proposed 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 this SONAR.

Rule part	Description of proposed change	Specific reasonableness
7050.0220, subp. 6a(C)	The proposed amendment clarifies but does not change the existing dissolved oxygen standard for Class 7 waters.	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 (S-107, pg. 34) stated: *"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."* According to the 1981 SONAR discussion, the standard requires that a concentration of at least 1 milligram per liter dissolved oxygen must be maintained. However, in those cases where that standard is insufficient to prevent 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. The third condition, that at all times the concentration must be above 0 milligrams per liter 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 per liter. It is the MPCA's intent that compliance with this dissolved oxygen standard requires meeting all three conditions.

Rule part	Description of proposed change	Specific reasonableness
Part 7050.0222 (S-23)		
7050.0222, subps. 2, 3, and 4	The proposed 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 2c, 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.
7050.0222, subps. 2c, 3c, and 4c	The proposed 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: 1) describe the aquatic assemblage protected by each TALU; and 2) provide references detailing how aquatic assemblage condition is measured and how the biological criteria were developed.	The proposed narrative language for the TALU tiers reasonably describes the expectations for each tiered aquatic life use and provides the documentation necessary to justify each use, including the requirement that a use attainability analysis (UAA) be completed followed by rulemaking to list any water as a Modified Use.
7050.0222, subps. 2d, 3d, and 4d	The proposed new subparts establish the biological criteria and relevant assemblage for Classes 2A, 2Bd, and 2B, as well as identify the water-body type and TALU.	The proposed addition of the biological criteria provides transparency and consistency regarding the MPCA's process of assessing aquatic life use goals.
7050.0222, subp. 4	The proposed repeal of Minn. R. 7050.0222, subp. 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 moved and 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 remove these site-specific dissolved oxygen standards from 7050.0222 subp. 5. The site-specific standards for dissolved oxygen pertaining to the portion of the Mississippi River are already in 7050.0222 subp. 4. To retain the current dissolved oxygen site-specific standards for the portion of the Minnesota River, these standards will be moved to 7050.0222 subp. 4. The site-specific standards are not the subject of this rulemaking, and are therefore, reasonably retained.

Rule part	Description of proposed change	Specific reasonableness
7050.0222, subp. 5	The proposed 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 life 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 this SONAR. The site-specific standards previously identified in this part have been moved to subpart 4 without change.
Part 7050.0227 (S-108)		
7050.0227, subp. 2	The proposed 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).
Part 7050.0430 (S-28)		
7050.0430 subp. 1	The proposed amendment changes the default classification for aquatic life from Class 2B to Class 2Bg.	In theory and practice, Class 2B is equivalent to Class 2Bg and it is therefore reasonable to update this language to reflect the new nomenclature introduced by the TALU framework.
7050.0430 subps. 2 and 3	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 those listings to Minn. R. 7050.0430.
Part 7050.0460 (S-109)		
7050.0460, subp. 1	The proposed 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.

Rule part	Description of proposed change	Specific reasonableness
Part 7050.0469 (new part)		
7050.0469	The proposed rules add 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.
Part 7050.0470 (S-6)		
7050.0470, subps. 1-9	The proposed 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.
7050.0470, subps. 1-9	141 stream reaches are proposed to be changed from Class 2 to a more specific TALU Class. The changes include: 1) From default Class 2B to Modified Use Cool and Warm Water Aquatic Life and Habitat (Class 2Bm); 2) From default Class 2B to Exceptional Use Cool and Warm Water Aquatic Life and Habitat (Class 2Be); 3) From Class 2A to Exceptional Use Cold Water Aquatic Life and Habitat (Class 2Ae); and 4) From Class 2C to Modified Use Cool and Warm Water Aquatic Life and Habitat (Class 2Bm).	The MPCA conducted use attainability analyses (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 unlikely 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.
7050.0470, subps. 1-9	The proposed amendments designate all Class 2C waters to the default General Use Cool and Warm Water Aquatic Life and Habitat (Class 2Bg).	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).

Rule part	Description of proposed change	Specific reasonableness
CHAPTER 7052 Lake Superior Basin Water Standards		
7052.0100 (S-110)		
7052.0100, subps. 5 and subpart 6(C)	The proposed amendments remove references to the Class 2C use for the Lake Superior Basin water standards.	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 simplifies Minnesota's aquatic uses by removing a Class that is not needed.
7052.0110 (S-111)		
7052.0110, subp. 3(C)	The proposed amendments remove references to the Class 2C use for the Lake Superior Basin water standards.	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 simplifies Minnesota's aquatic uses by removing a Class that is not needed.

6. Regulatory and additional analysis

A. Minn. Stat. § 14.131, SONAR requirements

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

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

All citizens of Minnesota could be affected by, and will benefit from, the adoption of the TALU framework established in the proposed rule. The framework ensures that the state water quality assessments, which are already required for watershed planning and watershed management activities, are more accurate and refined, and it will provide additional protections to waters that are designated as Exceptional Use. This, in turn, will translate to real improvements in stream quality.

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

Further, monetary benefits to certain classes of persons will include the maintenance and improvement of Minnesota's water-oriented tourism and recreational industry. Counties, cities and other local governments could benefit from the proposed rule by increased property and sales tax revenues,

increased tourism dollars, added jobs, lower water treatment costs and other benefits related to improved water quality. In addition, property owners on and near waters could see a benefit in increased property value as a result of water quality improvements.

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

As more comprehensively explained in Chapter 8 of this SONAR, these proposed amendments are not anticipated to result in additional costs to any class of persons.

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

Some waters that would have previously been subject to the General Use requirements under the existing WQS will instead be subject to the Modified Use WQS under the new TALU framework, which will subject them to a less restrictive set of biological criteria. As a result, the proposed amendments will reduce the effort required for the MPCA to list, identify stressors, and develop restoration plans for waters that are unlikely to meet General Use goals due to legacy, physical habitat alterations (e.g., drainage maintenance). This equates to a reduction in cost to the MPCA for these waters.

The designation of streams as Exceptional Use could result in a cost to the MPCA although these costs will be case specific. For example, existing NPDES/SDS permits for dischargers to Exceptional Use streams whose discharge is currently near the permitted effluent limit, will not require much review by the MPCA. Therefore, these reviews will result in minimal, if any, costs to the MPCA. However, for dischargers who are well below their permitted effluent limit, the MPCA may need to determine if increasing pollutant loads to the permitted limit could threaten the Exceptional Use designation. If so, then the MPCA may need to develop, adopt and implement site-specific criteria/standards to protect the Exceptional Use. This would result in increased costs to the agency. However, as discussed in Chapter 8 of this SONAR, based on a review of MPCA-permitted dischargers and the location of the 30 streams this rulemaking is designating Exceptional Use, the MPCA is unaware of any permitted discharger who will pose a risk to a stream's new Exceptional Use designation.

Costs to the agency would be greater for processing and reviewing NPDES/SDS permit applications for new or expanded dischargers to an Exceptional Use Stream. While the agency is unaware of any entity that may wish to pursue either of these options, and thinks both scenarios are unlikely to develop, it is nevertheless possible this may occur in the future. These types of applications would also require an antidegradation review to evaluate alternatives to avoid or minimize adverse impacts to water quality. The MPCA is currently proposing, under a separate rulemaking process, to adopt revised antidegradation rules. Under the proposed rules, the typical cost to the MPCA to conduct

antidegradation reviews is $3,106, although only a small portion, if any, would be attributed to the Exceptional Use designation.[22]

There will also be a cost to the MPCA to:

- Perform UAA reviews when new data is available from stream reaches. This involves a thorough review by staff to determine the attainable use (see S-62), and rulemaking to adopt any recommended change to the designated use. The amount of staff time needed to change designated uses is likely to be greatest during the first 10 years of TALU framework implementation.
- Develop protection strategies in WRAPS.

MPCA expects to be able to redistribute workloads to accommodate increased needs during the first round of permit issuances following promulgation and does not expect to incur additional costs. The additional demand for resources will diminish as Exceptional Use streams are identified, protection plans are implemented, and downstream water quality needs are addressed.

The implementation and enforcement of the proposed rule is not anticipated to require efforts from any state agency other than the MPCA. Further, the proposed rule is not anticipated to have any effect on state revenue.

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

The purpose of the proposed rule is to establish more accurate beneficial use classifications for Class 2 waters. The MPCA, when researching and developing the proposed rule, considered whether any less costly methods or less intrusive methods to the proposed TALU framework are available for achieving this purpose. In light of the specific scope of the proposed rule, and as further elaborated in the hypothetical analysis provided (in Section 6.A.iv) below, the MPCA concludes there are no alternative options available that would be less costly and intrusive for achieving this purpose.

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

The proposed rule will allow the MPCA to better manage Minnesota's water resources. It establishes attainable aquatic life use goals for streams so that water quality management activities can be tailored to different aquatic habitats.

The MPCA seriously considered whether there are any alternative methods that will achieve the purpose of the proposed rule, which is to more precisely determine whether Class 2 waters attain appropriate aquatic life goals, and concluded there is none. Using a TALU framework has been shown in other states, such as Ohio and Maine, to be an effective approach for managing water resources so that beneficial use classifications for aquatic life are appropriately tiered based on biological potential. Because Minnesota's beneficial use classes and the waters assigned to each use class are established in rule, rulemaking is the best option for fully implementing a TALU framework.

In further support of the conclusion that the TALU framework proposed in this rule is clearly preferable, the MPCA also considered two additional, untested hypothetical alternatives as described below.

[22] This estimate is based on data provided in the MPCA's Statement of Need and Reasonableness (wq-rule3-60d; S-118) that supports the adoption of the amendments to the state's antidegradation rules (see attachment 2).

Hypothetical Option #1: An alternative option to the TALU framework that could, conceivably, achieve the goal of protecting high quality waters would be the expansion of antidegradation (i.e., nondegradation) provisions in Minnesota rule (Minn. R. 7050.0180 (S-82) and Minn. R. 7050.0185 (S-83)). This could include the designation of waters that meet the Exceptional Use criteria as ORVWs. This designation would prohibit or restrict discharges to these waters. However, antidegradation requirements are generally not enforceable for activities not regulated by a water quality control document (e.g., NPDES/SDS Permits), including unregulated sources of nonpoint source pollution. To be as effective as the proposed TALU framework, these antidegradation rule provisions would need to be expanded to apply to activities that are not currently required to obtain NPDES/SDS permit coverage. This would require review of unpermitted activities within a watershed that could potentially harm aquatic life uses, regulation of those activities, and in some cases prohibiting them. Given the extensive nature of antidegradation reviews, this expanded scope of antidegradation would be significantly more costly and intrusive than the proposed TALU framework. This would also greatly expand the antidegradation provisions beyond what the CWA requires. Alternatively, implementing WRAPS under the proposed TALU framework will incorporate strategies for all sources of pollution, including those sources not governed by NPDES/SDS Permits.

Hypothetical Option #2: An alternative option to adopting the Modified Use TALU category would be to assess altered streams (e.g., ditches) using the current WQS (i.e., General Use). The result of this option would be that more of these altered waters would be identified as impaired. For example, without the TALU framework altered streams that meet the Modified Use criteria, but not the General Use criteria, would be added to Category 5c (Impaired or threatened by one pollutant) in the CWA § 303(d) list of impaired waters. Following this listing, the stream would undergo a stressor identification study to determine the cause of the impairment. The result of this study would be a determination that the physical habitat is limiting attainment of the aquatic life use. The stream would then be moved from Category 5c to Category 4c (Impaired or threatened but does not require a TMDL plan because impairment is not caused by a pollutant) on the CWA § 303(d) list of impaired waters. The resulting management for these waters would be similar whether they were listed as impaired under Category 4c or not impaired under a Modified Use. Without adopting the Modified Use TALU category, there would be additional costs and delays to the IWM strategy because of the need to perform additional stressor identification studies and to manage the CWA § 303(d) list of impaired waters. The MPCA determined that the implementation of a TALU framework would be the best alternative to achieve the goals while also being the least costly or intrusive.

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

The analysis of the probable costs of complying with the proposed TALU framework are discussed in Chapter 8 of this SONAR.

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

The consequence of not adopting the proposed amendments would be to continue the status quo of the MPCA's monitoring, restoration, and protection activities. This results in inefficiencies caused by the listing of some water bodies as impaired due to legacy physical habitat alterations that are legally allowed. For example, waters that are maintained for drainage and unable to meet the General Use biological goals would continue to be given unattainable goals. This means that money and effort could be expended by the MPCA and local government in attempting to restore these waters beyond what is currently achievable. In addition, there would be costs associated with the loss of high quality streams that would remain designated as General Use without the TALU framework. These costs would be associated with the potential degradation of these waters and the loss of their exceptional condition. By degrading these waters, ecosystem services (e.g., nutrient processing, fishing, and aesthetics) could be lost or reduced. Ultimately it will be less costly for the MPCA and local governments to maintain the condition of these waters and their associated benefits then it is to restore them. The costs and benefits of adopting the proposed TALU framework and the consequences to different classes that may be affected are discussed further in Chapter 8 of this SONAR

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

The CWA requires states to promulgate WQS based on U.S. Environmental Protection Agency (EPA) regulations and guidance. The CWA also requires periodic review (i.e., "triennial review") of WQS and requires states to modify criteria based on regional, state, or local data or other scientifically defensible data. The proposed TALU framework meets the federal requirement that states review and revise WQS as needed using scientifically defensible data. The adoption of the TALU framework into Minn. R. ch. 7050 will not cause the state rules to be either more or less stringent than the federal regulations, the proposed TALU framework simply reflects the federal intent for state-specific implementation of the CWA.

The proposed amendments are fully compliant with all existing federal regulations. The specific TALU framework proposed in this rulemaking follows EPA guidance, but is necessarily tailored to Minnesota. The EPA recognizes that each state must develop biological criteria that are tailored to the aquatic resources in the state and the tools used to monitor and assess biological condition. The methods used by the MPCA to develop tiered biological criteria are consistent with the methods recommended by the EPA (S-12, S-21, S-22, S-58, S-70). The supporting Federal WQS regulations are compiled in Table 6-1.

Table 6-1. The attributes of a TALU-based framework with references to applicable EPA regulations (Table 1-2 in S-58).

Value-added Attribute	Explanation	Supporting Federal Regulation 40 CFR § XXX
Set more appropriate designated aquatic life uses.	Define aquatic life uses in a more precise way that is neither under-protective of existing high quality resources nor unreasonable for waters that have been extensively or irretrievably altered.	§ 131.10 (designation of uses) (S-2) § 131.12 (protect high quality waters) (S-112) § 130.23 (support attainment decisions and diagnose causes) (S-113)
Strengthen the linkage between designated aquatic life uses and how attainment is assessed.	TALUs help clarify and refine water quality goal statements so numeric biological, chemical, and physical criteria can be adopted to protect the use.	§ 131.10 (designation of uses) (S-2) § 131.12 (protect high quality waters) (S-112) § 130.23 (support attainment decisions and diagnose causes) (S-113)
Enhance public understanding and participation in setting water quality goals.	TALUs provide a common frame of reference or generic yardstick to more clearly recognize common ground and differences in desired environmental goals of various stakeholders as designated uses are adopted.	§ 131.20(a)(b) (public participation) (S-114)

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

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

The MPCA considers the cumulative effects of the proposed TALU framework amendments in relation to other state or federal regulations to be a positive one. The amendments will refine and modernize the MPCA's existing Class 2 WQS from a "one-size-fits-all" classification system for aquatic life to one that more accurately reflects the biological diversity of Minnesota's streams, rivers and ditches. Overall, this will improve how water quality goals are set and allow for more efficient use of resources to protect and restore waters for the benefit of aquatic life and Minnesota residents. Chapter 8 of this SONAR provides the economic analysis that supports this conclusion.

There could be a minor cumulative effect of the TALU framework with Minnesota's antidegradation rule (which is required by and consistent with federal regulations). In this scenario, antidegradation procedures which prohibit the loss of an existing use must require that a designated Exceptional Use not be degraded such that this existing use is lost. However, as described in Chapter 8 of this SONAR, the interaction between these two rules is likely to be rare and the impacts minimal; therefore, the interaction is not likely to result in significant cumulative effects.

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

Similarly, the proposed amendments will not add, or extend the impact of, requirements already in existing state regulations. No other state rule establishes:

- WQS;
- biologically-based tiers within WQS;
- the biological criteria on which tiers are based; or
- lists of specific waters according to their biological potential.

The MPCA is the only state agency in Minnesota that establishes WQS under the CWA. However, it should be noted that some Minnesota waters are variously classified according to different state agency programs and protections. An example is how the Minnesota Department of Natural Resources (MNDNR) identifies certain waters according to specific uses, such as trout waters in Minn. R. 6264.0050. Regardless, the methods the MNDNR uses for identifying these waters is separate and unrelated to the MPCA's proposed TALU tier designations. As such, the TALU framework does not impose what can be considered cumulative regulatory effects for the use of those waters.

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

The implementation of performance-based goals that directly measure the attainment of aquatic life use goals is foundational to the TALU framework. Biomonitoring and biological criteria are direct measures of the attainment of Minnesota's aquatic life use goals. This results in monitoring water bodies, assessing them, and establishing TMDLs that are focused on the achievement of these goals rather than focusing on prescriptive administrative measures (S-18, S-31, S-67, S-117). The MPCA recognizes the need for flexibility in the tools and approaches used to restore or protect aquatic resources. An example of this flexibility would be improvements to physical habitat that could mitigate the impacts of a dissolved oxygen issue. Low levels of dissolved oxygen would normally be part of a TMDL focused on reducing loadings of nutrients or organic materials. But, if dissolved oxygen could be addressed through habitat improvement, the restoration of goals could be achieved through this alternative approach. The TALU framework, which provides more flexibility in the application of TMDLs and antidegradation review, extends that flexibility to how protection and restoration goals may be achieved.

In addition to the increased flexibility of the TALU framework, the use of TALU's performance-based aquatic life goals can be used to evaluate chemical standards developed to protect aquatic life. Using aquatic life goals could result in the review of existing chemical standards or the development of site-specific standards.

Another advantage of the TALU framework is that it can better account for incremental improvements (or declines) in biological condition. This means that successful water quality management activities can be documented and credit can be assigned to these activities. This promotes the implementation of effective restoration and protection activities based on their performance.

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

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

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

The MPCA will consult with Minnesota Management and Budget (MMB) as required. The MPCA will do this by sending MMB copies of the Proposed Rule and SONAR Form, the SONAR and the proposed amendments that will be sent to the Governor's office for review and approval prior to publication. The MPCA will send these to MMB on, or near, the same day they are submitted to the Governor's Office, well in advance of publishing the proposed amendments in the *State Register*. A copy of the correspondence and any response received from MMB will be included in the record the MPCA submits to the Office of Administrative Hearings (OAH) for the required Administrative Law Judge's review.

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

As identified in Chapter 7 below, the MPCA will satisfy this requirement and provide appropriate documentation in its submittal to the OAH.

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

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

1. an assessment of any differences between the proposed rule and:

(i) existing federal standards adopted under the Clean Air Act, title 42, section 7412(b)(2); Clean Water Act, 33 U.S.C. § 1312(a) and 1313(c)(4); and the Resource Conservation and Recovery Act, 42 U.S.C. § 6921(b)(1);
(ii) similar standards in states bordering Minnesota;
(iii) similar standards in states within the EPA Region 5 ("Region V"); and,

2. a specific analysis of the need and reasonableness of each difference.

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

All neighboring states[23] and all EPA Region V states[24] use biological monitoring tools (e.g., IBIs) and biological criteria to assess attainment of aquatic life uses, but only one has adopted those tools into state rules. Ohio adopted a TALU framework in the 1980s and it has served as a model for developing a TALU framework in Minnesota and in other states. As a result, the TALU frameworks for Minnesota and Ohio are similar (Table 6-2).

Table 6-2. Comparison of Ohio's TALU framework and Minnesota's proposed TALU framework (S-81).

Attribute	Minnesota	Ohio	Explanation of Difference
Tiered Aquatic Life Uses	Exceptional, General, Modified	Exceptional, General, Modified, Limited	Ohio also includes a "Limited Resource Water" tier for waters with severely altered habitat that precludes attainment of even a Modified Use. It was determined that in Minnesota too few of these waters were part of the biological monitoring database making development of such a tier not feasible or necessary at this time.
Habitats	Rivers, streams, headwaters	Rivers, streams, headwaters	
Biological Assemblages	Fish, Macroinvertebrates	Fish, Macroinvertebrates	
Biological Measurement Tool	Index of Biological Integrity	Index of Biotic Integrity, Modified Index of Well Being, Invertebrate Community Index	Conceptually, Ohio's biological measurement tools are similar to Minnesota's. However, Ohio uses two indices to measure different attributes of the fish community.
Biological Criteria	Numeric biological criteria adopted in rule	Numeric biological criteria adopted in rule	
Habitat Assessment Tool	MSHA	Qualitative Habitat Evaluation Index (QHEI)	The habitat models used by Minnesota and Ohio are similar. Minnesota's habitat model was modeled after Ohio's QHEI.
Tiered Chemical Criteria	None	Ammonia, Dissolved Oxygen, Temperature, Dissolved Metals Translators	Tiered chemical criteria can be developed in future rulemakings for Minnesota streams if warranted and supported by scientific evidence.

A number of other states and selected EPA Region V states are in the process of developing a TALU framework. These include Wisconsin, Illinois, and most recently, Indiana. Each of these states has been the subject of a recent critical elements review by the EPA (S-21) similar to that which spurred the development of the TALU framework in Minnesota. Several of these other state programs are in the development stage; therefore, it is not possible to provide an assessment of how those state programs

[23] North Dakota, South Dakota, Iowa and Wisconsin.
[24] Wisconsin, Illinois, Indiana, Ohio and Michigan

will compare to the proposed Minnesota TALU framework amendments. However, Wisconsin is nearing a formal rule making effort, expected in 2017, to adopt a TALU framework into rule which makes a preliminary comparison possible. The TALU frameworks for Minnesota and Wisconsin are similar with the largest differences in the inclusion of TALUs for lakes in Wisconsin and the need to develop site-specific numeric biocriteria for Modified Use streams in Wisconsin (Table 6-3).

Table 6-3. Comparison of Wisconsin's draft TALU framework and Minnesota's proposed TALU framework.

Attribute	Minnesota	Wisconsin	Explanation of Difference
Tiered Aquatic Life Uses	Exceptional, General, Modified	Excellent, General, Modified	Wisconsin has similar tiers to Minnesota except Wisconsin is not planning to propose specific biological criteria for the Modified Use. Instead, for each water body designated as Modified Use, a site-specific biocriterion will be set to protect its current biological status.
Habitats	Rivers, streams, headwaters	Rivers & streams, Lakes	Wisconsin plans to propose TALUs and associated biological criteria for lakes.
Biological Assemblages	Fish, Macroinvertebrates	Rivers & streams: Fish, Macroinvertebrates Lakes: Aquatic Plants	Wisconsin plans to propose TALU for lakes so a lake plant monitoring tool is planned for inclusion in their TALU framework.
Biological Measurement Tool	Index of Biological Integrity	Rivers & streams: Fish Index of Biotic Integrity (IBI), Macroinvertebrate IBI Lakes: Aquatic plant condition tool	See above. The aquatic plant tool is based on percent of species sensitive/tolerant to disturbance.
Biological Criteria	Numeric biological criteria adopted in rule	Numeric biological criteria adopted in rule	
Habitat Assessment Tool	MSHA	Not applicable to this rule	Wisconsin is not planning to include a habitat assessment component in their rule.
Tiered Chemical Criteria	None	None	

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

Minn. Stat. § 14.127, subds. 1 and 2, require an agency to:

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

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

No permitted dischargers to streams with draft Exceptional Use or Modified Use designations are identified as likely to require more stringent limits. No additional expenses due to these amendments are expected for permitted facilities that discharge to or near Exceptional Use streams. Also, the MPCA does not expect that any expenses beyond what is already required to discharge to a General Use stream will be incurred by any currently-permitted entity that discharges to a stream redesignated to Modified Use.

Expenses could only be incurred by existing permittees who renew or expand. The MPCA expects that in order to incur expenses in the first year after adoption of the proposed amendments, the discharger would have to be a permittee who is either renewing or expanding an existing permit. It would not be a new discharger. This is because the process of building a new wastewater facility and obtaining a new permit is complex, and it is unlikely a new applicant will complete any significant portion of the process, either design, construction or operation, within one year. In light of this, the only expense-generating scenario in the near term that the MPCA finds to be possible as a result of adopting these amendments would be if a permittee, who currently discharges to a stream that is designated through this rulemaking as an Exceptional Use, requests approval to expand an existing permit.

Only the expenses incurred by a small city or small business must be considered. The affected entity must meet the statutory definition of a small city (i.e., fewer than 10 full-time employees) or small business (fewer than 50 full-time employees). Using available monitoring data, the MPCA has determined that there are currently a total of two permittees that discharge to or near a stream that will be reclassified as Exceptional Use in this rulemaking or possible future rulemakings. Neither would qualify as small cities or businesses and are not considered further here. (A more complete discussion of the two permitted dischargers is provided in Chapter 8 of this SONAR.)

Expenses incurred in the first year after the adoption of the rules take effect must be considered. The statute requires a determination of the cost of the proposed rule on small cities and businesses in the first year the rules go in effect. However, the MPCA also provides its finding on the anticipated costs to small cities or businesses beyond this one-year duration. A small community seeking to renew an existing NPDES/SDS Permit, which is typically required every five years regardless of this rulemaking, will always incur costs associated with planning and design.

Costs associated with the proposed rules must exceed $25,000. The statutory threshold of $25,000 applies only to those costs that can be attributed to the adoption of the proposed amendments.

The only expenses that could be incurred by a small city or business as a result of this rulemaking's reclassification of streams. The proposed amendments will establish a framework for the future reclassification of streams and also proposes to reclassify 141 specific streams. For the reasons stated above and in Chapter 8 of the SONAR, the MPCA has determined the only possible cost to a small business or city to comply with these proposed amendments is to dischargers to the 30 streams that will be reclassified *in this rulemaking* as Exceptional Use (i.e., there will be no possible expense associated with classifying streams to General Use or Modified Use). The future implementation of the TALU framework, which will continue to identify and eventually designate Exceptional Use waters, is not a factor in this discussion. Future Exceptional Use stream designations will only take place after completing a separate rulemaking process, which would also require preparation of an appropriate level of economic analysis based on the unique attributes of those streams, including permitted dischargers to them.

After the adoption of the proposed amendments, additional determinations of Exceptional Use will be made annually until the remaining HUC 8 watersheds are monitored and more infrequently thereafter. The MPCA intends to amend TALU designations annually or biennially through rulemaking to reflect the addition of new Exceptional Use and Modified Use streams. The rulemaking process typically requires more than a year for the adoption of new amendments; the MPCA does not expect that additional Exceptional Use designations will occur within a year after adopting the proposed TALU framework amendments. The streams that are proposed to be reclassified as Exceptional Use in this rulemaking are identified in Appendix A.

Conclusion. Considering all of the factors above, the MPCA has not identified any small business or city that will be impacted by the reclassification of the 141 reaches proposed in this rulemaking.

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

Minn. Stat. § 14.128, subd. 1, requires an agency to determine whether a proposed rule will require a local government to adopt or amend any ordinances or other regulation in order to comply with the rule. The MPCA has determined that the proposed amendments will not have any effect on local ordinances or regulations.

During the RFC period, the MPCA received a comment expressing concern about how the TALU framework might affect the responsibilities of a township in which there are several trout streams that may be designated as Exceptional Use waters. Under the TALU framework, when Exceptional Use streams are identified it will usually mean that these waters already meet Exceptional Use goals, and the focus of future activities will be on maintaining these conditions. The mechanism to protect these high quality streams will be through WRAPS. The MPCA responded to the commenter that the elements of the WRAPS that address Exceptional Use streams would not require any special response by the township in the form of ordinances or regulations. However, in many cases, the implementation of the protection and restoration strategies and decisions are made by local partners who know the resources and understand how these strategies are best implemented in their area. A township may be a local partner in a protection strategy, but the MPCA does not expect that additional local ordinances or regulations will be associated with that partnership.

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

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

> *"If the commissioner does not convene an external peer review panel during the promulgation or amendment of water quality standards, the commissioner must state the reason an external peer review panel will not be convened in the statement of need and reasonableness."*

Minn. Stat. § 115.035 became effective on August 1, 2015. The data collection, technical tool development (e.g., IBIs, BCG models, habitat assessment tool), procedural aspects (e.g., UAA review process for TALUs, incorporation of TALUs into the existing biological assessment framework), assessment work (i.e., UAA reviews) and implementation plan for the TALU framework were nearly complete before the enactment of this statute. The rule development process had progressed past the point for the commissioner to have convened an external peer review panel. The technical

underpinnings of the rule and the rule itself were in fact the subject of multiple external peer reviews at critical points in the development of the TALU framework. This included: peer review of an article detailing the development of tiered biological criteria which was published in a highly-regarded professional journal; peer review of technical tools by professional staff at the MNDNR and the Wisconsin DNR; and, detailed review of all aspects of the rule by Midwest Biodiversity Institute professional staff. In addition, throughout the development process, numerous public stakeholder meetings were held to solicit feedback on the rule as it was under development (see Section 3). All peer-review comments and public comments were considered and shaped the final technical and policy aspects of the rule. As a result of the timing of the statute enactment and the fact that the TALU framework has undergone an extensive peer review process, the commissioner did not convene an additional external peer review panel for the TALU framework.

F. Environmental justice policy

The MPCA's Environmental Justice Framework 2015 – 2018 (EJ Framework), on page 3, describes the MPCA's history with environmental justice (EJ):

> "Following action on the national level, the MPCA began formally working on environmental justice in the mid-1990s. Presidential Executive Order 12898, issued in 1994, directed each federal agency to make "achieving environmental justice part of its mission by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority and low-income populations." The Presidential Executive Order built on Title VI of the Civil Rights Act of 1964. Title VI prohibits discrimination on the basis of race, color, or national origin. As a recipient of federal funding, the MPCA is required to comply with Title VI of the Civil Rights Act.
>
> The MPCA developed a policy for environmental justice that closely mirrors the U.S. Environmental Protection Agency's (EPA) policy. The MPCA's policy, last revised in 2012, states:
>
> *"The Minnesota Pollution Control Agency will, within its authority, strive for the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.*
>
> ***Fair treatment** means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies.*
>
> ***Meaningful involvement** means that:*
> - *People have an opportunity to participate in decisions about activities that may affect their environment and/or health.*
> - *The public's contribution can influence the regulatory agency's decision.*
> - *Their concerns will be considered in the decision making process.*
> - *The decision-makers seek out and facilitate the involvement of those potentially affected.*
>
> *The above concept is embraced as the understanding of environmental justice by the MPCA."*

As explained on page 11 of the EJ Framework, when undertaking rulemaking the MPCA considers how the impacts of a proposed rule are distributed across Minnesota and works to actively engage all

Minnesotans in rule development. This review of the impacts and meaningful involvement are laid out in this section of the SONAR for ease of review with the rest of the Regulatory Analysis, though these analyses are not required under Minnesota's Administrative Procedure Act.

i. Equity analysis

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

The MPCA does not expect the TALU framework amendments to have any negative environmental consequences; as stated previously, the TALU framework will improve how the MPCA protects Minnesota's water quality and the aquatic life that depends on good water quality. The TALU system will apply statewide, with no particular effect on any community more than another.

The TALU framework classifies streams into subcategories or "tiers" based on the biological condition that is actually attainable for that specific stream. Although TALU overall is a framework, part of the proposed rule impacts specifically identified stream reaches. For this review, the MPCA evaluated the stream reaches that are proposed to receive different designations under this rulemaking.

The MPCA chose to evaluate these stream reaches because of potential concerns that the TALU framework would give some waters (Exceptional Use) more protection – because they will need to remain at high quality – while other waters (Modified Use) will have lower minimum goals for fish and macroinvertebrates than currently established.

The MPCA evaluated whether the changes to classifications of certain stream reaches under this rulemaking have the potential to impact areas that have populations that are predominantly low-income, people of color, or both.

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

The MPCA evaluated stream reaches that are, under the TALU framework, likely to be classified as Modified or Exceptional Use.[25] The MPCA then reviewed whether any of these stream reaches are located in or near census tracts that meet the screening criteria described above. Based on the review, the MPCA identified 38 stream reaches in census tracts that may meet the screening criteria.[26] Of those,

[25] The stream reaches used in this analysis were from IWM monitoring in 61% of Minnesota's HUC 8 watersheds (see analysis in Chapter 8). As a result, these water bodies include both waters proposed to be designated as part of this rule and water bodies with preliminary UAAs.

[26] The margins of error on the census tract data sometimes mean that the MPCA cannot make a definitive determination of whether or not a given census tract meets the screening criteria. For instance, a census tract may be listed as one where 42% of the population has a household income less than 185% of the federal poverty level. Because income is estimated using surveys, there is a margin of error on the 42% estimate. If, for example, the margin of error is 4%, the true percentage of the population with a household income less than 185% of the federal poverty

14 are, under the TALU framework, likely to be classified as Modified Use while 24 are likely to be classified as Exceptional Use.

Table 6-4: Intersection of Exceptional and Modified Waters and Environmental Justice Screening Criteria

Stream name	Reach name	AUID	Draft/Proposed TALU	Meets Income Criteria?	Meets People of Color Criteria?
Bancroft Creek (County Ditch 63)	CD 63 to Fountain Lk	07080202-507	Modified	Possibly	
Big Fork River	Deer Cr to Caldwell Bk	09030006-504	Exceptional	Possibly	
Bluff Creek	East Twin Lk (16-0145-00) to South Brule R	04010101-646	Exceptional	Possibly	
Brule River	BWCA boundary to South Brule R	04010101-D30	Exceptional	Possibly	
Buffalo River, South Branch	Headwaters to Deerhorn Cr	09020106-508	Modified	Possibly	
Cascade River	N Br Cascade R to Lk Superior	04010101-590	Exceptional	Possibly	
County Ditch 13	North Maple Lk to Wing R	07010107-549	Modified	Possibly	
County Ditch 7	Headwaters to N Br Sunrise R	07030005-514	Modified	Possibly	
Cross River	Fourmile Cr to Lk Superior	04010101-518	Exceptional	Possibly	
Devil Track River	Devil Track Lk to Lk Superior	04010101-520	Exceptional	Possibly	
Elbow Creek	Unnamed cr to Devil Track R	04010101-717	Exceptional	Possibly	
Greenwood River	Greenwood Lk to Brule R	04010101-528	Exceptional	Possibly	
Hay Creek	Unnamed cr to Sturgeon R	09030006-610	Exceptional	Possibly	
Heartbreak Creek	Unnamed cr to Temperance R	04010101-569	Exceptional	Possibly	
Irish Creek	Headwaters to Swamp River Reservoir	04010101-531	Exceptional	Possibly	
Judicial Ditch 1	Headwaters to T103 R27W S1, north line	07020011-532	Modified	Possibly	

level could between 38% (in which case the tract would not meet the screening criteria) or 46% (which does meet the screening criteria). This margin of error is why so many tracts are listed as possibly meeting the criteria.

Stream name	Reach name	AUID	Draft/Proposed TALU	Meets Income Criteria?	Meets People of Color Criteria?
Judicial Ditch 6 (Lake Okabena Outflow)	Okabena Lk to Ocheda Lk	10230003-502	Modified	Yes	Yes
Kadunce River (Kadunce Creek)	-90.1484 47.8261 to Lk Superior	04010101-D53	Exceptional	Possibly	
Kimball Creek	Headwaters to Lk Superior	04010101-532	Exceptional	Possibly	
Little Cannon River/County Ditch 66 (LeSueur County)	Headwaters to Sabre Lk	07040002-578	Modified	Possibly	
Little Devil Track River	Unnamed cr to Devil Track R	04010101-566	Exceptional	Possibly	
Little Fork River	Sturgeon R to Willow R	09030005-505	Exceptional	Possibly	
Little Fork River	Willow R to Valley R	09030005-506	Exceptional	Possibly	
Mistletoe Creek	Halls Pond to Poplar R	04010101-536	Exceptional	Possibly	
Mustinka River	Mustinka River Flowage to Grant/Traverse County Line	09020102-582	Modified	Possibly	
Portage Brook	CSAH 16 to Pigeon R	04010101-D55	Exceptional	Possibly	
Rice River	Headwaters (Cameron Lk 31-0544-00) to Batson Lk outlet	09030006-644	Exceptional	Possibly	
Sixmile Creek	Unnamed cr to Temperance R	04010101-B35	Exceptional	Possibly	
Sixteen Creek (New Channel)	Unnamed ditch to Sixteen Cr (Old Channel)	04010201-A44	Modified	Possibly	
Swamp River	Stevens Lk to T63 R4E S20, east line	04010101-B66	Exceptional	Possibly	
Temperance River	T61 R4W S4, north line to Sixmile Cr	04010101-D56	Exceptional	Possibly	
Two Island River	Unnamed cr to Lk Superior	04010101-547	Exceptional	Possibly	
Unnamed creek	Unnamed cr to CD 10	09020311-540	Modified	Possibly	
Unnamed ditch	Headwaters to Beaver Cr (CD 3)	07030005-593	Modified	Possibly	
Unnamed ditch	Unnamed cr to Unnamed ditch	09020106-577	Modified	Yes	Yes

Stream name	Reach name	AUID	Draft/Proposed TALU	Meets Income Criteria?	Meets People of Color Criteria?
Unnamed ditch (Branch A Judicial Ditch 21)	Unnamed ditch to Unnamed ditch	09020304-557	Modified	Possibly	
Whisky Creek	Headwaters to T137 R46W S18, west line	09020106-521	Modified	Possibly	
Woods Creek	-90.2650 47.7964 to Devil Track R	04010101-D61	Exceptional	Possibly	

Two waters that the MPCA is likely to classify as Modified Use are located in census tracts that meet the screening criteria for both income and people of color. The two waters are the Lake Okabena outflow (Judicial Ditch 6) in Worthington and an unnamed ditch on the White Earth Reservation.

Judicial Ditch 6 is impaired for aquatic life because of excessive turbidity. The Watershed Restoration and Protection Strategy (WRAPS) for the Missouri River Basin is in development, targeted to be complete in 2017. Using the TALU framework will allow the MPCA to set appropriate aquatic life goals for this stream reach. The change to Modified Use is unlikely to affect any pollution controls currently in progress. The Unnamed ditch flows into Becker County Ditch 15, which is impaired due to *Escherichia coli* (*E. coli)*. The unnamed ditch that would be changing to Modified Use under the TALU framework has not been assessed as impaired. The lower biological goal for these waters is the result of limited habitat associated with maintaining these waters for drainage. The current chemical standards will still apply and need to be attained in these waters. As a result, the MPCA does not believe that the changes to Modified Use will exacerbate any existing disproportionate impacts.

Finally, of the affected waters located in areas that possibly meet the screening criteria, more are likely to have their classifications changed from General Use to Exceptional Use, thereby providing them more protection. On balance, therefore, the MPCA believes that this rulemaking has no effect on disproportionate environmental impacts, to a slightly positive effect in reducing disproportionate impact.

ii. Meaningful involvement

In order to meet the directive to strive for "meaningful involvement," the MPCA works to seek out and facilitate the involvement of those potentially affected by the proposed rule, particularly those populations that have historically not been as engaged in the public process.

As noted in Chapter 3, there has been extensive stakeholder work during the development of TALU. Much of this work was done prior to the MPCA's reinvigoration of our commitment to environmental justice, and we continue to work to develop tools and methods to effectively reach out to new stakeholders – particularly low-income populations and communities of color. While there was no specific plan developed to reach out to low-income populations and communities of color, we believe our extensive stakeholder outreach has ensured that most affected communities are aware of the rule.

To further improve involvement, the MPCA conducted additional outreach in the final stages of rule development, prior to proposing the rule. Specifically, the MPCA reached out to the persons on its EJ stakeholder lists, and also used social media (e.g., Twitter) to notify parties that the draft rule would be presented to the Governor's Committee to Advise the MPCA, as part of a Public Informational Meeting held on June 21, 2016.

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

7. Notice plan

The APA (Minn. Stat. ch. 14) and the OAH rules (Minn. R. ch. 1400) govern how state agencies must adopt administrative rules. This includes providing notifications to several persons, including the general public and affected stakeholders, various state agencies and departments, the legislature and Office of the Governor. Minn. Stat. § 14.131 also requires that a SONAR "*describe the agency's efforts to provide additional notification under section 14.14, subd. 1a, to persons or classes of persons who may be affected by the proposed rule or must explain why these efforts were not made.*"

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

A. Required notice

Request for Comments

The first TALU framework rulemaking notice, required by Minn. Stat. § 14.101, is the Request for Comments (RFC). The MPCA complied with this by publishing the RFC in the *State Register* on August 25, 2014. To further inform the public, the MPCA notified interested parties who are subscribed to the TALU Rulemaking GovDelivery list of the RFC the same day it was published. As explained in Section 3B above, GovDelivery is a self-subscription service for interested and affected persons to register to receive rule-related notices via email. To date, nearly 2,100 persons are subscribed to receive notifications related to this TALU rulemaking.

In addition, the MPCA also:

- Posted the RFC, the same day it was published in the *State Register*, on the MPCA's Public Notices webpage at https://www.pca.state.mn.us/public-notices.
- Posted the RFC 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.

Remaining Required Notifications

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

1. Minn. Stat. § 14.14, subd. 1a. On the day the proposed amendments are published in the *State Register,* the MPCA will send an electronic notice, using GovDelivery, with a hyperlink to the webpage where electronic copies of the Notice, SONAR, and proposed amendments can be viewed. The GovDelivery notice will be sent to all parties who have registered with the MPCA to receive notices of the TALU Rulemaking (nearly 2,100 subscribers) electronically. It will also be sent to persons registered to receive notification of all water-related rulemakings. Further, the notice will

be sent electronically to all persons registered to receive notification of all MPCA rulemakings. Parties who are registered to receive non-electronic notice will receive copies of the Notice and the proposed amendments via U.S. Mail. Both the email and US Mail notice will be sent at least 33 days before the end of the public comment period.

2. Minn. Stat. § 14.116. The MPCA will send a cover letter to the chairs and ranking minority party members of the legislative policy and budget committees with jurisdiction over the subject matter of the proposed amendments, and to the Legislative Coordinating Commission, as required by Minn. Stat. § 14.116. The letter will include a link to electronic copies of the Notice, proposed amendments, and SONAR. The timing of this notice will occur at least 33 days before the end of the comment period.

3. Minn. Stat. § 14.131. The MPCA will send a copy of the SONAR to the Legislative Reference Library in accordance with Minn. Stat. § 14.131 when the Notice required under Minn. Stat. § 14.14, subd. 1a, is sent.

4. Minn. Stat. §14.111. If the rule affects farming operations, Minn. Stat. § 14.111 requires an agency to provide a copy of a proposed rule that will affect farming operations to the Commissioner of Agriculture no later than 30 days before publication of the proposed rule in the *State Register*. The MPCA does not believe the proposed amendments will directly affect farming operations. However, because the proposed rules will modify the existing Class 2 WQS to create a tier that applies to ditches, and ditches and ditch management are often associated with farming operations, the MPCA will send a copy of the proposed rules to the Commissioner of Agriculture at least 30 days in advance of publishing proposed amendments in the *State Register*.

5. Minn. Stat. § 115.44, subd. 7, states:

   > *"For rules authorized under this section, the notices required to be mailed under sections 14.14, subdivision 1a, and 14.22 must also be mailed to the governing body of each municipality bordering or through which the waters for which standards are sought to be adopted flow."*

The proposed amendments are being conducted under authority of Minn. Stat. § 115.44. Therefore, the MPCA will provide electronic notification to every municipality in Minnesota at least 33 days before the end of the comment period. To do so, the MPCA will purchase a current list of all municipal officials through the League of Minnesota Cities, the Association of Minnesota Counties, and the Association of Minnesota Townships, and will send an e-mail to each municipality that includes a hyperlink to the webpage where the Notice, proposed amendments and SONAR can be viewed. This includes approximately 1,775 townships, over 850 cities, and 87 counties.

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

1. Minn. Stat. § 14.116. In addition to requiring notice to affected/interested legislators, this statute also states that if the mailing of the notice is within two years of the effective date of the law granting the agency authority to adopt the proposed rules, the agency must make reasonable efforts to send a copy of the notice and SONAR to all sitting House and Senate legislators who were chief authors of the bill granting the rulemaking. This requirement does not apply because no bill was authored within the past two years granting rulemaking authority for the proposed amendments.

2. Minn. Stat. § 116.07, subd. 7i. This statute requires notification of specific legislators of the adoption of rules applying to feedlots and fees. The proposed amendments do not relate to feedlots or fees so this requirement does not apply.

B. Additional notice plan

Minn. Stat. § 14.14 requires that in addition to its required notices:

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

The MPCA's plan to notify additional parties, for which the agency intends to request OAH approval pursuant to Minn. R. 1400.2060, includes the following components:

- Provide an extended comment period. The MPCA is going to provide a 45-day comment period on the proposed rule. Extending the comment period beyond the 30-day minimum provides additional opportunity for potentially interested parties to review the proposed rules and to submit comments or hearing requests.
- Publish its Dual Notice of Intention to Adopt the proposed rule (with or without a public hearing, dependent on how many requests are received for the scheduled hearing to be held) on the MPCA's Public Notice webpage (https://www.pca.state.mn.us/public-notices).
- Provide specific notice to tribal authorities. Many representatives of tribes are already registered to receive GovDelivery notices. The MPCA maintains a list of tribal contacts for all Minnesota tribes. The MPCA will also send specific electronic notice to the designated contact persons of Minnesota's tribal communities. The notice will be sent on or near the day the proposed amendments are published in the *State Register*, and it will have a hyperlink to the location where electronic copies of the Notice, SONAR, and proposed amendments can be viewed.
- Provide specific notice to all Minnesota Soil Water and Conservation Districts. The notice will be sent electronically on or near the day the proposed amendments are published in the *State Register*, and it will include a hyperlink to the location where electronic copies of the Notice, SONAR, and proposed amendments can be viewed.
- Provide specific notice to all Minnesota Watershed Districts. The notice will be sent electronically on or near the day the proposed amendments are published in the *State Register*, and it will include a hyperlink to the location where electronic copies of the Notice, SONAR, and proposed amendments can be viewed.
- Post relevant rulemaking updates and associated documents on the MPCA's TALU framework webpage https://www.pca.state.mn.us/water/tiered-aquatic-life-use-talu-framework.

The MPCA also finds that the extensive outreach effort conducted, to date, as described in Sections 3B and 7A of this SONAR, has informed many additional parties of the agency's TALU framework rulemaking. As a result, many (nearly 2,100) persons are currently subscribed to the GovDelivery TALU Rulemaking list so they can receive related notices, including the agency's intention to adopt the proposed rule amendments.

This Additional Notice Plan, and the MPCA's regular means of public notice, including the early development of an extensive GovDelivery mailing list, publication in the *State Register* and posting on the MPCA's webpages, will adequately provide additional notice, pursuant to Minn. Stat. § 14.14, subd. 1a.

8. Consideration of economic factors

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

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

The TALU framework proposed in these rule amendments will benefit Minnesota citizens through the identification and protection of exceptional quality streams. The remainder of this chapter summarizes the economic factors associated with the proposed amendments that the MPCA considered and explains why the TALU framework is not anticipated to result in increased costs for water management entities or for most, if not all, MPCA permitted dischargers to streams into the foreseeable future.

More accurate information about water quality benefits watershed managers. The TALU framework results in more accurate water quality assessments. Local, regional, and state water and watershed managers use water quality assessments in water planning and management activities. Better knowledge about water quality leads to more effective and efficient targeting of water planning and management activities. The TALU framework better identifies which streams are in need of targeted water planning and management activities.

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

If a Use Attainability Analysis (UAA) confirms that the current General Use classification is accurate, costs and benefits remain the same. Currently, without the proposed TALU framework, all streams are held to General Use biological criteria. The TALU framework that will be implemented after these amendments are adopted will identify that many streams are appropriately classified as General Use. If the General Use classification is maintained, then water quality management for those streams would be unchanged as compared to the current aquatic life use framework. Entities that discharge to streams that remain classified as General Use, will not see a change in their MPCA permitted limits; therefore, no additional costs will be incurred as a result of the TALU framework.

While not anticipated for the 30 streams this rulemaking is designating as Exceptional Use, or for those where existing data indicates Exceptional Use could be proposed in the future, it is theoretically possible that designating additional streams to this level of protection, where future monitoring data supports it, may result in costs to entities with a discharge to those streams. As noted, the proposed TALU framework will identify some streams as having exceptional water quality. Based on existing data, the MPCA did not identify any dischargers that will be impacted by either this rulemaking's designation of the 30 streams as an Exceptional Use or those that may be designated Exceptional Use in a future rulemaking. While not anticipated, it is conceivable that an existing municipal wastewater treatment

plant or industry may incur costs for its existing discharges to a stream that is classified as Exceptional Use in the future as a result of the collection of new data. However, this will only happen if more stringent discharge limits are needed to protect the Exceptional Use, which the MPCA is anticipating to be a rare occurrence. In most cases new discharge limits will not be needed due to the demonstration that the stream is already maintaining exceptional biological conditions under current discharges.

Additional costs might also be incurred by entities seeking to establish a new discharge to a stream that is designated Exceptional Use, or if an existing permittee proposes to expand its currently authorized discharge. However, since most streams that will be classified as Exceptional Use are located in areas of the state with few dischargers, it is unlikely this will be common.

It is important to note that this rulemaking's adoption of the TALU framework will not expand regulatory control over any currently unregulated activities. Also, future designations of any streams to Exceptional Use would have to first complete a separate rulemaking process, at which time, similar to this rulemaking, the associated costs to permitted dischargers would need to be addressed.

Protect ecosystem services. The implementation of the TALU framework protects existing ecosystem services provided by high quality water resources. Ecosystem services are natural processes that directly or indirectly benefit human beings. Economic analyses of ecosystem services evaluate total annual value of these services to humans. Current economic value estimates of ecosystem services in Minnesota are unable to provide detailed representation of the benefits from the proposed TALU framework, although they can provide some context. For example, a recent study suggests that the natural land cover in the St. Louis River watershed provides $5 to $13 billion dollars in benefits annually (S-117). However, even if a similar approach were taken to estimate the value of the entire state, we would be unable to identify how the annual value would change after implementation of the TALU framework. The lack of the data and the high level of uncertainty of the anticipated improvements in water quality do not allow us to make such an estimate. However, without the TALU framework, we stand to lose a portion of the annual value if high water quality resources are held only to General Use standards. Ecosystem services lose value as the quality of the water degrades. For example, a 1995 study found a positive relationship between recreation demand for fishing in lakes in Minnesota and water clarity, which means that fishing trips to Minnesota lakes increase with water clarity or decrease with a reduction in water clarity (S-117). The TALU framework can preserve the economic benefits, including economic value from fishing and recreation, but also numerous other benefits, which Minnesota citizens derive from the ecosystem services of high quality waters.

A discussion of economic factors is provided below for each proposed TALU tier (General, Exceptional and Modified) and for three types of parties (Minnesota citizens, permitted dischargers, non-point sources of pollution).

A. General Use

A TALU designation of General Use maintains the status quo. There would be no change in costs or benefits for citizens or dischargers around a stream that is classified as General Use. The goals for water quality would not change, so citizens receive the same water quality benefits, and no discharger would have changes to their permitted effluent limits. Under the TALU framework, most of Minnesota's Class 2 waters will continue to be designated as General Use waters, subject to the existing Class 2 standards.

However, if biological conditions improve in a number of General Use waters such that Exceptional Use is attained at some point in the future, the stream will be proposed for Exceptional Use designation. Under the TALU framework, General Use streams have the potential to offer the benefits of an Exceptional Use stream in the future. If some Minnesotans value the ability to preserve high quality water for future generations, known as a bequest value, the TALU framework creates an opportunity for this value to be realized.

B. Exceptional Use

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

i. Minnesota citizens

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

Citizens may see the following benefits:

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

ii. Permitted dischargers

As explained below, the MPCA anticipates that the Exceptional Use designation will rarely, if at all, affect existing MPCA NPDES/SDS Permittees point source dischargers to streams. This is because: 1) most Exceptional Use waters are in areas of the state where there are fewer permitted facilities discharging to waters of the state; and 2) the existing pollution controls required by the MPCA NPDES/SDS Permits are already sufficient to protect the Exceptional Use designation as demonstrated by the attainment of the stream as Exceptional Use.

The MPCA evaluated its regulatory water permit information to estimate how many current permittees might be affected by an Exceptional Use designation. Through the IWM approach, the MPCA has monitored 61% of Minnesota's watersheds (49 of 80 Hydrological Unit Code (HUC) 8 watersheds; Figure 8-1) at the time of this analysis. Within these watersheds there are only 10 NPDES/SDS Permittees that discharge directly to, or within one mile upstream of, a stream that is proposed to be designated Exceptional Use under this rulemaking, or could potentially be designated Exceptional Use in a future rulemaking. These 10 potentially affected NPDES/SDS Permittees are grouped into the following four categories and discussed below: 1) Municipal Separate Storm Sewer System (MS4) cities; 2) sand and gravel mining; 3) municipal wastewater; and 4) other.

1. **MS4 cities:** There are six MS4 NPDES/SDS Permittees located within one mile of a potential Exceptional Use stream. Collectively, these permittees have a total of 10 stormwater discharge stations to surface waters (of which seven are not expected to discharge under normal circumstances). Because these facilities are required to meet current permit conditions that already protect these streams, and since the stream already qualifies for Exceptional Use designation, no permit changes will be required of these permittees. Therefore, no MS4 NPDES/SDS city discharger is expected to incur additional costs as a result of the receiving water being designated as Exceptional Use.
2. **Sand and gravel mining:** There are two (non-metallic) sand and gravel mining facilities with separate NPDES/SDS General Permits to discharge stormwater that are located within one mile of a potential Exceptional Use stream. Neither facility is authorized by the permit to discharge pollutants to surface waters; both facilities contain untreated stormwater on-site. Since there is no permitted surface discharge to the stream that will be designated Exceptional Use, neither facility will need to implement changes or incur additional costs as a result of this rulemaking.
3. **Municipal:** There is currently one NPDES/SDS-Permitted municipal facility that discharges treated wastewater within one mile of a potential Exceptional Use stream. The facility is a municipal pond system with a controlled discharge that typically discharges in the spring and fall. Before reaching the potential Exceptional Use stream reach, the water from the discharge flows through several lakes. None of these lakes have aquatic life use impairments. Therefore, due to the nature of the receiving water (i.e., several lakes buffer any impacts to the high quality downstream water) and the fact that the Exceptional Use biological criteria are currently being met, the MPCA does not expect this discharger to have an impact on the Exceptional Use reach and no costs will be incurred as a result of the Exceptional Use designation.
4. **Other:** This category of permits includes one permitted discharger within one mile of a potential Exceptional Use stream. It is a continuous discharging mechanical plant designed to treat waste from a fish hatchery. Effluent limits have been set to protect the designated uses of the receiving water which is currently resulting in the attainment of the Exceptional Use. Since the current discharge is maintaining the Exceptional Use status, the MPCA does not expect any adverse impact or cost to the discharger as a result of designation as Exceptional Use.

The result of this analysis indicates that no existing MPCA-permitted facility dischargers are anticipated to require additional treatment, or incur additional costs, to protect the 30 streams this rulemaking is designating Exceptional Use. Further, in view of the location of all existing NPDES/SDS-Permitted dischargers throughout the state, relative to the streams that are likely to be designated Exceptional Use in future rulemakings (i.e., subsequent to this rulemaking), it does not appear that any existing permittee will need to provide additional treatment, or incur additional costs, as a result of the redesignation. Again, this is based on the information the MPCA currently has available. Future

rulemakings will need to evaluate the associated economic costs accordingly, using updated data to support any reclassifications.

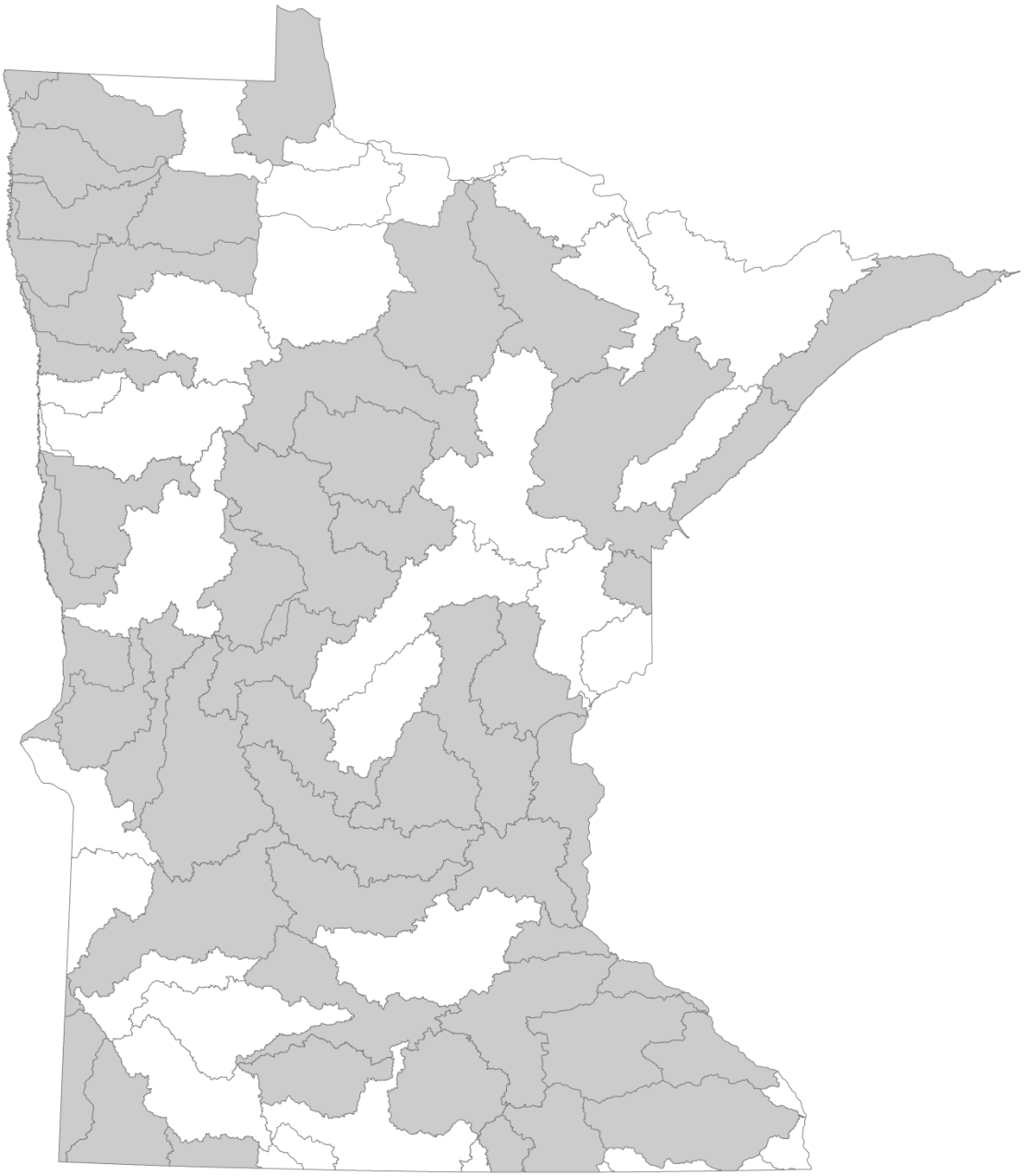

Figure 8-1. Minnesota's major watersheds (8-digit hydrologic units) showing watersheds (grey) intensively sampled from 2006-2013.

The evaluations of permitted dischargers within one mile of potential Exceptional Use reaches determined that no additional costs would be required for the 10 identified discharges. Extrapolating these results from the IWM monitoring completed on 61% of the state's major watersheds, suggests that data collection during the remaining four years of the 10-year IWM cycle will not affect any dischargers. However, over the course of the remaining four years of the first cycle of IWM, it is possible that a discharge(s) could be identified that threatens an Exceptional Use in these remaining watersheds.

In addition, in subsequent IWM cycles, a portion of the sample stations will be on stream reaches not previously monitored. Monitoring additional stream reaches may result in the identification of additional Exceptional Use streams. In addition, if conditions improve in some re-sampled stream reaches, they could be designated as an Exceptional Use. As a result, there could be additional permits requiring review as these new Exceptional Use streams are identified. However, based on the lack of permits affected by potential Exceptional Use streams identified in this analysis, it is unlikely there will be many existing NPDES/SDS Permits affected by future Exceptional Use designations.

Although the MPCA's analysis of permit data concluded that no existing dischargers would be impacted by the proposed Exceptional Use designation, the agency recognizes it is theoretically possible that a future rulemaking's designation of Exceptional Use streams may result in an impact to a small number of existing permitted dischargers. The following paragraphs address this possible scenario by describing the MPCA's process for evaluating potential impacts to Exceptional Uses from permitted discharges and the mechanisms for seeking protective limits.

For existing discharges, the permitted levels would have been established based on aquatic life use goals equivalent to the General Use, not the Exceptional Use. The MPCA must assume that eventually the discharger will reach its permitted discharge volume and/or loading capacity, and as a result, the stream may be affected in ways that did not occur at lower discharge volumes and/or loadings. When considering the potential future effect of a discharge on an Exceptional Use stream, the MPCA's review of potential stressors to the biological assemblages must determine whether pollutants that pose a risk to the aquatic life are being discharged. The MPCA will need to conduct this type of examination of the pollutants discharged and the conditions of the receiving water on a case-by-case basis.

It is important to note that increases in flow rate/loadings are not inevitable and not all dischargers are expected to reach their full permit capacity. The discharges from some facilities have never met the permitted flow rate and have actually declined. For example, a small town with decreasing population is not expected to increase its discharge to the permitted levels. As a result, no additional review would be needed and there would be no impact to these permits.

The MPCA's review of permitted discharges and analysis of their potential impact on an Exceptional Use stream will include, depending on the receiving stream, such things as relevant water quality parameters, discharge timing, flow volume, etc. For example, a trout stream (i.e., Class 2A) needs water temperature, dissolved oxygen levels, and habitat adequate to support trout and other cold water adapted organisms. An analysis of potential impacts for a trout stream would need to consider both the discharge temperature and the time of year the discharge is occurring. Typically, the hotter summer period when trout stream aquatic life are most sensitive. A discharge must not cause a material increase in the receiving water temperature during the sensitive period. A discharge in the winter, when the water is already cold and wastewater is colder than in summer, may not be of concern. Other parameters such as carbonaceous biochemical oxygen demand (CBOD), total suspended solids (TSS), and ammonia may have an impact by reducing the oxygen levels in the receiving stream. The MPCA's analysis would consider all these factors.

If the MPCA determines that a point source has (or could have, based on permitted limits) enough of a negative impact to threaten the Exceptional Use the parameters of concern will need to be identified as well as the protective levels for these parameters. Since there are currently no tiered numeric chemical standards proposed as part of this rule revision, this will need to be addressed on a case-specific basis. This may require a modification to existing standards through development of site-specific standards (Minn. R. 7050.0218, subp. 2 (S-8) and Minn. R. 7050.0220, subp. 7). The site-specific standards would then be considered during permit renewal.

The implementation of site-specific standards may consider an evaluation of options to avoid or minimize adverse impacts to water quality. This evaluation may consider options such as land application, a different discharge location, or additional treatment. The approach selected, and its related cost, depends on the pollutant parameter of concern. In some cases, the cost may be relatively low if it is easily and inexpensively mitigated. For example, adding oxygen (i.e., post aeration) to the final effluent before it is discharged to the stream. On the other hand, costs may be higher if the treatment requires a technology such as a sand filter, however the MPCA anticipates that such treatment technologies will rarely be needed to protect Exceptional Use waters. A common class of pollutants treated to protect aquatic life is nutrients. If a nitrogen pollutant (e.g., ammonia) threatens an Exceptional Use, additional treatment can often be added to the existing wastewater treatment plant to remove or reduce the levels of nitrogen. The type of treatment depends on the effluent parameter and its limit. For example, an activated sludge system can be modified to convert ammonia into nitrite and then nitrate (nitrification). The nitrate can then be converted into nitrogen gas (i.e., denitrification) which removes the nitrogen from the water and the discharge. If phosphorus is the pollutant of concern, phosphorus removal can be done in a fashion similar to nitrogen removal. An activated sludge system can be modified to remove phosphorus; and treatment by chemical addition can provide back-up to a biological system or to provide further phosphorus removal. Costs for these treatment modifications vary depending on the plant size, layout, land availability, etc.

When a new NPDES/SDS permit or significant expansion is proposed, there must be an antidegradation review (Minn. R. 7050.0180 (S-88) and Minn. R. 7050.0185 (S-89)).[27] This includes a review to determine if the new or expanded discharge will put the existing Exceptional Use at risk and an evaluation of alternatives to avoid or minimize adverse impacts to water quality. Under the proposed revised antidegradation rules, the average cost to permittees for conducting an antidegradation assessment is $64,751.[28] The actual cost of the assessment will depend on the permit and the receiving water, but only a small portion of the cost will be attributed to the reclassification of the receiving water to Exceptional Use. If through an antidegradation review it is determined that the new or expanded permit would threaten the Exceptional Use, the proposed discharge would need to be modified to protect the Exceptional Use. This process would be similar to that described above when a site-specific standard is implemented to protect an Exceptional Use.

iii. Non-point sources of pollution

The TALU framework does not expand the MPCA's regulatory authority over non-point pollution sources. For example, activities that require a MPCA NPDES/SDS Construction Stormwater General Permit would not be impacted by this rulemaking because the proposed rule does not add any Exceptional Use waters to the list of what are referred to as "special waters" as defined in the general permit (S-118). The only impact the MPCA anticipates may occur to construction stormwater permittees as a result of the proposed TALU framework rule amendments would be if an Exceptional Use water body, which meets the current aquatic life use goals and is not already classified as a special water, becomes degraded and listed in the future as impaired under section CWA § 303(d) for phosphorus (nutrient eutrophication biological indicators), turbidity, dissolved oxygen or aquatic biota (fish

[27] The MPCA is currently undergoing rulemaking to revise its antidegradation rules. This rule revision will result in all permit expansions which cause an increase in loading to undergo an antidegradation review and not just those that are "significant".

[28] This estimate is based on data provided in the MPCA's Statement of Need and Reasonableness (wq-rule3-60d; S-118), that supports the adoption of the amendments to the state's nondegradation rules (page 151).

bioassessment, aquatic plant bioassessment and aquatic macroinvertebrate bioassessment). This circumstance would be rare. But if it occurs, and dependent upon the type of construction activities and proximity to the waterbody, the permittee may be required to implement additional BMPs.

Although not required through regulation or this rulemaking, Exceptional Use designated water bodies may also be recommended for increased protection activities in the future, which may result in some cost. Costs would typically be low for individual landowners with higher cost activities supported or shared through other funding sources. To prompt and coordinate these activities, the WRAPS reports will provide recommendations for protecting these water bodies. Although there may be a cost to protecting Exceptional Use water bodies, it is cost effective as it is in a community's best interest to protect the benefits of Exceptional Use streams and to avoid the costs of restoring them once damaged.

C. Modified Use

The TALU framework defines Modified Use streams as not able to meet General Use WQS because of a lack of physical habitat structure to support a healthy community of aquatic life. This habitat condition is the result of legal, human activities that cannot remedied and which are consistent with 40 CFR § 131.10(g)(3) or (4) (S-2). However, the TALU framework does not *a priori* make WQS more or less stringent for Modified Use water bodies and thus would not increase costs to protect or restore these waters. In contrast, the implementation of a Modified Use should represent a cost savings as actions to protect and restore water quality in these water bodies can be better tailored to their biological potential.

i. Minnesota citizens

Through payment of taxes, Minnesota citizens support public water management efforts at the local, county, and state levels. Water management authorities can prioritize their efforts better with the more precise stream classifications provided by the TALU framework. The Modified Use designation sets attainable goals that reflect the lack of physical habitat structure which limits the aquatic biology of a particular water body. Establishing realistic goals for water bodies with compromised habitat structure sanctioned through other Minnesota Statutes and Rules allows water management entities to most effectively direct resources among all waters in their authority. Differentiated stream designations will increase efficiency by allowing resources to be allocated away from Modified Use waters when their current potential is attained to higher quality waters which have the potential to be restored. This results in greater economic and environmental returns. The agency would incur upfront costs to designate Modified Use water bodies, however the future efficiency gains are likely to be greater.

There are foregone benefits associated with the ecological services in designating a water body as Modified Use because a Modified Use does not provide the same level of economic or aesthetic benefits associated with General Use or high quality water. However, these costs cannot be attributed to the TALU designation as Modified Use. Instead they are attributable to the activities that have resulted in the limited physical habitat structure that supports the Modified Use designation. The lack of habitat that results in a Modified Use designation is the result of alterations to the landscape that have resulted from decades of drainage activities performed legally under the authority of Minnesota Drainage Law (Minn. Stat. § 103E; S-60). Therefore, current level of aquatic life quality in waters that meet Modified Use criteria is attributable to the activities that are already occurring, and would not result from TALU designation as Modified Use.

ii. Permitted dischargers

Dischargers to waters designated as Modified Use are still held to the non-biological standards that apply to Class 2 waters and to their discharge permit conditions. Designation to Modified Use will not change the standards that apply to Class 2 water bodies or affect existing permit conditions. However, as with the Exceptional Use, the refined aquatic life use goals can trigger development and implementation of site-specific standards (7050.0220, subp. 7; S-105) if it can be demonstrated that they would be protective of beneficial uses.

The MPCA evaluated permit information to estimate how many current permittees might be affected by a Modified Use designation. Through its IWM approach, the MPCA has completed monitoring of 61% of Minnesota's watersheds. In the watersheds monitored, there are 31 NPDES/SDS Permits with discharges directly to or within one mile upstream of a ditch that, based on available data, could be designated Modified Use. These permits are for municipal and industrial wastewater, MS4 cities, non-contact cooling water, discharge from test wells, and spray irrigation. None of these dischargers will incur costs as a result of their receiving water being designated as Modified Use. All discharges will be required to continue to meet the existing Class 2 WQS and will incur the costs they currently have that are associated with meeting those standards.

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

iii. Non-point sources of pollution

The TALU framework does not increase the MPCA's regulatory authority over non-point pollution sources. Therefore, there are no direct impacts or cost to entities responsible for non-point discharges to Modified Use streams. However, there may be some cost savings compared to the current aquatic life use framework. Currently all ditches are held to the biological goals for the General Use which could result in unattainable goals for some of these water bodies. In some circumstances this could lead to recommendations for additional BMPs that may not be effective in restoring the biological condition in these water bodies. Under the TALU framework, attainable goals will be established so that the implementation of BMPs can be implemented in a manner that actually provides for improved water quality. The result of this is better outcomes for protection and restoration of water quality in ditches and better use of limited water quality management resources.

9. Authors, witnesses, and SONAR exhibits

A. Authors

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

B. Witnesses

The MPCA anticipates that the proposed amendments will be noncontroversial. However, if a public hearing is necessary, the MPCA anticipates the following persons will testify as witnesses in support of the need for and reasonableness of the rules.

- Lead Scientist, R. William Bouchard, Jr., Ph.D., Research Scientist, MPCA. Dr. Bouchard is the primary author of the SONAR and lead scientist in the rule development. Dr. Bouchard will testify on the underlying science and development of the rule and SONAR.
- Legal Counsel, Jean Coleman, MPCA. Ms. Coleman is Legal Counsel to the MPCA will introduce the required jurisdictional documents into the record.
- Rule Coordinator, Kevin Molloy, MPCA. Mr. Molloy is a contributing author of the SONAR and is the project coordinator. He will testify on any APA process-related questions.

C. SONAR exhibits

S-1. 40 CFR § 131.3, Definitions (1983, as amended)

S-2. 40 CFR § 131.10, Designation of uses (2015) (1983, as amended)

S-3. MPCA (2016) Proposed Permanent Rule Relating to Water Quality Standards and Tiered Aquatic Life Use.

S-4. Minn. R. 7050.0140, Use classifications for Waters of the State (2008)

S-5. Minn. R. 7050.0400, Beneficial use classifications for surface waters; scope (2008)

S-6. Minn. R. 7050.0470, Classifications for surface waters in major drainage basins (2008)

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S-24. Federal Water Pollution Control Act, 33 U.S.C. § 1313 (CWA section 303) (1972, as amended)

S-25. Minn. Stat. § 115.44, Classification of waters; standards of quality and purity (2015)

S-26. Minn. Stat. § 115.03, Powers and duties (2014)

S-27. MPCA (2016) The use of the Tiered Aquatic Life Use (TALU) framework to designate beneficial uses for drainage ditches and altered watercourses. Minnesota Pollution Control Agency, St. Paul, MN.

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S-68. Comment in Response to Request for Comments from Linda Holst, United States EPA, to Carol Nankivel, MPCA (October 17, 2014)

S-69. Comment in Response to Request for Comments from Terry Noonan, Ramsey County, to Carol Nankivel, MPCA (September 10, 2014)

S-70. Comment in Response to Request for Comments from Valerie Brady, Duluth Township, to Carol Nankivel, MPCA (August 25, 2014)

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S-110. Minn. R. 7050.0217, Objectives for protection of surface waters from toxics pollutants (2015)

S-111. Minn. R. 7050.0219, Human health-based criteria and standards (2015)

S-112. Minn. R. 7050.0220, Specific water quality standards by assocaited use classes (2015)

S-113. EPA (1994) Water quality standards handbook. U.S. Environmental Protection Agency, Washington, D.C.

S-114. State of Minnesota (1980) Statement of need and reasonableness: In the matter of the proposed ammendments to MPCA Rules WPC 14, 15, 24, and 25 and the proposed repeal of WPC 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 20, 21, 23, 26, 29, 31, and 32. February 1, 1980. pp. 55.

S-115. Minn. R. 7050.0227, Specific water quality standards for Class 7 Waters of the State; Limited resource value waters (2008)

S-116. Minn. R. 7050.0460, Waters specifically classified; Explaination of listings in part 7050.0470 (2008)

S-117. Minn. R. 7052.0100, Water quality standards (2015)

S-118. Minn. R. 7052.0110, Methodologies for development of standards and criteria, and bioaccumulation factors (2015)

S-119. MPCA (2015) Statement of need and reasonableness in the matter of proposed revisions of Minnesota Rules ch.7050, relating to nondegradation and minor supporting changes to Minnesota Rules chs. 7052 and 7001 Minnesota Pollution Control Agency, St. Paul, MN.

S-120. 40 CFR § 131.12, Antidegradation policy (1983, as amended)

S-121. 40 CFR § 130.23, How do you develop and document your methodology for considering and evaluating all existing and readily available data and information to develop your list? (2002, as amended)

S-122. 40 CFR § 131.20, State review and revision of water quality standards (1983, as amended)

S-123. Karr J. (1991) Biological Integrity: A Long-Neglected Aspect of Water Resource Management. *Ecological Applications* 1: 66-84.

S-124. Feather P., D. Hellerstein & T. Tomasi. (1995) A discrete-count model of recreational demand. *Journal of Environmental Economics and Management* 29: 214-227.

S-125. MPCA (2013) General permit authorization to discharge stormwater associated with contruction activity under the national pollutant discharge elimination system/state disposal program. Minnesota Pollution Control Agency, St. Paul, MN.

Conclusion

The MPCA has established the need for and the reasonableness of the proposed amendments to Minn. R. chs. 7050 and 7052 in this SONAR. The MPCA has also documented its compliance with all applicable administrative rulemaking requirements of Minnesota statutes and rules in this SONAR. Based on the foregoing, the proposed amendments are both needed and reasonable.

12/15/16

Date

John Linc Stine, Commissioner
Minnesota Pollution Control Agency

A. Appendix A: Specific Use changes

The statements of specific reasonableness for changes to Minn. R. 7050.0470 that are proposed as part of this rule revision are included in this appendix. This appendix includes a list of reaches proposed to be designated as Exceptional or Modified Use (Table A-1). Determination of the proposed uses were made through an assessment to determine the attainable aquatic life use goal for each stream reach following the steps described in Table-A1 and detailed in the "Draft techincal guidance for designating aquatic life uses in Minnesota streams and rivers" (S-62). These reviews were based on the available data from watersheds monitored intensively in 2012 and 2013 as part of the IWM approach (Figure A-1). This appendix also includes a list of the habitat thresholds and a summary of how these thresholds were used to determine habitat limitation. Finally, the appendix provides a narrative description of each of the proposed changes. These descriptions provide the MPCA documentation of the evidence used to determine if a use change was supported by the available data.

Table A-1: Proposed TALU designation changes (Abbreviations: 2B = "General Use" cool and warm water aquatic life and habitat; 2Be = Exceptional Use cool and warm water aquatic life and habitat; 2Bm = Modified Use cool and warm water aquatic life and habitat; 2A = "General Use" cold water aquatic life and habitat; 2Ae = Exceptional Use cold water aquatic life and habitat; 2C = Indigenous aquatic life and their habitats; * indicates the stream is not currently listed in Minn. R. 7050.0470 and is therefore designated 2B by default [see Minn. R. 7050.0430]).

#	AUID	Watershed (HUC 8)	Water-body Name	Current Use Class	Proposed Use Class
1	07010205-502	South Fork Crow River	Buffalo Creek	2B*	2Bm
2	07010205-504	South Fork Crow River	Judicial Ditch 67	2B*	2Bm
3	07010205-506	South Fork Crow River	Judicial Ditch 29	2B*	2Bm
4	07010205-509	South Fork Crow River	Judicial Ditch 15	2B*	2Bm
5	07010205-529	South Fork Crow River	Unnamed Creek	2B*	2Bm
6	07010205-533	South Fork Crow River	Unnamed Creek	2B*	2Bm
7	07010205-549	South Fork Crow River	Belle Creek	2C	2Bm
8	07010205-550	South Fork Crow River	Judicial Ditch 18	2C	2Bm
9	07010205-555	South Fork Crow River	County Ditch 23	2B*	2Bm
10	07010205-571	South Fork Crow River	Judicial Ditch 1	2B*	2Bm
11	07010205-585	South Fork Crow River	Unnamed Creek	2B*	2Bm
12	07010205-591	South Fork Crow River	Judicial Ditch 8	2B*	2Bm
13	07010205-592	South Fork Crow River	Unnamed Ditch	2B*	2Bm
14	07010205-607	South Fork Crow River	Big Kandiyohi Channel	2B*	2Bm
15	07010205-608	South Fork Crow River	State Ditch Branch 2	2B*	2Bm
16	07010205-609	South Fork Crow River	County Ditch 18	2B*	2Bm
17	07010205-610	South Fork Crow River	County Ditch 24A	2B*	2Bm
18	07010205-612	South Fork Crow River	Unnamed Ditch	2B*	2Bm
19	07010205-613	South Fork Crow River	King Creek	2B*	2Bm
20	07010205-614	South Fork Crow River	Unnamed Creek	2B*	2Bm

#	AUID	Watershed (HUC 8)	Water-body Name	Current Use Class	Proposed Use Class
21	07010205-615	South Fork Crow River	Unnamed Creek	2B*	2Bm
22	07010205-616	South Fork Crow River	McCuen Creek	2B*	2Bm
23	07010205-617	South Fork Crow River	Unnamed Creek	2B*	2Bm
24	07010205-620	South Fork Crow River	Judicial Ditch 1	2B*	2Bm
25	07010205-621	South Fork Crow River	Unnamed Creek	2B*	2Bm
26	07010205-625	South Fork Crow River	Judicial Ditch 9	2B*	2Bm
27	07010205-626	South Fork Crow River	Judicial Ditch 15 Branch	2B*	2Bm
28	07010205-627	South Fork Crow River	Judicial Ditch 15 Branch	2B*	2Bm
29	07010205-628	South Fork Crow River	Judicial Ditch 15 Branch	2B*	2Bm
30	07010205-630	South Fork Crow River	Unnamed Ditch	2B*	2Bm
31	07010205-631	South Fork Crow River	County Ditch 7A	2B*	2Bm
32	07010205-639	South Fork Crow River	County Ditch 13	2B*	2Bm
33	07010205-642	South Fork Crow River	Otter Creek	2B*	2Bm
34	07010205-648	South Fork Crow River	County Ditch 9	2B*	2Bm
35	07010205-658	South Fork Crow River	Crow River, South Fork	2B*	2Bm
36	07040004-578	Zumbro River	Unnamed Creek	2B*	2Bm
37	07040004-585	Zumbro River	Trout Brook	2B*	2Bm
38	07040004-633	Zumbro River	Unnamed Creek	2B*	2Bm
39	07040004-966	Zumbro River	Judicial Ditch 7	2B*	2Bm
40	07040004-970	Zumbro River	Zumbro River, North Fork	2B*	2Bm
41	07040004-987	Zumbro River	Judicial Ditch 1	2B*	2Bm
42	07040004-988	Zumbro River	Dodge Center Creek	2B*	2Bm
43	09020303-505	Red Lake River	Pennington County Ditch 76	2B*	2Bm
44	09020303-545	Red Lake River	Unnamed Ditch	2B*	2Bm
45	09020303-546	Red Lake River	Judicial Ditch 60	2B*	2Bm
46	09020303-547	Red Lake River	County Ditch 43	2B*	2Bm
47	09020303-549	Red Lake River	Unnamed Creek (County Ditch 53)	2B*	2Bm
48	09020303-551	Red Lake River	Burnham Creek	2C	2Bm
49	09020303-557	Red Lake River	Black River	2B*	2Bm
50	09020306-515	Grand Marais Creek	County Ditch 2	2B*	2Bm
51	09020306-517	Grand Marais Creek	County Ditch 43 (Judicial Ditch 75)	2B*	2Bm
52	09020306-520	Grand Marais Creek	Judicial Ditch 75	2B*	2Bm
53	09030009-560	Lake of the Woods	County Ditch 20	2B*	2Bm
54	04010101-518	Lake Superior - North	Cross River	2A	2Ae
55	04010101-528	Lake Superior - North	Greenwood River	2A	2Ae
56	04010101-531	Lake Superior - North	Irish Creek	2A	2Ae
57	04010101-532	Lake Superior - North	Kimball Creek	2A	2Ae
58	04010101-534	Lake Superior - North	Manitou River	2A	2Ae

#	AUID	Watershed (HUC 8)	Water-body Name	Current Use Class	Proposed Use Class
59	04010101-536	Lake Superior - North	Mistletoe Creek	2A	2Ae
60	04010101-547	Lake Superior - North	Two Island River	2A	2Ae
61	04010101-566	Lake Superior - North	Little Devil Track River	2A	2Ae
62	04010101-569	Lake Superior - North	Heartbreak Creek	2A	2Ae
63	04010101-571	Lake Superior - North	Houghtaling Creek	2A	2Ae
64	04010101-573	Lake Superior - North	Caribou River	2A	2Ae
65	04010101-575	Lake Superior - North	Caribou River	2A	2Ae
66	04010101-581	Lake Superior - North	Crown Creek	2A	2Ae
67	04010101-590	Lake Superior - North	Cascade River	2A	2Ae
68	04010101-646	Lake Superior - North	Bluff Creek	2A	2Ae
69	04010101-717	Lake Superior - North	Elbow Creek	2A	2Ae
70	04010101-783	Lake Superior - North	Wanless Creek	2A	2Ae
71	04010101-814	Lake Superior - North	Lullaby Creek	2A	2Ae
72	04010101-827	Lake Superior - North	Manitou River, South Branch	2A	2Ae
73	04010101-B35	Lake Superior - North	Sixmile Creek	2A	2Ae
74	04010101-B66	Lake Superior - North	Swamp River	2A	2Ae
75	04010101-D50	Lake Superior - North	Baptism River, West Branch	2A	2Ae
76	04010101-D53	Lake Superior - North	Kadunce River (Kadunce Creek)	2A	2Ae
77	04010101-D55	Lake Superior - North	Portage Brook	2A	2Ae
78	04010101-D56	Lake Superior - North	Temperance River	2A	2Ae
79	04010101-D58	Lake Superior - North	Baptism River, East Branch	2A	2Ae
80	04010101-D61	Lake Superior - North	Woods Creek	2A	2Ae
81	04010101-D79	Lake Superior - North	Devil Track River	2A	2Ae
82	07010101-747	Mississippi River - Headwaters	Unnamed Ditch	2B*	2Bm
83	07010101-751	Mississippi River - Headwaters	Schoolcraft River	2B*	2Be
84	07010207-534	Rum River	County Ditch 4	2B*	2Bm
85	07010207-535	Rum River	County Ditch 4	2B*	2Bm
86	07010207-587	Rum River	Unnamed Ditch	2B*	2Bm
87	07010207-641	Rum River	Washburn Brook	2B*	2Bm
88	07010207-676	Rum River	Tibbetts Brook	2C	2Bm
89	07010207-684	Rum River	Prairie Brook	2C	2Bm
90	07020007-525	Minnesota River - Mankato	County Ditch 3	2B*	2Bm
91	07020007-531	Minnesota River - Mankato	Minneopa Creek	2B*	2Bm
92	07020007-535	Minnesota River - Mankato	County Ditch 27	2B*	2Bm

#	AUID	Watershed (HUC 8)	Water-body Name	Current Use Class	Proposed Use Class
93	07020007-541	Minnesota River - Mankato	Cherry Creek	2B*	2Bm
94	07020007-545	Minnesota River - Mankato	County Ditch 4/County Ditch 39	2B*	2Bm
95	07020007-548	Minnesota River - Mankato	Unnamed Creek	2B*	2Bm
96	07020007-557	Minnesota River - Mankato	County Ditch 56 (Lake Crystal Inlet)	2B*	2Bm
97	07020007-593	Minnesota River - Mankato	Judicial Ditch 48	2B*	2Bm
98	07020007-636	Minnesota River - Mankato	County Ditch 52	2B*	2Bm
99	07020007-646	Minnesota River - Mankato	Unnamed Creek (County Ditch 11)	2B*	2Bm
100	07020007-656	Minnesota River - Mankato	County Ditch 28-1	2B*	2Bm
101	07020007-657	Minnesota River - Mankato	County Ditch 11	2B*	2Bm
102	07020007-661	Minnesota River - Mankato	County Ditch 11	2B*	2Bm
103	07020007-664	Minnesota River - Mankato	County Ditch 115	2B*	2Bm
104	07020007-665	Minnesota River - Mankato	County Ditch 100	2B*	2Bm
105	07020007-666	Minnesota River - Mankato	Judicial Ditch 8	2B*	2Bm
106	07020007-667	Minnesota River - Mankato	County Ditch 105	2B*	2Bm
107	07020007-670	Minnesota River - Mankato	County Ditch 124	2B*	2Bm
108	07020007-671	Minnesota River - Mankato	County Ditch 22	2B*	2Bm
109	07020007-673	Minnesota River - Mankato	County Ditch 115	2B*	2Bm
110	07020007-678	Minnesota River - Mankato	County Ditch 46A	2B*	2Bm
111	07020007-681	Minnesota River - Mankato	Altermatts Creek	2B*	2Bm
112	07020007-686	Minnesota River - Mankato	Little Rock Creek (Judicial Ditch 31)	2B*	2Bm
113	07020007-688	Minnesota River - Mankato	County Ditch 106A (Fort Ridgley Creek)	2B*	2Bm

#	AUID	Watershed (HUC 8)	Water-body Name	Current Use Class	Proposed Use Class
114	07020007-692	Minnesota River - Mankato	Shanaska Creek	2B*	2Bm
115	07020007-696	Minnesota River - Mankato	Unnamed Creek	2B*	2Bm
116	07020007-699	Minnesota River - Mankato	Wabasha Creek	2B*	2Bm
117	07020007-701	Minnesota River - Mankato	Judicial Ditch 10	2B*	2Bm
118	07020007-711	Minnesota River - Mankato	County Ditch 124	2B*	2Bm
119	07020007-716	Minnesota River - Mankato	Judicial Ditch 13	2B*	2Bm
120	07020010-505	Watonwan River	Unnamed Creek (Mountain Lake Inlet)	2B*	2Bm
121	07020010-526	Watonwan River	Unnamed Creek	2B*	2Bm
122	07020010-545	Watonwan River	Unnamed Ditch	2B*	2Bm
123	07020010-552	Watonwan River	Unnamed Creek	2B*	2Bm
124	07020010-553	Watonwan River	County Ditch 1	2B*	2Bm
125	07020010-555	Watonwan River	Unnamed Creek	2B*	2Bm
126	07020010-565	Watonwan River	Watonwan River, North Fork	2B*	2Bm
127	07020010-567	Watonwan River	Watonwan River	2B*	2Bm
128	07020010-569	Watonwan River	Watonwan River, South Fork	2B*	2Bm
129	07020010-574	Watonwan River	Spring Branch Creek	2C	2Bm
130	07020010-576	Watonwan River	St James Creek	2C	2Bm
131	07020010-580	Watonwan River	Judicial Ditch 1	2B*	2Bm
132	07020010-584	Watonwan River	Unnamed Creek	2B*	2Bm
133	09020309-515	Snake River	Unnamed Ditch	2B*	2Bm
134	09020309-518	Snake River	Unnamed Ditch	2B*	2Bm
135	09020309-529	Snake River	Unnamed Ditch	2B*	2Bm
136	09020309-538	Snake River	Middle River	2B*	2Bm
137	09020309-541	Snake River	Middle River	2B*	2Bm
138	09020312-515	Two Rivers	Lateral Ditch 4 of State Ditch 91	2B*	2Bm
139	09020312-539	Two Rivers	Lateral Ditch 1 of State Ditch 95	2B*	2Bm
140	09020312-550	Two Rivers	Unnamed Ditch (along 210th Ave)	2B*	2Bm
141	09020312-551	Two Rivers	Unnamed Ditch (along 190th Ave)	2B*	

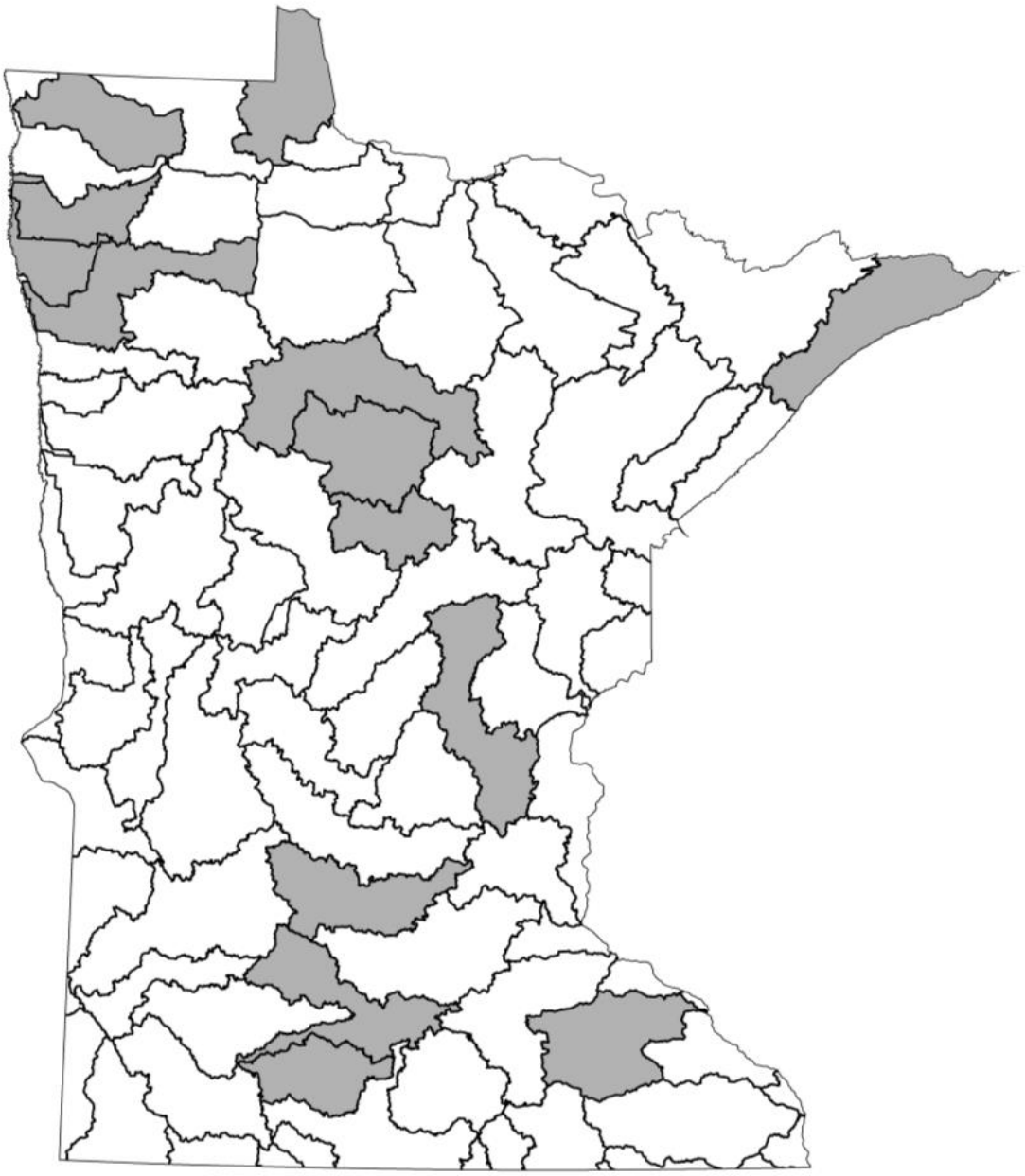


Figure A-1: Map of watersheds sampled during 2012-13 IWM.

The UAA is a detailed approach that considers several lines of evidence including biological condition, habitat limitation, nature of any habitat alterations, and restorability of the habitat (Figure 2-3 in S-62). The UAA begins with a review of the biological condition (fish and macroinvertebrate assemblages). If both assemblages meet the Exceptional Use biocriteria, then the reach is eligible for designation as an Exceptional Use. If both assemblages meet the General Use biocriteria, the reach will be designated General Use. If one or both assemblages do not meet the General Use, then the process proceeds to a review of the habitat. This step involves a review of habitat attributes to determine if habitat is limiting attainment of the General Use. This step uses a habitat tool (S-65) and logistic regression models (S-62)

to predict if habitat is limiting the biology. Thresholds for the habitat measures for each assemblage and stream type are provided in Table A-2. If habitat is not limiting either assemblage, then the reach would be designated General Use. However, if habitat is limiting, then it would need to be determined if the habitat is the result of legal alterations to the water body (e.g., ditching). If the alterations are the result of illegal alterations, which would suggest that they could be reversed, the reach would be designated General Use. If the water body was legally altered, then the reach would be reviewed to determine if it is restorable or if it is likely to recover on its own in the next five years. If either is true, then the reach would be designated General Use. However, if it is not restorable or not likely to recover on its own, available data would be reviewed to determine if the General Use was attained on or after November 28, 1975 (i.e., existing use). If there is evidence that the General Use was attained, then the reach would be designated General Use. Otherwise the reach would be eligible for the Modified Use. Through this process various types of available data are considered including the condition of fish and macroinvertebrate assemblages, multiple habitat measures, and chemistry data. In this process, all available data are reviewed with data collected on or after November 28, 1975 most relevant to the establishment of existing use (40 CFR § 131.3(e)) (S-1).

Table A-2 provides the habitat assessment thresholds used for determining habitat limitation. This table includes the 25% and 50% biological criteria attainment probabilities for each stream class, biological assemblage, and habitat metric. These thresholds were used as part of an MPCA assessment to determine if habitat was limiting the attainment of the biological criteria as required in the UAA (Figure 2-3; S-62). Three habitat tool outputs are considered jointly and the MSHA output is considered separately (Table A-3). For example, if any one of the habitat tool metric models and the MSHA model predict a less than 25% probability of attaining the General Use biocriterion, the biological assemblage in the reach is considered to be limited by physical habitat structure. When probabilities are between 25% and 50% and/or the results are mixed between the metrics, additional information will need to be considered. This information includes biological performance (e.g., proximity of IBI score to biocriterion), performance of the other assemblage, chemical data, and the stream's physical characteristics (i.e., recovery status, atypical features). For example, a stream reach with habitat that falls into this gray area may not be recommended for a Modified Use if the biological assemblage is close to meeting the biocriterion and there are obvious chemical stressors.

Table A-2: Physical habitat structure assessment thresholds based on logistic regression models (see S-62**). "<25%" and "<50%" are model predictions for habitat metrics where there is a <25% or <50% probability of attaining the General Use biocriterion. For example, the logistic regression models for the southern streams predict less than a 25% probability that the fish General Use biocriterion is attained when there are seven or fewer good habitat attributes. Description of habitat metrics: Good = number of positive habitat attributes; Poor = number of negative habitat attributes; P/G = the ratio of Poor and Good habitat attributes; MSHA = Minnesota Stream Habitat Assessment.**

Assemblage	Type	Habitat Metric	<25%	<50%
Fish	Southern Streams	Good	**≤7**	**≤15**
Fish	Southern Streams	Poor	**≥10.5**	**≥4.5**
Fish	Southern Streams	P/G	**≥1.57**	**≥0.32**
Fish	Southern Streams	MSHA	**≤45**	**≤64**
Fish	Southern Headwaters	Good	**≤3.5**	**≤9**
Fish	Southern Headwaters	Poor	**≥6.5**	**≥2**
Fish	Southern Headwaters	P/G	**≥1.68**	**≥0.25**

Assemblage	Type	Habitat Metric	<25%	<50%
Fish	Southern Headwaters	MSHA	**≤38**	**≤62**
Fish	Northern Streams	Good	**≤2.5**	**≤8.5**
Fish	Northern Streams	Poor	**≥16.5**	**≥10**
Fish	Northern Streams	P/G	**≥3.48**	**≥1.07**
Fish	Northern Streams	MSHA	**≤29**	**≤53**
Fish	Northern Headwaters	Good	**≤5.5**	**≤11.5**
Fish	Northern Headwaters	Poor	**≥13**	**≥8.5**
Fish	Northern Headwaters	P/G	**≥2.02**	**≥0.71**
Fish	Northern Headwaters	MSHA	**≤45**	**≤61**
Fish	Low Gradient Streams	Good	**≤3.5**	**≤7**
Fish	Low Gradient Streams	Poor	**≥10**	**≥5**
Fish	Low Gradient Streams	P/G	**≥2.65**	**≥0.74**
Fish	Low Gradient Streams	MSHA	**≤41**	**≤55**
Macroinvertebrates	High Gradient Northern Forest Streams	Good	-	**≤4**
Macroinvertebrates	High Gradient Northern Forest Streams	Poor	**≥11.5**	**≥7.5**
Macroinvertebrates	High Gradient Northern Forest Streams	P/G	**≥4.81**	**≥1.56**
Macroinvertebrates	High Gradient Northern Forest Streams	MSHA	**≤35**	**≤53**
Macroinvertebrates	High Gradient Southern Streams	Good	**≤5**	**≤9**
Macroinvertebrates	High Gradient Southern Streams	Poor	**≥6**	**≥2.5**
Macroinvertebrates	High Gradient Southern Streams	P/G	**≥1.12**	**≥0.28**
Macroinvertebrates	High Gradient Southern Streams	MSHA	**≤45**	**≤72**
Macroinvertebrates	Low Gradient Southern Forest Streams	Good	**≤4.5**	**≤9**
Macroinvertebrates	Low Gradient Southern Forest Streams	Poor	**≥7.5**	**≥2.5**
Macroinvertebrates	Low Gradient Southern Forest Streams	P/G	**≥1.25**	**≥0.36**
Macroinvertebrates	Low Gradient Southern Forest Streams	MSHA	**≤41**	**≤60**
Macroinvertebrates	Low Gradient Prairie Streams	Good	**≤12**	**≤17.5**
Macroinvertebrates	Low Gradient Prairie Streams	Poor	**≥10**	**≥5**
Macroinvertebrates	Low Gradient Prairie Streams	P/G	**≥0.88**	**≥0.32**
Macroinvertebrates	Low Gradient Prairie Streams	MSHA	**≤54**	**≤72**

Table A-3: Decision matrix for determining habitat limitation based on probabilities of attaining the General Use. This assessment only occurs when the General Use is not attained.

		MSHA		
	Attainment Probability	**<25%**	**25-50%**	**>50%**
Habitat Tool Metrics	<25%	Yes	Probable	Possible
	25-50%	Probable	Possible	Unlikely
	>50%	Possible	Unlikely	No

Narrative Descriptions for the proposed use changes

The following individual reach discussions of the proposed stream designations correspond to the list of streams presented in Table A-1. The streams are identified by AUID (i.e., assessment until ID) code, which identifies the watershed where the streams are located and assigns a unique 3-digit code to the reach. A table is provided for each proposed use change which summarizes the Index of Biological Integrity (IBI) scores and habitat metric scores. These tables are color coded to illustrate the biological and habitat outcomes (Table A-4). The reclassifications will affect streams in 12 watersheds (8-digit Hydrological Unit Code (HUC)): South Fork Crow River (07010205), Zumbro River (07040004), Red Lake River (09020303), Grand Marais Creek (09020306), Lake of the Woods (09030009), Lake Superior-North (04010101), Mississippi River-Headwaters (07010101), Rum River (07010207), Minnesota River-Mankato (07020007), Watonwan (07020010), Snake River (09020309), and Two Rivers (09020312).

Abbreviations and symbols used in the following proposed stream designation descriptions are:

++ = scores at or above Exceptional Use biocriterion

+ = scores at or above General Use biocriterion, but below Exceptional Use biocriterion

- = scores at or above Modified Use biocriterion, but below General Use biocriterion

-- = scores below Modified Use biocriterion

ND = No data because fish or macroinvertebrates were not sampled or the sample was not assessable

Type = stream type code (see Table A-5)

IBI = Index of Biological Integrity score

Good = number of good habitat attributes

Poor = number of poor habitat attributes

P/G = ratio of Poor+1 and Good+1 habitat attributes (+1 added to each metric to avoid error result)

MSHA = Minnesota Stream Habitat Assessment

2Ae = Aquatic Life and Recreation - Exceptional Cold Water Aquatic Life and Habitat

2Ag = Aquatic Life and Recreation - General Cold Water Aquatic Life and Habitat

2Be = Aquatic Life and Recreation - Exceptional Cool and Warm Water Aquatic Life and Habitat

2Bg = Aquatic Life and Recreation - General Cool and Warm Water Aquatic Life and Habitat

2Bm = Aquatic Life and Recreation - Modified Cool and Warm Water Aquatic Life and Habitat

2C = Aquatic Life and Recreation - Indigenous aquatic life and their habitats

Table A-4: Color coding for biological and habitat metric scores used in the summary tables for each proposed use change.

Biological Score	Score in Relation to Tiered Biological Criteria			
Index of Biological Integrity Score	Above Exceptional Use (++)	Between General and Exceptional Use (+)	Between Modified and General Use (-)	Below Modified Use (--)
Habitat Metric	**Probably of Meeting General Use**			
Good	>75%	50-75%	25-50%	<25%
Poor	>75%	50-75%	25-50%	<25%
P/G	>75%	50-75%	25-50%	<25%
MSHA	>75%	50-75%	25-50%	<25%

Table A-5: Stream types including the type number used in the summary tables for each proposed use change.

Fish		Macroinvertebrates	
Type #	**Name**	**Type #**	**Name**
1	Southern Rivers	1	Northern Forest Rivers
2	Southern Streams	2	Prairie Forest Rivers
3	Southern Headwaters	3	Northern High Gradient Forest Streams
4	Northern Rivers	4	Northern Low Gradient Forest Streams
5	Northern Streams	5	Southern High Gradient Streams
6	Northern Headwaters	6	Southern Low Gradient Forest Streams
7	Low Gradient Streams	7	Prairie Low Gradient Streams
10	Southern Coldwater	8	Northern Coldwater
11	Northern Coldwater	9	Southern Coldwater

Reclassifications proposed for the South Fork Crow River Watershed (07010205)

Buffalo Creek (07010205-502): The reach of Buffalo Creek from its headwaters to Judicial Ditch 15 is proposed to be reclassified for Modified Use cool and warm water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected from five stations in 2000, 2001, 2007, and 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish assemblage at most sites and the macroinvertebrate assemblage at all sites sampled. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water

aquatic life and habitats and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Buffalo Creek (07010205-502) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
01UM003	2001	Fish	**7**	--	1	12	6.50	33
01UM003	2012	Fish	**7**	--	3	13	3.50	22
01UM004	2001	Fish	**6**	--	13	10	0.79	50
01UM004	2012	Fish	**6**	-	9	14.5	1.55	44
01UM004	2012	Fish	**6**	-	2	17.5	6.17	37
00UM049	2000	Fish	**5**	-	3.5	13.5	3.22	41
07UM103	2007	Fish	**5**	--	6.5	8.5	1.27	52
07UM103	2012	Fish	**5**	--	3	11.5	3.13	32
12UM006	2012	Fish	**5**	--	8.5	12.5	1.42	45
01UM003	2001	Macroinvertebrates	**7**	--	0	19	20.00	33
01UM003	2012	Macroinvertebrates	**7**	--	1	20.5	10.75	22
01UM004	2001	Macroinvertebrates	**7**	--	7.5	12.5	1.59	50
01UM004	2012	Macroinvertebrates	**7**	--	3	12.5	3.38	37
00UM049	2000	Macroinvertebrates	**7**	-	2	15.5	5.50	41
07UM103	2012	Macroinvertebrates	**7**	-	2	17.5	6.17	32
07UM103	2012	Macroinvertebrates	**7**	-	2	17.5	6.17	32
12UM006	2012	Macroinvertebrates	**5**	-	3	8.5	2.38	45

Judicial Ditch 67 (07010205-504): The reach of Judicial Ditch 67 from its headwaters to Buffalo Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected from two stations in 2001 and 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting both fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 67 (07010205-504) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
01UM006	2001	Fish	7	--	3	13.5	3.63	33
01UM005	2001	Fish	7	--	2.5	14.5	4.43	35
01UM005	2012	Fish	7	--	1	15	8.00	18
01UM005	2012	Macroinvertebrates	7	--	0	21.5	22.50	18

Judicial Ditch 29 (07010205-506): The reach of Judicial Ditch 29 from its headwaters to the South Fork of the Crow River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected from one station in 2000 and 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting both fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 29 (07010205-506) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
00UM054	2000	Fish	7	--	4	7	1.60	52
00UM054	2012	Fish	7	-	1	14.5	7.75	13
00UM054	2012	Macroinvertebrates	7	-	0	20.5	21.50	13
00UM054	2012	Macroinvertebrates	7	-	0	20.5	21.50	13

Judicial Ditch 15 (07010205-509): The reach of Judicial Ditch 15 from its headwaters to the east line of the Public Land Survey (PLS) System section T115 R32W S31[29] is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting both fish and macroinvertebrate assemblages. The poor

[29] The convention for identifying land units is the PLS System established by the U.S. Department of the Interior.

habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 15 (07010205-509) fish, macroinvertebrate, and habitat data

			Biology			Habitat			
Station		**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM060		2012	Fish	7	-	1	15	8.00	17
12UM060		2012	Macroinvertebrates	7	--	0	22.5	23.50	17

Unnamed creek (07010205-529): The reach of unnamed creek from unnamed creek to unnamed lake is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2000 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish assemblage. Macroinvertebrates were not sampled from this site, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Unnamed creek (07010205-529) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
00UM055	2000	Fish	6	--	5	19.5	3.42	37
00UM055	2000	Macroinvertebrates	7	**ND**	1	21.5	11.25	37

Unnamed creek (07010205-533): The reach of unnamed creek from unnamed creek to unnamed creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting

both fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Unnamed creek (07010205-533) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM025	2012	Fish	6	--	4	19	4.00	19
12UM025	2012	Macroinvertebrates	7	--	1	19.5	10.25	19
12UM025	2012	Macroinvertebrates	7	--	1	19.5	10.25	19

Belle Creek (07010205-549): The reach of Belle Creek from its headwaters to Judicial Ditch 18 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting both fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2C classification[30] and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Belle Creek (07010205-549) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM003	2012	Fish	6	--	0	21	22.00	29
12UM003	2012	Macroinvertebrates	7	--	3	13.5	3.63	29

Judicial Ditch 18 (07010205-550): The reach of Judicial Ditch 18 from Belle Creek to the South Fork of the Crow River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected from two stations in 2004 and 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and

[30] A discussion of the reasonableness of eliminating the Class 2C classification is discussed in Section 5. A. 4 of the SONAR.

cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting both fish and macroinvertebrate assemblages at one station. No habitat data were available from a second station. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2C classification and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 18 (07010205-550) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM021	2012	Fish	6	--	6	16	2.43	32
12UM021	2012	Macroinvertebrates	7	-	2	16.5	5.83	32
04UM012	2004	Macroinvertebrates	6	-	-	-	-	-

County Ditch 23 (07010205-555): The reach of County Ditch 23 from its headwaters to Judicial Ditch 18 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 1999 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. Macroinvertebrate data were not assessable from this site due to atypical flow conditions at the time of sampling, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

County Ditch 23 (07010205-555) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
99UM040	1999	Fish	6	--	3	18.5	4.88	31
99UM040	1999	Macroinvertebrates	7	**ND**	0	20.5	21.50	31

Judicial Ditch 1 (07010205-571): The reach of Judicial Ditch 1 from Winsted Lake to unnamed ditch is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. Macroinvertebrates were not sampled from this site, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 1 (07010205-571) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM066	2012	Fish	6	-	6	16.5	2.50	37
12UM066	2012	Macroinvertebrates	6	ND	3.5	12	2.89	37

Unnamed creek (07010205-585): The reach of unnamed creek from County Ditch 11 to Winsted Lake is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the macroinvertebrate assemblage and possibly the fish assemblage. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Unnamed creek (07010205-585) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM034	2012	Fish	6	--	3	15	4.00	46
12UM034	2012	Fish	6	--	11	9.5	0.88	53
12UM034	2012	Macroinvertebrates	5	-	2	11	4.00	46
12UM034	2014	Macroinvertebrates	5	ND	5.5	8.5	1.46	53

Judicial Ditch 8 (07010205-591): The reach of Judicial Ditch 8 from unnamed creek to Buffalo Creek is proposed to be reclassified Modified Use warm water habitat. Biological data from both macroinvertebrates and fish collected from two stations in 2010, 2012, and 2015 demonstrated that this reach does not meet the aquatic life use goals for General Use warm water habitat warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 8 (07010205-591) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
10EM035	2010	Fish	7	--	1.5	14	6.00	25
12UM023	2015	Fish	7	--	1.5	13.5	5.80	29
12UM023	2012	Fish	6	--	2	21.5	7.50	25
12UM023	2012	Fish	6	--	2	18	6.33	28
10EM035	2010	Macroinvertebrates	6	--	1	12	6.50	25
10EM035	2015	Macroinvertebrates	6	--	1.5	15	6.40	24
12UM023	2012	Macroinvertebrates	6	-	2.5	13	4.00	28

Unnamed ditch (07010205-592): The reach of unnamed ditch from its headwaters to the South Fork of the Crow River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Biological data from macroinvertebrates collected from one station in 2010 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the macroinvertebrate assemblage. Fish data were not assessable from this site due to the proximity to a large body of water, but a fish-specific analysis of the habitat predicted that fish are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Unnamed ditch (07010205-592) macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
10EM147	2010	Fish	6	**ND**	2	17.5	6.17	16
10EM147	2010	Macroinvertebrates	7	-	0.5	18	12.67	16

Big Kandiyohi Channel (07010205-607): The reach of Big Kandiyohi Channel from Wagonga Lake to unnamed lake (34-0440-00) is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting both fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Big Kandiyohi Channel (07010205-607) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM004	2012	Fish	7	-	2	12.5	4.50	25
12UM004	2012	Macroinvertebrates	7	-	3	21.5	5.63	25

State Ditch Branch 2 (07010205-608): The reach of State Ditch Branch 2 from unnamed ditch to unnamed ditch is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting both fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

State Ditch Branch 2 (07010205-608) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM005	2012	Fish	7	-	2.5	13	4.00	29
12UM005	2012	Macroinvertebrates	7	-	2	18.5	6.50	29

County Ditch 18 (07010205-609): The reach of County Ditch 18 from its headwaters to the South Fork Crow River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting both fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

County Ditch 18 (07010205-609) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM011	2012	Fish	7	--	3	13	3.50	14
12UM011	2012	Macroinvertebrates	7	--	1	19.5	10.25	14

County Ditch 24A (07010205-610): The reach of County Ditch 2A from unnamed ditch to unnamed ditch is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. Macroinvertebrate data were not assessable at this site due to atypical flow conditions at the time of sampling, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

County Ditch 24A (07010205-610) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM013	2012	Fish	7	--	1.5	14.5	6.20	29
12UM013	2012	Macroinvertebrates	7	**ND**	0	23	24.00	29

Unnamed ditch (07010205-612): The reach of unnamed ditch from County Ditch 51 to the South Fork Crow River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting both fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Unnamed ditch (07010205-612) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM019	2012	Fish	6	-	5	16	2.83	31
12UM019	2012	Macroinvertebrates	7	-	2	20.5	7.17	31

King Creek (07010205-613): The reach of King Creek from the north line of T118 R32W S36 to the South Fork Crow River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting both fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

King Creek (07010205-613) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM020	2012	Fish	6	--	2	20	7.00	13
12UM020	2012	Macroinvertebrates	7	-	0	19.5	20.50	13

Unnamed creek (07010205-614): The reach of unnamed creek from Lake Mary to the railroad crossing approximately 1 mile upstream from Buffalo Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data from collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. Macroinvertebrate data were not assessable at this site due to atypical flow conditions at the time of sampling, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Unnamed creek (07010205-614) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM022	2012	Fish	6	--	2	20	7.00	28
12UM022	2012	Macroinvertebrates	7	**ND**	1	22.5	11.75	28

Unnamed creek (07010205-615): The reach of unnamed creek from unnamed creek to Buffalo Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data from collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. Macroinvertebrate data were not assessable at this site due to atypical flow conditions at the time of sampling, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by

updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Unnamed creek (07010205-615) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM024	2012	Fish	6	--	3	19.5	5.13	29
12UM024	2012	Macroinvertebrates	6	**ND**	3	8	2.25	29

McCuen Creek (07010205-616): The reach of McCuen Creek from its headwaters to the South Fork of the Crow River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. The macroinvertebrate habitat models predicted that the habitat should also be limiting the macroinvertebrate community, but at the time of sampling, this community narrowly met the General Use biocriteria. In addition, the BCG model scored the macroinvertebrate data a Level 5 indicating that this reach supports a marginal macroinvertebrate community. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

McCuen Creek (07010205-616) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM026	**2012**	**Fish**	**7**	**-**	**2.5**	**10.5**	**3.29**	**29**
12UM026	**2012**	**Macroinvertebrates**	**7**	**+**	**3.5**	**15**	**3.56**	**29**

Unnamed creek (07010205-617): The reach of unnamed creek from its headwaters to Otter Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. Macroinvertebrate data were not assessable at this site due to atypical flow conditions at the time of sampling, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage

maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Unnamed creek (07010205-617) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM029	2012	Fish	6	--	4	17.5	3.70	34
12UM029	2012	Macroinvertebrates	6	**ND**	2	11	4.00	34

Judicial Ditch 1 (07010205-620): The reach of Judicial Ditch 1 from unnamed creek to the South Fork of the Crow River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. The macroinvertebrate habitat models predicted that the habitat should be limiting the macroinvertebrate community, but this community minimally attained the General Use biocriteria. In addition, the BCG model scored the macroinvertebrate data a Level 5 indicating that this reach supports a marginal macroinvertebrate community. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 1 (07010205-620) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM038	2012	Fish	6	-	5.5	18.5	3.00	42
12UM038	2012	Macroinvertebrates	7	+	9	12.5	1.35	42

Unnamed creek (07010205-621): The reach of unnamed creek from unnamed creek to the South Fork of the Crow River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General

Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting both the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Unnamed creek (07010205-621) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM039	2012	Fish	6	-	2	19	6.67	12
12UM039	2012	Macroinvertebrates	7	--	0	21.5	22.50	12

Judicial Ditch 9 (07010205-625): The reach of Judicial Ditch 9 from its headwaters to Buffalo Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting both the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 9 (07010205-625) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM051	2012	Fish	6	--	1	15	8.00	29
12UM051	2012	Macroinvertebrates	7	--	0	19.5	20.50	29

Judicial Ditch 15 Branch (07010205-626): Judicial Ditch 15 Branch from its headwaters to Judicial Ditch 15 main stem is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage.

Macroinvertebrate data were not assessable at this site due to atypical flow conditions at the time of sampling, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 15 Branch (07010205-626) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM053	2012	Fish	6	-	4	16	3.40	19
12UM053	2012	Macroinvertebrates	7	**ND**	2	19.5	6.83	19

Judicial Ditch 15 Branch (07010205-627): Judicial Ditch 15 Branch from its headwaters to Judicial Ditch 15 main stem is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Two fish samples collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. Macroinvertebrate data were not assessable at this site due to atypical flow conditions at the time of sampling, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 15 Branch (07010205-627) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM054	2012	Fish	6	--	2	18	6.33	21
12UM054	2012	Fish	6	--	2	18	6.33	16
12UM054	2012	Macroinvertebrates	7	**ND**	0	20.5	21.50	16

Judicial Ditch 15 Branch (07010205-628): Judicial Ditch 15 Branch from its headwaters to Judicial Ditch 15 main stem is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and

habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting both the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 15 Branch (07010205-628) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM056	2012	Fish	7	-	1	15	8.00	23
12UM056	2012	Macroinvertebrates	7	--	0	21.5	22.50	23

Unnamed ditch (07010205-630): The reach of unnamed creek from its headwaters to Buffalo Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting both the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Unnamed ditch (07010205-630) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM059	2012	Fish	7	--	1	15	8.00	24
12UM059	2012	Macroinvertebrates	7	--	1	19.5	10.25	24

County Ditch 7A (07010205-631): The reach of County Ditch 7A from unnamed creek to Buffalo Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was

maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting both the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

County Ditch 7A (07010205-631) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM067	2012	Fish	7	--	1	14.5	7.75	24
12UM067	2012	Macroinvertebrates	7	--	1	21.5	11.25	24

County Ditch 13 (07010205-639): The reach of County Ditch 13 from its headwaters to County Ditch 29 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 1999 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. Macroinvertebrates were not sampled from this site, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

County Ditch 13 (07010205-639) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
99UM020	1999	Fish	6	--	2.5	17.5	5.29	24
99UM020	1999	Macroinvertebrates	7	**ND**	1	21.5	11.25	24

Otter Creek (07010205-642): The reach of Otter Creek from its headwaters to Cable Avenue is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2007 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before

November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. Macroinvertebrates were not sampled from this site, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

Otter Creek (07010205-642) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
07UM098	2007	Fish	7	--	1.5	11	4.80	38
07UM098	2007	Macroinvertebrates	6	**ND**	3.5	9	2.22	38

County Ditch 9 (07010205-648): The reach of County Ditch 9 from its headwaters to the geographic coordinates (decimal degrees NAD83) -93.9053, 44.9055 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting both the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

County Ditch 9 (07010205-648) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM016	2012	Fish	7	-	1	14	7.50	17
12UM016	2012	Macroinvertebrates	6	--	0	14	15.00	17

South Fork of the Crow River (07010205-658): The reach of South Fork of the Crow River from its headwaters to 145th Street is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from five stations from 2000 to 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool

water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the macroinvertebrate assemblage and is limiting to possibly limiting the fish assemblage. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the South Fork Crow River Watershed (07010205) to acknowledge the Modified Use condition of this stream reach.

South Fork of the Crow River (07010205-658) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12UM042	2012	Fish	7	-	2	13	4.67	25
12UM018	2012	Fish	7	-	1.5	14	6.00	25
00UM048	2000	Fish	5	--	2.5	13.5	4.14	35
00UM048	2000	Fish	5	--	2.5	17	5.14	25
00UM048	2012	Fish	5	--	2.5	14.5	4.43	26
00UM053	2000	Fish	5	--	6	15.5	2.36	36
00UM053	2012	Fish	5	--	8.5	9.5	1.11	49
12UM058	2012	Fish	5	--	2	17.5	6.17	25
12UM042	2012	Macroinvertebrates	7	-	3	17.5	4.63	25
12UM018	2012	Macroinvertebrates	7	ND	0	18.5	19.50	25
00UM048	2000	Macroinvertebrates	7	--	2	14.5	5.17	25
00UM048	2012	Macroinvertebrates	7	-	1	17.5	9.25	26
00UM053	2012	Macroinvertebrates	7	-	8	11.5	1.39	49
12UM058	2012	Macroinvertebrates	7	+	3	19.5	5.13	25

Reclassifications proposed for the Zumbro River Watershed

Unnamed tributary to Zumbro River, Middle Fork creek (07040004-578): The reach of unnamed tributary to Zumbro River, Middle Fork from its headwaters to the Middle Fork of the Zumbro River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2004 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned

to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Zumbro River Watershed (07040004) to acknowledge the Modified Use condition of this stream reach.

Unnamed tributary to Zumbro River, Middle Fork (07040004-578) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
04LM028	2004	Fish	3	-	7	7.5	1.1	45
04LM028	2004	Fish	3	ND	5	7	1.3	39
04LM028	2004	Macroinvertebrates	6	--	2	13	4.7	39

Trout Brook (07040004-585): The reach of Trout Brook from Hope Coulee to Zumbro River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. The macroinvertebrate habitat model predicted that the habitat should be limiting the macroinvertebrate community, but this community minimally attained the General Use biocriteria. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Zumbro River Watershed (07040004) to acknowledge the Modified Use condition of this stream reach.

Trout Brook (07040004-585) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12LM012	2012	Fish	3	--	4	11	2.4	29
12LM012	2012	Macroinvertebrates	6	+	5	13	2.3	29

Unnamed creek (07040004-633): The reach of unnamed creek from unnamed creek to Cascade Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification

assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Zumbro River Watershed (07040004) to acknowledge the Modified Use condition of this stream reach.

Unnamed creek (07040004-633) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12LM068	2012	Fish	3	-	3.5	4.5	1.2	33
12LM068	2012	Macroinvertebrates	5	-	2	7	2.7	33

Judicial Ditch 7 (07040004-966): The reach of Judicial Ditch 7 from its headwaters to Dodge Center Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Zumbro River Watershed (07040004) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 7 (07040004-966) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12LM058	2012	Fish	7	-	1.5	14	6.0	30
12LM058	2012	Macroinvertebrates	6	-	1.5	15	6.4	30

North Fork of the Zumbro River (07040004-970): The reach of the North Fork of the Zumbro River from its headwaters to the east line of T109 R19W S10 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Two macroinvertebrate samples collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the macroinvertebrate assemblage. The fish habitat model predicted that the habitat should be limiting the fish assemblage, however the fish IBI score was above the General Use biocriterion. This score may be the result of the proximity to an adjacent General Use reach (07040004-971). The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach

and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Zumbro River Watershed (07040004) to acknowledge the Modified Use condition of this stream reach.

North Fork of the Zumbro River (07040004-970) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12LM039	2012	Fish	3	+	6	7.5	1.2	34
12LM039	2012	Macroinvertebrates	6	--	2	13	4.7	34
12LM039	2012	Macroinvertebrates	6	-	2	13	4.7	34

Judicial Ditch 1 (07040004-987): The reach of the Judicial Ditch 1 from the east line of T106 R18W S28 to unnamed creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from two stations in 2012 and 2004 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Zumbro River Watershed (07040004) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 1 (07040004-987) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12LM060	2012	Fish	3	-	9.5	6	0.7	50
04LM140	2004	Fish	3	-	4	6	1.4	41
12LM060	2012	Macroinvertebrates	6	--	5	13	2.3	50
04LM140	2004	Macroinvertebrates	6	-	5	10	1.8	41

Dodge Center Creek (07040004-988): The reach of Dodge Center Creek from unnamed creek to the geographic coordinates (decimal degrees NAD83) -92.99, 44.0212 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor

habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Zumbro River Watershed (07040004) to acknowledge the Modified Use condition of this stream reach.

Dodge Center Creek (07040004-988) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	Year	Assemblage	Type	IBI	Good	Poor	P/G	MSHA
12LM057	2012	Fish	2	--	3	12	3.3	38
12LM057	2012	Macroinvertebrates	6	--	2.5	13	4.0	38

Reclassifications proposed for the Red Lake River Watershed

Pennington County Ditch 76 (09020303-505): The reach of Pennington County Ditch 76 from its headwaters to Red Lake River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2007 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Red Lake River Watershed (09020303) to acknowledge the Modified Use condition of this stream reach.

Pennington County Ditch 76 (09020303-505) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	Year	Assemblage	Type	IBI	Good	Poor	P/G	MSHA
07RD021	2007	Fish	7	-	2	10	3.7	46
07RD021	2007	Macroinvertebrates	7	-	3.5	15	3.6	46

Unnamed ditch (09020303-545): The reach of unnamed ditch from unnamed ditch to unnamed creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2012 and 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not

likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Red Lake River Watershed (09020303) to acknowledge the Modified Use condition of this stream reach.

Unnamed ditch (09020303-545) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12RD039	2012	Fish	6	--	6	13	2.0	55
12RD039	2013	Macroinvertebrates	7	-	4.5	9.5	1.9	55

Judicial Ditch 60 (09020303-546): The reach of Judicial Ditch 60 from County Ditch 147 to unnamed ditch is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. Macroinvertebrates were not sampled from this site, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Red Lake River Watershed (09020303) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 60 (09020303-546) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12RD040	2012	Fish	6	--	2	20	7.0	29
12RD040	2012	Macroinvertebrates	7	**ND**	2	20.5	7.2	29

County Ditch 43 (09020303-547): The reach of County Ditch 43 from unnamed ditch to Red Lake River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2012 and 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not

likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Red Lake River Watershed (09020303) to acknowledge the Modified Use condition of this stream reach.

County Ditch 43 (09020303-547) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12RD045	2012	Fish	7	-	3	14	3.8	41
12RD045	2013	Macroinvertebrates	7	--	2.5	19.5	5.9	41

Unnamed creek (County Ditch 53) (09020303-549): The reach of unnamed creek (County Ditch 53) from its headwaters to County Ditch 115 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2010 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Red Lake River Watershed (09020303) to acknowledge the Modified Use condition of this stream reach.

Unnamed creek (County Ditch 53) (09020303-549) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
10EM160	2010	Fish	3	--	5	10	1.8	34
10EM160	2010	Macroinvertebrates	7	-	2	19	6.7	34

Burnham Creek (09020303-551): The reach of Burnham Creek from County Ditch 106 to Polk County Ditch 15 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information,

40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2C classification and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Red Lake River Watershed (09020303) to acknowledge the Modified Use condition of this stream reach.

Burnham Creek (09020303-551) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12RD030	2012	Fish	2	--	3	18	4.8	33
12RD030	2012	Macroinvertebrates	7	--	3	19	5	33

Black River (09020303-557): The reach of the Black River from its headwaters to the geographic coordinates (decimal degrees NAD83) -96.4328, 48.0146 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from three stations sampled in 2007, 2010, 2012, and 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975 even though one assemblage met the General Use aquatic life use goals at 2 stations. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. Macroinvertebrates were not sampled from 07RD022, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The macroinvertebrate habitat model for 10EM176 predicted that the habitat should be limiting the macroinvertebrate community, but this community minimally attained the General Use biocriteria. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Red Lake River Watershed (09020303) to acknowledge the Modified Use condition of this stream reach.

Black River (09020303-557) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
07RD022	2007	Fish	6	+	10	13	1.3	54
10EM176	2010	Fish	6	-	6.5	15.5	2.2	51
12RD014	2012	Fish	6	-	4.5	17.5	3.4	27
07RD022	2007	Macroinvertebrates	5	ND	5	6.5	1.3	54
10EM176	2010	Macroinvertebrates	7	ND	10	10.5	1.0	51
10EM176	2010	Macroinvertebrates	7	+	10	10.5	1.0	51
12RD014	2013	Macroinvertebrates	7	-	1	19	10.0	27

Reclassifications proposed for the Grand Marais Creek Watershed

County Ditch 2 (09020306-515): The reach of County Ditch 2 from County Ditch 66 to Grand Marais Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from two stations sampled in 2005 and 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The fish habitat models for 05RD098 predicted that the habitat should be limiting the fish community, but at one 2012 visit the fish community minimally attained the General Use biocriteria. In addition, the BCG model scored the fish data a Level 5 indicating that this reach supports a marginal fish community. The other two fish visits from 05RD098 also demonstrated this reach supports a poor fish community. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Grand Marais Creek Watershed (0902030) to acknowledge the Modified Use condition of this stream reach.

County Ditch 2 (09020306-515) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12RD100	2012	Fish	2	--	3.5	14.5	3.4	35
05RD098	2005	Fish	2	--	2	18	6.3	27
05RD098	2012	Fish	2	+	2.5	16.5	5.0	30
05RD098	2012	Fish	2	--	2	17	6.0	34
12RD100	2012	Macroinvertebrates	7	--	2	17	6.0	35
12RD100	2012	Macroinvertebrates	7	--	2	17	6.0	35
05RD098	2005	Macroinvertebrates	7	--	0	22	23.0	27
05RD098	2005	Macroinvertebrates	7	--	0	22	23.0	27
05RD098	2012	Macroinvertebrates	7	--	1	21	11.0	30

County Ditch 43 (09020306-517): The reach of County Ditch 43 from unnamed ditch to County Ditch 7 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from three stations sampled in 2007, 2012, and 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B

classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Grand Marais Creek Watershed (0902030) to acknowledge the Modified Use condition of this stream reach.

County Ditch 43 (09020306-517) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
07RD023	2007	Fish	6	--	13	6	0.5	69
07RD023	2012	Fish	6	--	3.5	17	4.0	52
12RD089	2012	Fish	2	--	6	17	2.6	42.5
12RD087	2012	Fish	2	--	2	16.5	5.8	25
07RD023	2007	Macroinvertebrates	7	--	12.5	7	0.6	69
07RD023	2013	Macroinvertebrates	7	--	7.5	8	1.1	52
12RD089	2012	Macroinvertebrates	7	--	2	19.5	6.8	43
12RD087	2012	Macroinvertebrates	7	--	0	19	20.0	25

Judicial Ditch 75 (09020306-520): The reach of Judicial Ditch 75 from County Ditch 7 to the Red River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Grand Marais Creek Watershed (0902030) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 75 (09020306-520) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12RD098	2012	Fish	2	--	7.5	14	1.8	42
12RD098	2012	Macroinvertebrates	7	-	7.5	15	1.9	42

Reclassifications proposed for the Lake of the Woods Watershed

County Ditch 20 (09030009-560): The reach of unnamed creek from its headwaters to the Lake of the Woods is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2012 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach

has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the use table for the Lake of the Woods Watershed (09030009) to acknowledge the Modified Use condition of this stream reach.

County Ditch 20 (09030009-560) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
12RN012	2012	Fish	7	-	6.5	11	1.6	40
12RN012	2012	Macroinvertebrates	4	--	2	7	2.7	40

Reclassifications proposed for the Lake Superior-North Watershed

Cross River (04010101-518): The reach of the Cross River from Fourmile Creek (04010101-525) to Lake Superior is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 1997 and 2013 from two stations demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has excellent habitat (MSHA = 79-86). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold waters (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Cross River (04010101-518) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
97LS057	1997	Fish	**11**	++	25	3	0.2	86
13LS025	2013	Fish	**11**	++	28	0	0.0	86
97LS057	1997	Macroinvertebrates	**8**	++	26	3.5	0.2	79
13LS025	2013	Macroinvertebrates	**8**	++	27	0.5	0.1	79

Greenwood River (04010101-528): The reach of the Greenwood River from Greenwood Lake to the Brule River (04010101-502) is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 1997 and 2013 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has excellent habitat (MSHA = 75-90). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use

cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Greenwood River (04010101-528) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	Year	Assemblage	Type	IBI	Good	Poor	P/G	MSHA
97LS074	1997	Fish	**11**	++	20.5	11.5	0.6	75
97LS074	1997	Fish	**11**	++	23	5	0.3	90
97LS074	2013	Fish	**11**	++	23.5	6	0.3	86
97LS074	1997	Macroinvertebrates	**8**	++	26	0.5	0.1	90
97LS074	1997	Macroinvertebrates	**8**	++	26	0.5	0.1	90
97LS074	2013	Macroinvertebrates	**8**	++	26	2	0.1	86

Irish Creek (04010101-531): The reach of Irish Creek from its headwaters to Swamp River Reservoir is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 1999 (1 fish visit), 2004 (1 macroinvertebrate visit) and 2013 and 2015 (fish and macroinvertebrates) from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has excellent habitat (MSHA = 85-89). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Irish Creek (04010101-531) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	Year	Assemblage	Type	IBI	Good	Poor	P/G	MSHA
92LS015	2013	Fish	**11**	++	25	7	0.3	85
92LS015	2015	Fish	**11**	++	19	8.5	0.5	85
99NF094	1999	Fish	**11**	++	19.5	8	0.4	89
92LS015	2013	Macroinvertebrates	**8**	++	28	1	0.1	85
92LS015	2015	Macroinvertebrates	**8**	++	24.5	2.5	0.1	81
99NF094	2004	Macroinvertebrates	**8**	++	20	5.5	0.3	89

Kimball Creek (04010101-532): The reach of Kimball Creek from its headwaters to Lake Superior is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 1998 (1 fish visit) and 2013 (fish and macroinvertebrates) from two stations demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has excellent habitat (MSHA = 78-79). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes

to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Kimball Creek (04010101-532) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	Year	Assemblage	Type	IBI	Good	Poor	P/G	MSHA
98LS037	1998	Fish	11	++	25	5.5	0.3	78
13LS011	2013	Fish	11	++	23	4	0.2	79
13LS011	2013	Macroinvertebrates	8	++	23	0.5	0.1	79

Manitou River (04010101-534): The reach of the Manitou River from the South Branch of the Manitou River to Lake Superior is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 1998, 2013, and 2015 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has good to excellent habitat (MSHA = 63-81). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Manitou River (04010101-534) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	Year	Assemblage	Type	IBI	Good	Poor	P/G	MSHA
98LS030	1998	Fish	11	++	24	2.5	0.1	63
98LS030	2013	Fish	11	++	24.5	5	0.2	81
98LS030	2015	Fish	11	++	21	5	0.3	71
98LS030	1998	Macroinvertebrates	8	++	24.5	1.5	0.1	63
98LS030	2013	Macroinvertebrates	8	++	27	0.5	0.1	81
98LS030	2015	Macroinvertebrates	8	+	23	3.5	0.2	76

Mistletoe Creek (04010101-536): The reach of Mistletoe Creek from Halls Pond to the Poplar River is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 1997 and 1998 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. In 2013, when the fish and macroinvertebrates were sampled again from the same station, the fish were marginally below the Exceptional Use biocriterion and the macroinvertebrates were still above. Although there appears to have been a decline in the condition of the fish assemblage it is still probably in attainment of the Exceptional Use goals although a full assessment will need to be performed. In addition, the fish assemblages in 1998 and 2013 are both Level 2 of the BCG, which indicates that this reach still supports an Exceptional Use fish assemblage. The channel in this reach is natural and habitat assessment demonstrated that this reach has very good to excellent habitat (MSHA = 70-81). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the

beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Mistletoe Creek (04010101-536) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
97LS101	1998	Fish	**11**	**++**	22	6.5	0.3	70
97LS101	2013	Fish	**11**	**+**	23	5	0.3	81
97LS101	1997	Macroinvertebrates	**8**	**++**	21	3.5	0.2	70
97LS101	2013	Macroinvertebrates	**8**	**++**	25	2.5	0.1	81

Two Island River (04010101-547): The reach of the Two Island River from unnamed creek to Lake Superior is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected from 1998, 2010, and 2013 from three stations demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has very good to excellent habitat (MSHA = 74-87). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Two Island River (04010101-547) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
10EM168	2010	Fish	**11**	**++**	22.5	6	0.3	74
13LS023	2013	Fish	**11**	**++**	18	11	0.6	87
98LS028	1998	Fish	**11**	**++**	25	4.5	0.2	74
10EM168	2010	Macroinvertebrates	**8**	**++**	22.5	3.5	0.2	74
13LS023	2013	Macroinvertebrates	**8**	**++**	21	5	0.3	87
98LS028	1998	Macroinvertebrates	**8**	**++**	25.5	2.5	0.1	74

Little Devil Track River (04010101-566): The reach of the Little Devil Track River from unnamed creek to the Devil Track River is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 1997 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. In 2013 the fish and macroinvertebrates were sampled again from the same station and the macroinvertebrates were marginally below the Exceptional Use biocriterion and the fish were still above. The macroinvertebrates were sampled again in 2015 and scored well above the Exceptional Use biocriterion. Although there appears to have been a decline in the condition of the macroinvertebrate assemblages it is still appears to be in attainment of the Exceptional Use goals although a full assessment will need to be performed. The channel in this reach is natural and habitat assessment demonstrated that this reach has very good to excellent habitat (MSHA = 77-90). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make

this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Little Devil Track River (04010101-566) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	Year	Assemblage	Type	IBI	Good	Poor	P/G	MSHA
97LS073	1997	Fish	11	++	20	11	0.6	77
97LS073	2013	Fish	11	++	23.5	9	0.4	90
97LS073	2013	Fish	11	++	21.5	4.5	0.2	77
97LS073	1997	Macroinvertebrates	8	++	21.5	4.5	0.2	77
97LS073	2013	Macroinvertebrates	8	+	25	3	0.2	90
97LS073	2015	Macroinvertebrates	8	++	19	7.5	0.4	77

Heartbreak Creek (04010101-569): The reach of Heartbreak Creek from unnamed creek to the Temperance River is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected from 1997, 2004, 2013, and 2015 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has very good to excellent habitat (MSHA = 76-82). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Heartbreak Creek (04010101-569) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	Year	Assemblage	Type	IBI	Good	Poor	P/G	MSHA
97LS075	1997	Fish	11	++	22	6.5	0.3	82
97LS075	2013	Fish	11	++	26	4.5	0.2	76
97LS075	2015	Fish	11	++	21.5	9	0.4	80
97LS075	1997	Macroinvertebrates	8	++	22	2.5	0.2	82
97LS075	2004	Macroinvertebrates	8	++				
97LS075	2013	Macroinvertebrates	8	++	27.5	0.5	0.1	76
97LS075	2015	Macroinvertebrates	8	++	25.5	2.5	0.1	79

Houghtaling Creek (04010101-571): The reach of Houghtaling Creek from unnamed creek to unnamed creek is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 2013 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has excellent habitat (MSHA = 81). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the

beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Houghtaling Creek (04010101-571) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
85LS020	2013	Fish	**11**	**++**	21.5	9	0.4	81
85LS020	2013	Macroinvertebrates	**8**	**++**	23.5	4	0.2	81

Caribou River (04010101-573): The reach of the Caribou River from Amenda Creek to unnamed creek is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 1997 from one station (97LS078) demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The fish were sampled from a second station (15EM081) in 2015 and scored above the Exceptional Use biocriterion. The channel in this reach is natural and habitat assessment demonstrated that this reach has very good to excellent habitat (MSHA = 74-85). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Caribou River (04010101-573) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
97LS078	1997	Fish	**11**	**++**	20.5	5.5	0.3	74
15EM081	2015	Fish	**11**	**++**	24.5	5	0.2	85
97LS078	1997	Macroinvertebrates	**8**	**++**	22.5	3.5	0.2	74

Caribou River (04010101-575): The reach of the Caribou River from unnamed creek to unnamed creek is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 2013 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has very good habitat (MSHA = 75). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Caribou River (04010101-575) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13LS026	2013	Fish	**11**	**++**	23	6	0.3	75
13LS026	2013	Macroinvertebrates	**8**	**++**	25.5	2	0.1	75

Crown Creek (04010101-581): The reach of Crown Creek from Fry Creek to unnamed creek is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 2013 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has excellent habitat (MSHA = 80). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Crown Creek (04010101-581) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13LS031	2013	Fish	**11**	++	27	5.5	0.2	80
13LS031	2013	Macroinvertebrates	**8**	++	28	2.5	0.1	80

Cascade River (04010101-590): The reach of the Cascade River from the North Branch of the Cascade River to Lake Superior is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from macroinvertebrates and fish collected in 1997, 1999, and 2013 from five stations demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has very good to excellent habitat (MSHA = 79-87). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Cascade River (04010101-590) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
97LS060	1997	Fish	**11**	++	25	4	0.2	86
13LS013	2013	Fish	**11**	++	20	11	0.6	87
95LS013	2013	Fish	**11**	++	21.5	7	0.4	82
95LS012	2013	Fish	**11**	++	27	4	0.2	79
99NF198	1999	Fish	**11**	++	24	2.5	0.1	86
99NF198	1999	Fish	**11**	++	18	2.5	0.2	86
97LS060	1997	Macroinvertebrates	**8**	++	28	0.5	0.1	86
97LS060	1997	Macroinvertebrates	**8**	++	28	0.5	0.1	86
13LS013	2013	Macroinvertebrates	**8**	++	23	5	0.3	87
95LS013	2013	Macroinvertebrates	**8**	++	25	2.5	0.1	82
95LS012	2013	Macroinvertebrates	**8**	++	27.5	0.5	0.1	79

Bluff Creek (04010101-646): The reach of Bluff Creek from East Twin Lake (16-0145-00) to South Brule River is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 2013 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has good to very good habitat (MSHA = 64-78). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Bluff Creek (04010101-646) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13LS051	2013	Fish	**11**	++	9.5	19	1.9	64
13LS051	2013	Fish	**11**	++	19	9	0.5	78
13LS051	2013	Macroinvertebrates	**8**	++	20	6	0.3	78

Elbow Creek (04010101-717): The reach of Elbow Creek from unnamed creek to Devil Track River is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 2013 and 2015 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has very good habitat (MSHA = 77). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Elbow Creek (04010101-717) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
05LS005	2013	Fish	**11**	++	23.5	7	0.3	77
05LS005	2013	Macroinvertebrates	**8**	++	25.5	2	0.1	77
05LS005	2015	Macroinvertebrates	**8**	++	25.5	1.5	0.1	77

Wanless Creek (04010101-783): The reach of Wanless Creek from headwaters (Dam Five Lake [38-0053-00]) to Houghtaling Creek is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 2013 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has very good habitat (MSHA = 74). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change

in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Wanless Creek (04010101-783) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13LS043	2013	Fish	**11**	++	16.5	13	0.8	74
13LS043	2013	Macroinvertebrates	**8**	++	17.5	7.5	0.5	74

Lullaby Creek (04010101-814): The reach of Lullaby Creek from its headwaters (Lullaby Lake 16-0100-00) to the Brule River is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 2015 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has very good habitat (MSHA = 73-82). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Wanless Creek (04010101-814) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
15LS052	2015	Fish	**11**	++	24.5	6	0.3	73
15LS052	2015	Macroinvertebrates	**8**	++	20.5	2.5	0.2	82

Manitou River, South Branch (04010101-827): The reach of the South Branch of the Manitou River from Junction Creek to the Manitou River is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 2013 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has excellent habitat (MSHA = 81). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Manitou River, South Branch (04010101-827) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13LS005	2013	Fish	**11**	++	21	4	0.2	81
13LS005	2013	Macroinvertebrates	**8**	++	24	1.5	0.1	81

Sixmile Creek (04010101-B35): The reach of Sixmile Creek from unnamed creek to the Temperance River is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological

data from both macroinvertebrates and fish collected in 2013 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has excellent habitat (MSHA = 85). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Sixmile Creek (04010101-B35) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
91LS002	2013	Fish	**11**	++	25	5	0.2	85
91LS002	2013	Macroinvertebrates	**8**	++	27.5	0.5	0.1	85

Swamp River (04010101-B66): The reach of the Swamp River from Stevens Lake to the East line of T63 R4E S20 is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 1997 and 2013 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has excellent habitat (MSHA = 81-83). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Swamp River (04010101-B66) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
97LS072	1997	Fish	**11**	++	22	6	0.3	81
97LS072	2013	Fish	**11**	++	26.5	5	0.2	83
97LS072	1997	Macroinvertebrates	**8**	++	23.5	1	0.1	81
97LS072	2013	Macroinvertebrates	**8**	++	28	0.5	0.1	83

Baptism River, West Branch (04010101-D50): The reach of the West Branch of the Baptism River from the geographic coordinates (decimal degrees NAD83) -91.3381, 47.4702 to Crown Creek is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 2013 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has very good habitat (MSHA = 79). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Baptism River, West Branch (04010101-D50) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13LS036	2013	Fish	**11**	**++**	20.5	6	0.3	79
13LS036	2013	Macroinvertebrates	**8**	**++**	21.5	2.5	0.2	79

Kadunce River (Kadunce Creek) (04010101-D53): The reach of the Kadunce River (Kadunce Creek) from the geographic coordinates (decimal degrees NAD83) -90.1484, 47.8261 to Lake Superior is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 2013 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has excellent habitat (MSHA = 90). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Kadunce River (Kadunce Creek) (04010101-D53) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13LS050	2013	Fish	**11**	**++**	25	4.5	0.2	90
13LS050	2013	Macroinvertebrates	**8**	**++**	28	0.5	0.1	90

Portage Brook (04010101-D55): The reach of Portage Brook from County State Aid Highway 16 to the Pigeon River is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 1998 and 2013 from one station demonstrated that this reach meets the Exceptional Use aquatic life use goals. The channel in this reach is natural and habitat assessment demonstrated that this reach has very good to excellent habitat (MSHA = 73-81). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Portage Brook (04010101-D55) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
98LS041	1998	Fish	**11**	**++**	22	5.5	0.3	73
98LS041	2013	Fish	**11**	**++**	25	5	0.2	81
98LS041	2013	Macroinvertebrates	**8**	**++**	27	0.5	0.1	81

Temperance River (04010101-D56): The reach of the Temperance River from the north line of the PLS System section T61 R4W S4 to Sixmile Creek is proposed to be reclassified as an Exceptional Use cold

water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 1997 and 2013 from three stations demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has very good to excellent habitat (MSHA = 79-83). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Temperance River (04010101-D56) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
97LS062	1997	Fish	**11**	**++**	22	5.5	0.3	83
13LS053	2013	Fish	**11**	**++**	22.5	7	0.3	80
97LS051	1997	Fish	**11**	**++**	20	4.5	0.3	79
97LS062	1997	Macroinvertebrates	**8**	**++**	23.5	0.5	0.1	83
13LS053	2013	Macroinvertebrates	**8**	**++**	25	2.5	0.1	80
97LS051	1997	Macroinvertebrates	**8**	**++**	19.5	2	0.1	79

Baptism River, East Branch (04010101-D58): The reach of the East Branch of the Baptism River from Lake Twenty-three to Blesner Creek is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 2013 from one station demonstrated that this reach meets the aquatic life use goals for Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has very good habitat (MSHA = 79). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Baptism River, East Branch (04010101-D58) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13LS045	2013	Fish	**11**	**++**	22	5	0.3	79
13LS045	2013	Macroinvertebrates	**8**	**++**	23	0.5	0.1	79

Woods Creek (04010101-D61): The reach of the Woods Creek from the geographic coordinates (decimal degrees NAD83) -90.2650, 47.7964 to Devil Track River is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from macroinvertebrates and fish collected in 2013, 2014, and 2015 from three stations demonstrated that this reach meets the aquatic life use goals for Exceptional Use. One macroinvertebrate visit was two points below the Exceptional Use aquatic life use goal, but this community scored a Level 2 on the BCG indicating an Exceptional community. The channel in this reach is natural and habitat assessment demonstrated that this reach has good to very good habitat (MSHA = 67-81). Considering this information, it is reasonable to remove the Class 2Ag

classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Woods Creek (04010101-D61) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
15LS059	2015	Fish	**11**	**++**	24	3.5	0.2	81
13LS052	2014	Fish	**11**	**++**	14.5	9.5	0.7	52
13LS052	2015	Fish	**11**	**++**	21.5	6	0.3	73
14LS400	2014	Fish	**11**	**++**	22	5	0.3	75
15LS059	2015	Macroinvertebrates	**8**	**++**	21.5	5	0.3	71
13LS052	2013	Macroinvertebrates	**8**	**+**	13	7	0.6	67
13LS052	2015	Macroinvertebrates	**8**	**++**	23.5	3.5	0.2	72

Devil Track River (04010101-D79): The reach of the Devil Track River from Devil Track Lake to unnamed creek is proposed to be reclassified as an Exceptional Use cold water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected from 1999, 2013, and 2015 from four stations demonstrated that this reach meets the aquatic life use goals for Exceptional Use. One macroinvertebrate visit was eight points below the Exceptional Use aquatic life use goal, but this community scored a Level 2 on the BCG indicating an Exceptional community. The channel in this reach is natural and habitat assessment demonstrated that this reach has good to very good habitat (MSHA = 72-86). Considering this information, it is reasonable to remove the Class 2Ag classification assigned to General Use cold water aquatic life and habitat and replace it with the use assigned to Exceptional Use cold water aquatic life and habitat (Class 2Ae). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Lake Superior - North Watershed (04010101) to acknowledge the Exceptional Use condition of this stream reach.

Devil Track River (04010101-D79) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13LS040	2013	Fish	**11**	**++**	27.5	6	0.2	86
13LS046	2013	Fish	**11**	**++**	25.5	5	0.2	75
99NF194	1999	Fish	**11**	**++**	18	5	0.3	81
13LS040	2013	Macroinvertebrates	**8**	**++**	28	1	0.1	86
13LS046	2013	Macroinvertebrates	**8**	**++**	26	1.5	0.1	75
13LS046	2013	Macroinvertebrates	**8**	**+**	26	1.5	0.1	75
15LS057	2015	Macroinvertebrates	**8**	**++**	21	1.5	0.1	72

Reclassifications proposed for the Mississippi River-Headwaters Watershed

Unnamed ditch (07010101-747): The reach of unnamed ditch from its headwaters to the south line of the PLS System section T147 R35W S24 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2000 demonstrated that this reach

does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. Macroinvertebrate data were not collected from this site due to atypical flow conditions when the site was visited, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to cool and warm water aquatic life and habitat and replace it with the use assigned to Modified Use cool and warm water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Mississippi River - Headwaters Watershed (07010101) to acknowledge the Modified Use condition of this stream reach.

Unnamed ditch (07010101-747) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
00UM001	2000	Fish	**6**	**-**	5	22	3.83	28
00UM001	2000	Macroinvertebrates	**4**	**ND**	0	11.5	12.50	28

Schoolcraft River (07010101-751): The reach of the Schoolcraft River from Frontenac Creek to Plantagenet Lake is proposed to be reclassified for Exceptional Use warm and cool water aquatic life and habitat. Biological data from both macroinvertebrates and fish collected in 1999, 2013, and 2014 from two stations demonstrated that this reach meets the aquatic life use goals for Exceptional Use warm and cool water aquatic life and habitat. A single fish sample from 2013 was marginally below the Exceptional Use biocriterion. This sample was close to the threshold and had a Level 2 assemblage on the BCG, indicating that the fish assemblage is Exceptional Use. The channel in this reach is natural and habitat assessment demonstrated that this reach has good to very good habitat (MSHA = 62-75). Considering this information, it is reasonable to remove the Class 2Bg classification assigned to General Use warm and cool water aquatic life and habitat and replace it with the use assigned to Exceptional Use warm waters (Class 2Be). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Mississippi River - Headwaters Watershed (07010101) to acknowledge the Exceptional Use condition of this stream reach.

Schoolcraft River (07010101-751) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
99UM026	1999	Fish	**5**	**++**	16	4	0.29	75
13UM134	2013	Fish	**5**	**+**	9.5	7	0.76	71
13UM134	2014	Fish	**5**	**++**	8.5	7	0.84	62
99UM026	1999	Macroinvertebrates	**4**	**++**	10.5	2	0.26	75
13UM134	2013	Macroinvertebrates	**4**	**++**	4.5	3	0.73	71
13UM134	2014	Macroinvertebrates	**4**	**++**	10.5	2	0.26	69

Reclassifications proposed for the Rum River Watershed

County Ditch 4 (07010207-534): The reach of County Ditch 4 from unnamed creek to unnamed ditch is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 1999 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Rum River Watershed (07010207) to acknowledge the Modified Use condition of this stream reach.

County Ditch 4 (07010207-534) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
99UM013	1999	Fish	**6**	-	10	13	1.27	43
99UM013	1999	Macroinvertebrates	**4**	--	0.5	8.5	6.33	43

County Ditch 4 (07010207-535): The reach of County Ditch 4 from unnamed ditch to unnamed creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Rum River Watershed (07010207) to acknowledge the Modified Use condition of this stream reach.

County Ditch 4 (07010207-535) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13UM078	2013	Fish	**6**	-	1.5	6.5	3.00	36
13UM078	2013	Macroinvertebrates	**4**	-	0.5	6	4.67	36

Unnamed ditch (07010207-587): The reach of unnamed ditch from unnamed ditch to Goose Lake is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Rum River Watershed (07010207) to acknowledge the Modified Use condition of this stream reach.

Unnamed ditch (07010207-587) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13UM066	2013	Fish	**6**	-	7	17.5	2.31	38
13UM066	2013	Macroinvertebrates	**6**	-	4.5	11	2.18	38

Washburn Brook (07010207-641): The reach of Washburn Brook from unnamed ditch to unnamed creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. Macroinvertebrate data were not collected from this site due to atypical flow conditions when the site was visited, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Rum River Watershed (07010207) to acknowledge the Modified Use condition of this stream reach.

Washburn Brook (07010207-641) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13UM089	2013	Fish	**7**	--	1	15.5	8.25	14
13UM089	2013	Macroinvertebrates	**4**	**ND**	0	12	13.00	14

Tibbetts Brook (07010207-676): The reach of Tibbetts Brook from the west line of the PLS System section T40 R28W S25 to the west line of the PLS System section T40 R2W S36 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. The macroinvertebrate habitat models predicted that the habitat should be limiting the macroinvertebrate community, but the macroinvertebrate community marginally attained the General Use biocriteria. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2C classification and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Rum River Watershed (07010207) to acknowledge the Modified Use condition of this stream reach.

Tibbetts Brook (07010207-676) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13UM088	2013	Fish	**7**	--	4	10	2.2	28
13UM088	2013	Macroinvertebrates	**4**	+	0	11	12.00	28

Prairie Brook (07010207-684): The reach of Prairie Brook from its headwaters to the geographic coordinates (decimal degrees NAD83) -93.6682, 45.6013 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. Macroinvertebrate data were not collected from this site due to atypical flow conditions when the site was visited, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2C classification and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Rum River Watershed (07010207) to acknowledge the Modified Use condition of this stream reach.

Prairie Brook (07010207-684) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13UM077	2013	Fish	**6**	**-**	1.5	19	8.00	51
13UM077	2013	Macroinvertebrates	**4**	**ND**	3.5	7.5	1.89	51

Reclassifications proposed for the Minnesota River-Mankato Watershed

County Ditch 3 (07020007-525): The reach of County Ditch 3 from its headwaters to Fort Ridgley Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the macroinvertebrate assemblage. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

County Ditch 3 (07020007-525) macroinvertebrate and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN022	2013	Fish	**3**	**ND**	5.5	3.5	0.69	50
13MN022	2013	Fish	**3**	**ND**	9.5	4.5	0.52	45
13MN022	2013	Macroinvertebrates	**7**	**-**	4.5	13	2.55	50

Minneopa Creek (07020007-531): The reach of Minneopa Creek from its headwaters to Lily Lake Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from two stations in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make

this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

Minneopa Creek (07020007-531) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN060	2013	Fish	**3**	--	3	10.5	2.88	27
13MN061	2013	Fish	**2**	-	2	19	6.7	21
13MN060	2013	Macroinvertebrates	**7**	-	0	19.5	20.50	27
13MN061	2013	Macroinvertebrates	**7**	-	1	19.5	10.25	21

County Ditch 27 (07020007-535): The reach of County Ditch 27 from its headwaters to Lily Lake Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from two stations in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

County Ditch 27 (07020007-535) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN062	2013	Fish	**7**	--	1.5	14	6.00	29
13MN060	2013	Macroinvertebrates	**7**	-	2	20.5	7.17	29

Cherry Creek (07020007-541): The reach of Cherry Creek from its headwaters (Mud Lk 40-0110-00) to the north line of the PLS System section T110 R25W S21 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. The macroinvertebrate habitat models predicted that the habitat should be limiting the macroinvertebrate community, but the macroinvertebrate community marginally attained the General Use biocriteria. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information,

40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

Cherry Creek (07020007-541) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN088	2013	Fish	**3**	-	4	9	2.00	30
13MN088	2013	Fish	**3**	--	3	7.5	2.13	26
13MN088	2013	Macroinvertebrates	**6**	+	2	11	4.00	30

County Ditch 4/County Ditch 39 (07020007-545): The reach of County Ditch 4/County Ditch 39 from its Middle Lake to Swan Lake outlet is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Macroinvertebrate data collected from two stations in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the macroinvertebrate assemblage. Fish data were not assessable from this site due to atypical flow conditions when the sites was visited, but a fish-specific analysis of the habitat predicted that fish are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

County Ditch 4/County Ditch 39 (07020007-545) macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN056	2013	Fish	**7**	**ND**	1.5	14	6.00	35
13MN057	2013	Fish	**3**	**ND**	4	5	1.20	42
13MN056	2013	Macroinvertebrates	**7**	--	1	17.5	9.25	35
13MN057	2013	Macroinvertebrates	**7**	--	2	13.5	4.83	42

Unnamed creek (07020007-548): The reach of unnamed creek from unnamed ditch to Little Cottonwood River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2001, 2010, and 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In

addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975 although a sample for each assemblage marginally attained the General Use biocriteria on different years. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The habitat models predicted that the habitat should be limiting the both assemblages, but each assemblage marginally attained the General Use biocriteria at one visit. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

Unnamed creek (07020007-548) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
91MN057	2001	Fish	**3**	-	3	10.5	2.88	36
91MN057	2010	Fish	**3**	+	3	7	2.00	30
91MN057	2013	Fish	**3**	-	3	6	1.75	33
91MN057	2001	Macroinvertebrates	**7**	--	1	20.5	10.75	36
91MN057	2010	Macroinvertebrates	**7**	-	2	18.5	6.50	30
91MN057	2013	Macroinvertebrates	**7**	+	1	16	8.50	33
91MN057	2013	Macroinvertebrates	**7**	-	1	16	8.50	33

County Ditch 56 (Lake Crystal Inlet) (07020007-557): The reach of County Ditch 56 (Lake Crystal Inlet) from its headwaters to Lake Crystal is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

County Ditch 56 (Lake Crystal Inlet) (07020007-557) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN063	2013	Fish	**7**	--	8	3.5	0.50	42
13MN063	2013	Macroinvertebrates	**7**	-	7	12	1.63	42

Judicial Ditch 48 (07020007-593): The reach of Judicial Ditch 48 from unnamed ditch to Minneopa Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 48 (07020007-593) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN059	2013	Fish	**3**	--	2	11.5	4.17	18
13MN059	2013	Macroinvertebrates	**7**	-	0	21.5	22.50	18

County Ditch 52 (07020007-636): The reach of County Ditch 52 from the east line of the PLS System section T110 R26W S11 to unnamed creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Macroinvertebrate data collected from one station in 2007 and 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the macroinvertebrate assemblage. The fish habitat models predicted that the habitat should be limiting the fish community, but the fish community marginally attained the General Use biocriteria at two visits. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

County Ditch 52 (07020007-636) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
07MN074	2007	Fish	**3**	+	5	5	1.00	46
07MN074	2013	Fish	**3**	+	6	4.5	0.79	39
07MN074	2013	Fish	**3**	-	7	6	0.88	40
07MN074	2007	Macroinvertebrates	**7**	--	7	13.5	1.81	46
07MN074	2013	Macroinvertebrates	**7**	--	3	14.5	3.88	39

Unnamed creek (County Ditch 11) (07020007-646): The reach of unnamed creek (County Ditch 11) from unnamed ditch to the Little Cottonwood River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Macroinvertebrate data collected from one station in 2010 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the macroinvertebrate assemblage. The fish habitat models predicted that the habitat should be limiting the fish community, but the fish community attained the General Use biocriteria. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

Unnamed creek (County Ditch 11) (07020007-646) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
10EM115	2010	Fish	**3**	+	7	4.5	0.69	48
10EM115	2010	Macroinvertebrates	**7**	-	4.5	13	2.55	48

County Ditch 28-1 (07020007-656): The reach of County Ditch 28-1 from its headwaters to Altermatts Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Macroinvertebrate and fish data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the macroinvertebrate and fish assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned

to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

County Ditch 28-1 (07020007-656) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN046	2013	Fish	**7**	-	1	14.5	7.75	16
13MN046	2013	Macroinvertebrates	**7**	-	0	21.5	22.50	16

County Ditch 11 (07020007-657): The reach of County Ditch 11 from unnamed ditch to unnamed creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Macroinvertebrate and fish data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting macroinvertebrate and fish assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

County Ditch 11 (07020007-657) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN049	2013	Fish	**3**	-	4	8	1.80	32
13MN049	2013	Macroinvertebrates	**5**	--	0	11.5	12.50	32

County Ditch 11 (07020007-661): The reach of County Ditch 11 from its headwaters to County Ditch 39 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the macroinvertebrate assemblage. Fish data were not assessable at this station due to the presence of a natural barrier falls, but fish-specific analyses of the habitat predicted that fish are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life

and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

County Ditch 11 (07020007-661) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN058	2013	Fish	**3**	**ND**	2	12	4.33	20
13MN058	2013	Fish	**3**	**ND**	4	11	2.40	34
13MN058	2013	Macroinvertebrates	**7**	**--**	0.5	22	15.33	20

County Ditch 115 (07020007-664): The reach of County Ditch 115 from unnamed creek to County Ditch 106A is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Macroinvertebrate and fish data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the macroinvertebrate and fish assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

County Ditch 115 (07020007-664) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN020	2013	Fish	**3**	**-**	5	3	0.67	39
13MN020	2013	Macroinvertebrates	**7**	**-**	5	11.5	2.08	39

County Ditch 100 (07020007-665): The reach of County Ditch 115 from County Ditch 28 to Judicial Ditch 31 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Macroinvertebrate and fish data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the macroinvertebrate and fish assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification

assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

County Ditch 100 (07020007-665) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN030	2013	Fish	**3**	-	4	7.5	1.70	33
13MN030	2013	Macroinvertebrates	**7**	-	1	19	10.00	33

Judicial Ditch 8 (07020007-666): The reach of Judicial Ditch 8 from unnamed creek to Judicial Ditch 31 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Macroinvertebrate and fish data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the macroinvertebrate and fish assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 8 (07020007-666) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN028	2013	Fish	**3**	--	7	6	0.88	36
13MN028	2013	Macroinvertebrates	**7**	--	4	16.5	3.50	36

County Ditch 105 (07020007-667): The reach of County Ditch 105 from County Ditch 106 to Wabasha Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. Additional fish and macroinvertebrate visits from this site did not have assessable biological data due to atypical flow conditions when the sites were visited, but an assemblage-specific analysis of the habitat predicted that these assemblages are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information,

40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

County Ditch 105 (07020007-667) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN009	2013	Fish	**7**	--	1	14.5	7.75	16
13MN009	2013	Fish	**7**	**ND**	1	14.5	7.75	27
13MN009	2013	Macroinvertebrates	**7**	**ND**	0	21.5	22.50	16
13MN009	2013	Macroinvertebrates	**7**	**ND**	0	22.5	23.50	27

County Ditch 124 (07020007-670): The reach of County Ditch 124 from it headwaters to County Ditch 85A is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the macroinvertebrate assemblage. Fish data were not assessable from this site due to atypical flow conditions when the site was visited, but a fish-specific analysis of the habitat predicted that fish are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

County Ditch 124 (07020007-670) macroinvertebrate and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN004	2013	Fish	**3**	**ND**	5	9	1.67	34
13MN004	2013	Macroinvertebrates	**7**	--	2	18	6.33	34

County Ditch 22 (07020007-671): The reach of County Ditch 22 from its headwaters to Crow Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after

November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the macroinvertebrate assemblage. The fish visit was marginally above the General Use biocriterion, but fish-specific habitat models predicted that the habitat should be limiting the fish community. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

County Ditch 22 (07020007-671) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN001	2013	Fish	**3**	**+**	8	4.5	0.61	44
13MN001	2013	Macroinvertebrates	**7**	**-**	3	14.5	3.88	44

County Ditch 115 (07020007-673): The reach of County Ditch 115 from unnamed creek to unnamed creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the macroinvertebrate assemblage. Fish data were not assessable from this site due to atypical flow conditions when the site was visited, but a fish-specific analysis of the habitat predicted that fish are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

County Ditch 115 (07020007-673) macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN018	2013	Fish	**3**	**ND**	5	10	1.83	33
13MN018	2013	Macroinvertebrates	**7**	**--**	2	20	7.00	33

County Ditch 46A (07020007-678): The reach of County Ditch 46A from its headwaters to the geographic coordinates (decimal degrees NAD83) -94.0803, 44.2762 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2001 and 2013 demonstrated that this reach does not meet the aquatic life use

goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

County Ditch 46A (07020007-678) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
91MN059	2001	Fish	**3**	--	4.5	10	2.00	44
91MN059	2013	Fish	**3**	--	4	10	2.20	35
91MN059	2001	Macroinvertebrates	**7**	--	4	16	3.40	44
91MN059	2013	Macroinvertebrates	**7**	--	1	20.5	10.75	35

Altermatts Creek (07020007-681): The reach of Altermatts Creek from unnamed creek to the east line of the PLS System section T107 R34W S3 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the macroinvertebrate assemblage. Fish data were not assessable from this site due to atypical flow conditions when the site was visited, but a fish-specific analysis of the habitat predicted that fish are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

Altermatts Creek (07020007-681) macroinvertebrate and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN043	2013	Fish	**3**	**ND**	2	10	3.67	23
13MN043	2013	Macroinvertebrates	**7**	--	0	18.5	19.50	23

Little Rock Creek (Judicial Ditch 31) (07020007-686): The reach of Little Rock Creek (Judicial Ditch 31) from its headwaters thru Mud Lake is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from two stations in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. Fish and macroinvertebrate data were not assessable from 13MN026 and macroinvertebrate data were not assessable from 13MN029 due to atypical flow conditions when the site was visited, but an assemblage-specific analysis of the habitat predicted that these assemblages are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

Little Rock Creek (Judicial Ditch 31) (07020007-686) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN026	2013	Fish	**3**	**ND**	9.5	2.5	0.33	46
13MN027	2013	Fish	**3**	--	4	8	1.80	31
13MN029	2013	Fish	**2**	--	4	11	2.4	44
13MN026	2013	Macroinvertebrates	**5**	**ND**	10	2.75	46	10
13MN027	2013	Macroinvertebrates	**7**	--	19.5	5.13	31	19.5
13MN029	2013	Macroinvertebrates	**5**	**ND**	9.5	5.25	44	9.5

County Ditch 106A (Fort Ridgley Creek) (07020007-688): The reach of County Ditch 106A (Fort Ridgley Creek) from its headwaters to the south line of T112 R33W S13 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from three stations in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. Three fish visits did not have assessable data due to atypical flow conditions, but habitat assessments predicted that the fish assemblages at these stations are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the

Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

County Ditch 106A (Fort Ridgley Creek) (07020007-688) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	Year	Assemblage	Type	IBI	Good	Poor	P/G	MSHA
13MN017	2013	Fish	3	-	2	9	3.33	24
13MN017	2013	Fish	3	ND	6.5	6	0.93	41
91MN054	2013	Fish	3	ND	5	9.5	1.75	32
13MN019	2013	Fish	3	-	7	6	0.88	39
13MN019	2013	Fish	3	ND	5	7.5	1.42	36
13MN017	2013	Macroinvertebrates	7	--	0	18	19.00	24
91MN054	2013	Macroinvertebrates	7	-	2	19.5	6.83	32
13MN019	2013	Macroinvertebrates	7	-	6	17.5	2.64	39

Shanaska Creek (07020007-692): The reach of Shanaska Creek from Dog Creek to Shanaska Creek Rd is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

Shanaska Creek (07020007-692) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	Year	Assemblage	Type	IBI	Good	Poor	P/G	MSHA
13MN077	2013	Fish	2	-	4	16	3.40	43
13MN077	2013	Macroinvertebrates	6	-	3	13	3.50	43

Unnamed creek (07020007-696): The reach of unnamed creek from unnamed creek to -93.9413, 44.228 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2001 and 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and

macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

Unnamed creek (07020007-696) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
01MN020	2001	Fish	**3**	--	6.5	2	0.40	42
01MN020	2013	Fish	**3**	--	5.5	9.5	1.62	42
01MN020	2001	Macroinvertebrates	**5**	--	2	8.5	3.17	42
01MN020	2013	Macroinvertebrates	**5**	--	1	10.5	5.75	42

Wabasha Creek (07020007-699): The reach of Wabasha Creek from the west line of T111 R35W S11 to the east line of T112 R35W S24 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

Wabasha Creek (07020007-699) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN010	2013	Fish	**7**	-	1.5	13.5	5.80	29
13MN010	2013	Macroinvertebrates	**7**	--	1	20.5	10.75	29

Judicial Ditch 10 (07020007-701): The reach of Judicial Ditch 10 from unnamed creek to the east line of T108 R30W S2 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. T This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates

that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 10 (07020007-701) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN053	2013	Fish	**3**	-	4	5	1.20	35
13MN053	2013	Macroinvertebrates	**7**	--	2	13.5	4.83	35

County Ditch 124 (07020007-711): The reach of County Ditch 124 from County Ditch 85A to the west line of T113 R34 W S5 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2007, 2013, and 2015 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

County Ditch 124 (07020007-711) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
07MN080	2007	Fish	**7**	-	1	10.5	5.75	39
07MN080	2013	Fish	**7**	-	1	12.5	6.75	30
07MN080	2015	Fish	**7**	-	1.5	12.5	5.40	30
07MN080	2013	Macroinvertebrates	**7**	-	1	15.5	8.25	39
07MN080	2013	Macroinvertebrates	**7**	--	1	18.5	9.75	30
07MN080	2015	Macroinvertebrates	**7**	--	1	20	10.50	30

Judicial Ditch 13 (07020007-716): The reach of Judicial Ditch 13 from unnamed ditch to County State Aid Highways 5 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Minnesota River - Mankato Watershed (07020007) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 13 (07020007-716) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN031	2013	Fish	**3**	--	5	4.5	0.92	37
13MN031	2013	Macroinvertebrates	**7**	-	3	16	4.25	37

Reclassifications proposed for the Watonwan River Watershed

Unnamed creek (Mountain Lake Inlet) (07020010-505): The reach of unnamed creek (Mountain Lake Inlet) from its headwaters to Mountain Lake is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2001 and 2010 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Watonwan River Watershed (07020010) to acknowledge the Modified Use condition of this stream reach.

Unnamed creek (Mountain Lake Inlet) (07020010-505) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
91MN098	2001	Fish	**3**	--	4.5	7.5	1.55	46
91MN098	2010	Fish	**3**	-	2	10	3.67	44
91MN098	2001	Macroinvertebrates	**7**	--	0.5	19.5	13.67	44
91MN098	2010	Macroinvertebrates	**7**	--	0.5	19.5	13.67	44

Unnamed creek (07020010-526): The reach of unnamed creek from the south line of T105 R30W S24 to Perch Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Watonwan River Watershed (07020010) to acknowledge the Modified Use condition of this stream reach.

Unnamed creek (07020010-526) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN158	2013	Fish	**3**	--	5	5	1.00	38
13MN158	2013	Macroinvertebrates	**7**	--	4	15.5	3.30	38

Unnamed ditch (07020010-545): The reach of unnamed ditch from unnamed ditch to the North Fork of the Watonwan River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. The macroinvertebrate site visit above the General Use biocriterion, but the macroinvertebrate-specific habitat models predicted that the habitat should be limiting the macroinvertebrate community. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the

beneficial use table for the Watonwan River Watershed (07020010) to acknowledge the Modified Use condition of this stream reach.

Unnamed ditch (07020010-545) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN102	2013	Fish	**2**	-	2.5	11.5	3.57	40
13MN102	2013	Macroinvertebrates	**7**	+	2	16.5	5.83	40

Unnamed creek (07020010-552): The reach of unnamed creek from County Ditch 4 to Butterfield Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Watonwan River Watershed (07020010) to acknowledge the Modified Use condition of this stream reach.

Unnamed creek (07020010-552) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN153	2013	Fish	**3**	--	5	7	1.33	46
13MN153	2013	Macroinvertebrates	**7**	--	3	16	4.25	46

County Ditch 1 (07020010-553): The reach of County Ditch 1 from unnamed creek to the South Fork of the Watonwan River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make

this change in Minn. R. 7050.0470 by updating the beneficial use table for the Watonwan River Watershed (07020010) to acknowledge the Modified Use condition of this stream reach.

County Ditch 1 (07020010-553) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN121	2013	Fish	**3**	-	8	4.5	0.61	44
13MN121	2013	Macroinvertebrates	**7**	-	5	12.5	2.25	44

Unnamed creek (07020010-555): The reach of unnamed creek from unnamed creek to the Watonwan River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Watonwan River Watershed (07020010) to acknowledge the Modified Use condition of this stream reach.

Unnamed creek (07020010-555) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN157	2013	Fish	**3**	-	4	9	2.00	31
13MN157	2013	Macroinvertebrates	**7**	-	3	16.5	4.38	31

Watonwan River, North Fork (07020010-565): The reach of the North Fork of the Watonwan River from the west line of T107 R32W S5 to the Watonwan River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the

beneficial use table for the Watonwan River Watershed (07020010) to acknowledge the Modified Use condition of this stream reach.

Watonwan River, North Fork (07020010-565) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	Year	Assemblage	Type	IBI	Good	Poor	P/G	MSHA
13MN133	2013	Fish	2	--	3	14	3.75	35
13MN133	2013	Macroinvertebrates	7	-	3	13.5	3.63	27

Watonwan River (07020010-567): The reach of the Watonwan River from the west line of T107 R33W S34 to the North Fork of the Watonwan River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from two stations in 2013 and fish data from one station collected in 1997 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. One macroinvertebrate visit from 13MN106 was marginally above the General Use biocriterion, but the BCG model score for this visit was five, indicating poor biological condition. In addition, the macroinvertebrate-specific habitat models predicted that the habitat should be limiting the macroinvertebrate community. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Watonwan River Watershed (07020010) to acknowledge the Modified Use condition of this stream reach.

Watonwan River (07020010-567) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	Year	Assemblage	Type	IBI	Good	Poor	P/G	MSHA
13MN166	2013	Fish	2	--	11	7.5	0.71	49
97MN018	1997	Fish	2	-	-	-	-	-
13MN106	2013	Fish	2	--	8.5	11	1.26	43
13MN166	2013	Macroinvertebrates	7	-	11	8	0.75	49
13MN106	2013	Macroinvertebrates	7	+	7	10	1.38	43

Watonwan River, South Fork (07020010-569): The reach of the South Fork of the Watonwan River from -94.9121, 43.8594 to -94.8475, 43.8813 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after

November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. Macroinvertebrate data were not collected from this site due to atypical flow conditions when the site was visited, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Watonwan River Watershed (07020010) to acknowledge the Modified Use condition of this stream reach.

Watonwan River, South Fork (07020010-569) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN164	2013	Fish	**3**	--	3	7	2.00	25
13MN164	2013	Macroinvertebrates	**7**	**ND**	1	19.5	10.25	25

Spring Branch Creek (07020010-574): The reach of the Spring Branch Creek from the west line of T106 R30W S22 to Perch Creek is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from three stations in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2C classification and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Watonwan River Watershed (07020010) to acknowledge the Modified Use condition of this stream reach.

Spring Branch Creek (07020010-574) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN150	2013	Fish	**7**	-	5	12	2.17	34
13MN137	2013	Fish	**2**	--	8.5	9.5	1.11	48
13MN139	2013	Fish	**2**	--	3	13	3.5	35
13MN150	2013	Macroinvertebrates	**7**	-	5.5	19	3.08	34
13MN137	2013	Macroinvertebrates	**7**	-	9	10.5	1.15	48
13MN139	2013	Macroinvertebrates	**7**	-	2	14.5	5.17	35
13MN139	2013	Macroinvertebrates	**7**	-	2	14.5	5.17	35

St. James Creek (07020010-576): The reach of the St. James Creek from the west line of T106 R32W S25 to the north line of T106 R31W S19 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2013 and 2014 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. Two fish visits were above the General Use biocriterion, but the BCG model score for these visit was five, indicating poor biological condition. In addition, the fish-specific habitat models predicted that the habitat should be limiting the fish community. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2C classification and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Watonwan River Watershed (07020010) to acknowledge the Modified Use condition of this stream reach.

St. James Creek (07020010-576) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN104	2013	Fish	**2**	**+**	3	17	4.5	25
13MN104	2013	Fish	**2**	**+**	9	12.5	1.4	33
13MN104	2013	Fish	**2**	**-**	7	14	1.9	26
13MN104	2014	Fish	**2**	**-**	11	14	1.3	26
13MN104	2014	Fish	**2**	**-**	6.5	12	1.7	47
13MN104	2013	Macroinvertebrates	**7**	**-**	5.5	17	2.77	33

Judicial Ditch 1 (07020010-580): The reach of the Judicial Ditch 1 from -94.9058, 43.9095 to the east line of T105 R33W S7 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2003 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Watonwan River Watershed (07020010) to acknowledge the Modified Use condition of this stream reach.

Judicial Ditch 1 (07020010-580) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
03MN061	2003	Fish	**2**	--	2	16.5	5.83	42
03MN061	2003	Macroinvertebrates	**7**	--	2	17.5	6.17	42

Unnamed creek (07020010-584): The reach of the unnamed creek from unnamed creek to the east line of T105 T29W S6 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Watonwan River Watershed (07020010) to acknowledge the Modified Use condition of this stream reach.

Unnamed creek (07020010-584) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13MN122	2013	Fish	**7**	-	1	10.5	5.75	28
13MN122	2013	Macroinvertebrates	**7**	-	3	17.5	4.63	28

Reclassifications proposed for the Snake River Watershed

Unnamed ditch (09020309-515): The reach of the unnamed ditch from its headwaters to County Ditch 15 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2005 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Snake River Watershed (09020309) to acknowledge the Modified Use condition of this stream reach.

Unnamed ditch (09020309-515) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
05RD020	2005	Fish	**6**	-	8	19	2.22	35
05RD020	2005	Macroinvertebrates	**7**	-	3	22	5.75	35

Unnamed ditch (09020309-518): The reach of the unnamed ditch from unnamed ditch to unnamed ditch is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Macroinvertebrate data collected from one station in 2005 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. MSHA data was not available for this site, but review of photos from this reach demonstrated that the habitat homogenous and is very poor. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Snake River Watershed (09020309) to acknowledge the Modified Use condition of this stream reach.

Unnamed ditch (09020309-518) macroinvertebrate data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
05RD011	2005	Macroinvertebrates	**7**	-	-	-	-	-

Unnamed ditch (09020309-529): The reach of the unnamed ditch from unnamed ditch to the Middle River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the macroinvertebrate assemblage. The fish habitat models predicted that the habitat should be limiting the fish community, but the fish community attained the General Use biocriteria. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Snake River Watershed (09020309) to acknowledge the Modified Use condition of this stream reach.

Unnamed ditch (09020309-529) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13RD027	2014	Fish	**6**	**+**	10	12.5	1.23	48
13RD027	2013	Macroinvertebrates	**5**	**--**	4.5	6	1.27	45

Middle River (09020309-538): The reach of the Middle River from its headwaters to -96.171, 48.4349 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. Macroinvertebrate data were not collected from this site due to atypical flow conditions when the site was visited, but a macroinvertebrate-specific analysis of the habitat predicted that macroinvertebrates are limited by habitat. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Snake River Watershed (09020309) to acknowledge the Modified Use condition of this stream reach.

Middle River (09020309-538) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13RD026	2013	Fish	**7**	**-**	1.5	13.5	5.80	36
13RD026	2013	Macroinvertebrates	**7**	**ND**	0	19.5	20.50	36

Middle River (09020309-541): The reach of the Middle River from the south line of T157 R49W S34 to the Snake River is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. No macroinvertebrate data were collected because the reach lacked sufficient habitat to sample this assemblage. Using the habitat data collected during the fish visit, it demonstrated that habitat is predicted to be limiting the macroinvertebrate community and lacks sufficient habitat to support a healthy macroinvertebrate assemblage. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Snake River Watershed (09020309) to acknowledge the Modified Use condition of this stream reach.

Middle River (09020309-541) fish and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13RD008	2013	Fish	**2**	**+**	3.5	13.5	3.22	36
13RD008	2013	Macroinvertebrates	**7**	**ND**	3	16	4.25	36

Reclassifications proposed for the Two Rivers Watershed

Lateral Ditch 4 of State Ditch 91 (09020312-515): The reach of the Lateral Ditch 4 of State Ditch 91 from its headwaters to Lateral Ditch 12 of State Ditch 91 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the macroinvertebrate assemblage. The fish habitat models predicted that the habitat should be limiting the fish community, but the fish community marginally attained the General Use biocriteria. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Two Rivers Watershed (09020312) to acknowledge the Modified Use condition of this stream reach.

Lateral Ditch 4 of State Ditch 91 (09020312-515) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13RD058	2013	Fish	**6**	**+**	5	16	2.83	41
13RD058	2013	Macroinvertebrates	**7**	**-**	1	19.5	10.25	41

Lateral Ditch 1 of State Ditch 95 (09020312-539): The reach of the Lateral Ditch 1 of State Ditch 95 from unnamed ditch to State Ditch 50 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA

proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Two Rivers Watershed (09020312) to acknowledge the Modified Use condition of this stream reach.

Lateral Ditch 1 of State Ditch 95 (09020312-539) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	Year	Assemblage	Type	IBI	Good	Poor	P/G	MSHA
13RD048	2013	Fish	5	--	8	15.5	1.83	51
13RD048	2013	Macroinvertebrates	7	--	6.5	16.5	2.33	51

Unnamed ditch (along 210th Ave) (09020312-550): The reach of the unnamed ditch (along 210th Ave) from 110th Street to Lateral Ditch 12 of State Ditch 91 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish and macroinvertebrate data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessments demonstrated that poor habitat is limiting the fish and macroinvertebrate assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Two Rivers Watershed (09020312) to acknowledge the Modified Use condition of this stream reach.

Unnamed ditch (along 210th Ave) (09020312-550) fish, macroinvertebrate, and habitat data

		Biology			Habitat			
Station	Year	Assemblage	Type	IBI	Good	Poor	P/G	MSHA
13RD054	2013	Fish	6	-	10.5	13.5	1.26	48
13RD054	2013	Macroinvertebrates	5	--	5.5	8.5	1.46	48

Unnamed ditch (along 190th Ave) (09020312-551): The reach of the Unnamed ditch (along 190th Ave) from 110th Street to Lateral Ditch 4 of State Ditch 91 is proposed to be reclassified for Modified Use warm and cool water aquatic life and habitat. Fish data collected from one station in 2013 demonstrated that this reach does not meet the aquatic life use goals for General Use warm and cool water aquatic life and habitat. This reach has been altered for drainage and available evidence (e.g., aerial imagery) indicates that the reach was maintained for drainage before November 28, 1975. In addition, no evidence indicates that fish and macroinvertebrate assemblages attained the aquatic life use goals for General Use on or after November 28, 1975. Habitat assessment demonstrated that poor habitat is limiting the fish assemblage. Additional fish and macroinvertebrate data were not assessable from this site due to atypical flow conditions when the site was visited, but an analysis of the habitat supported habitat limitation for both the macroinvertebrate and fish assemblages. The poor habitat condition cannot be reversed at this time and is not likely to recover naturally due to drainage maintenance. Considering this information, 40 CFR § 131.10(g)(3) applies to this reach and it is

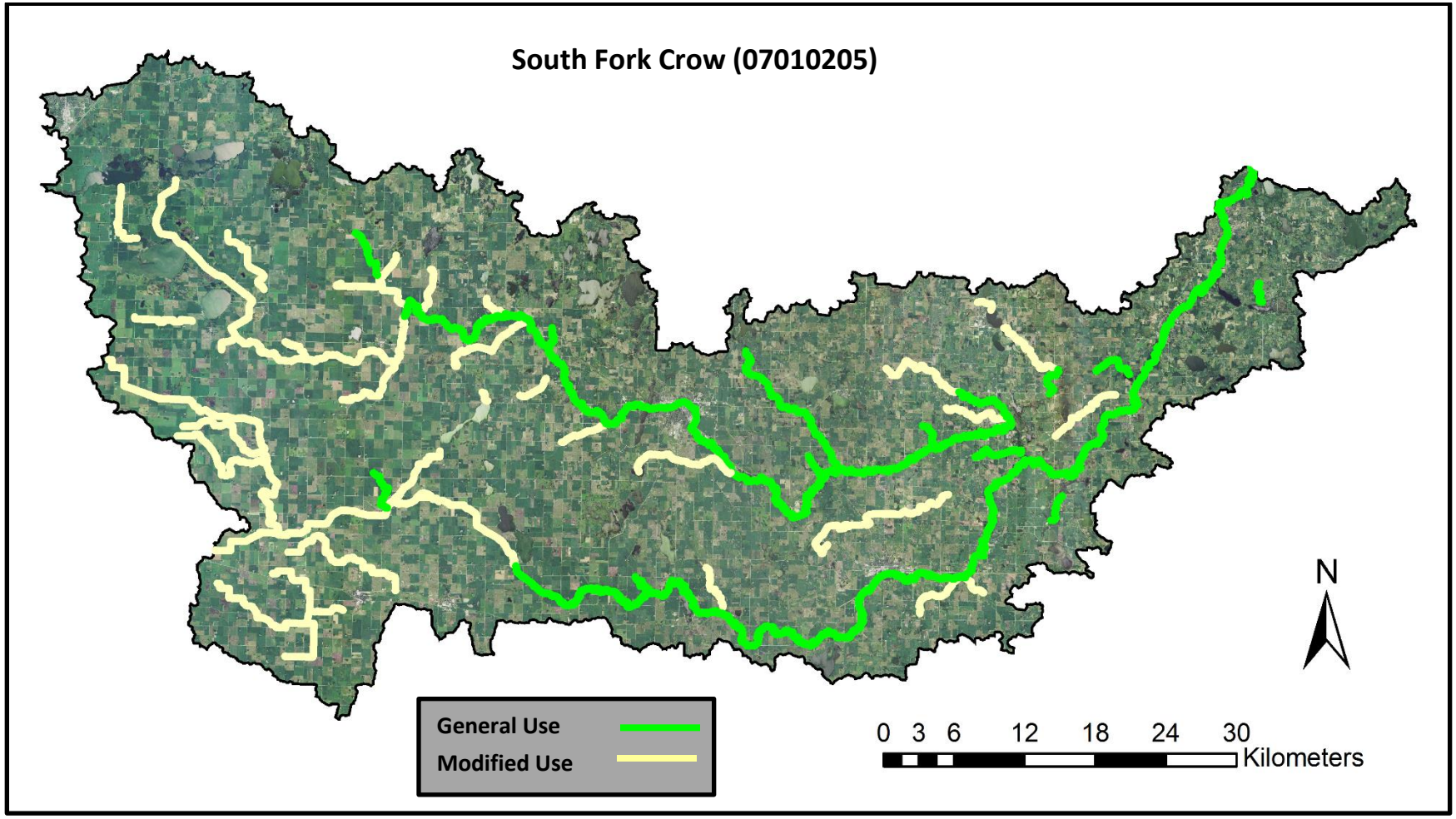
reasonable to remove the Class 2B classification assigned by default to warm and cool water aquatic life and habitat and replace it with the use assigned to Modified Use warm and cool water aquatic life and habitat (Class 2Bm). The MPCA proposes to make this change in Minn. R. 7050.0470 by updating the beneficial use table for the Two Rivers Watershed (09020312) to acknowledge the Modified Use condition of this stream reach.

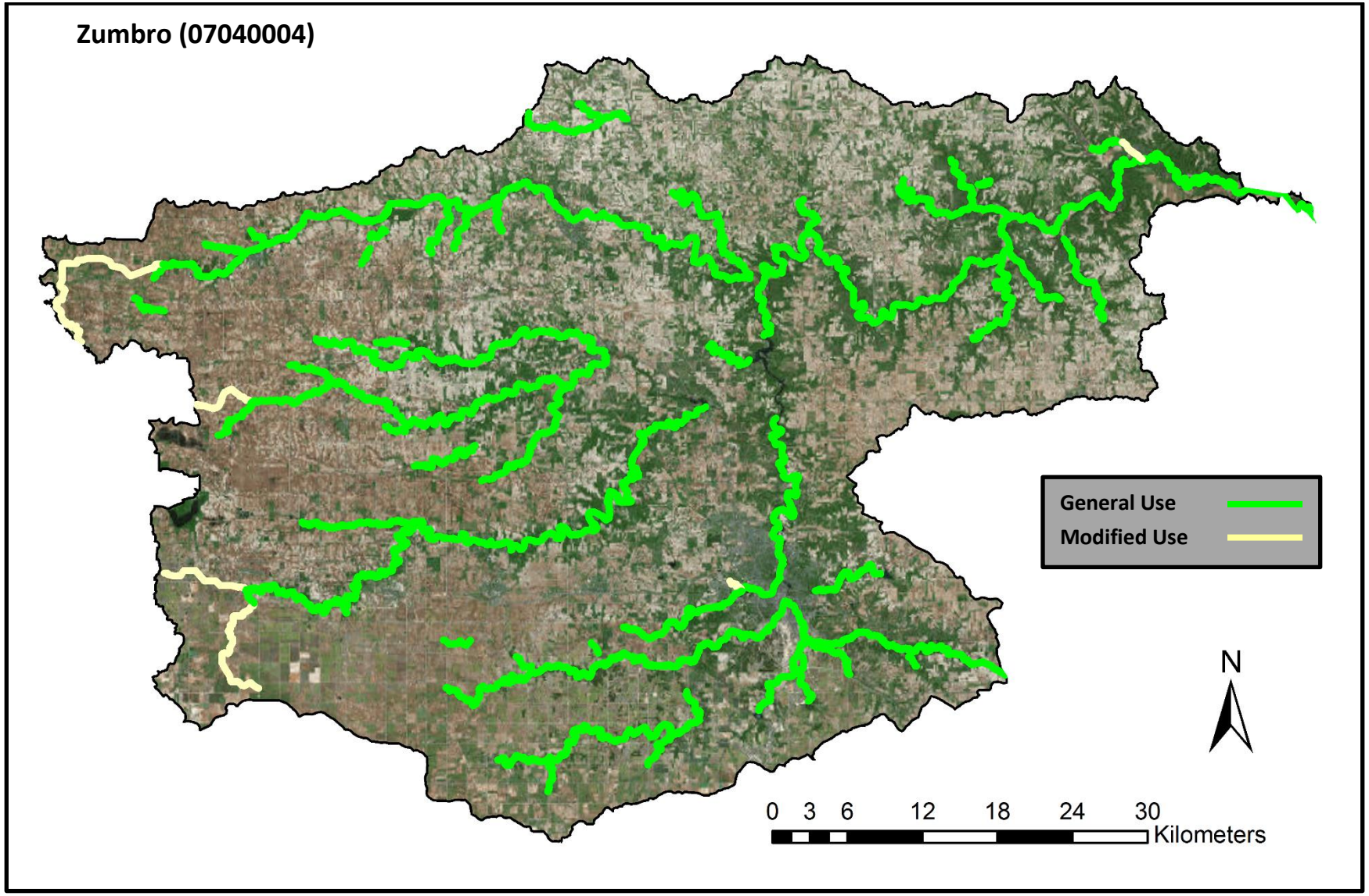
Unnamed ditch (along 190th Ave) (09020312-551) fish and habitat data

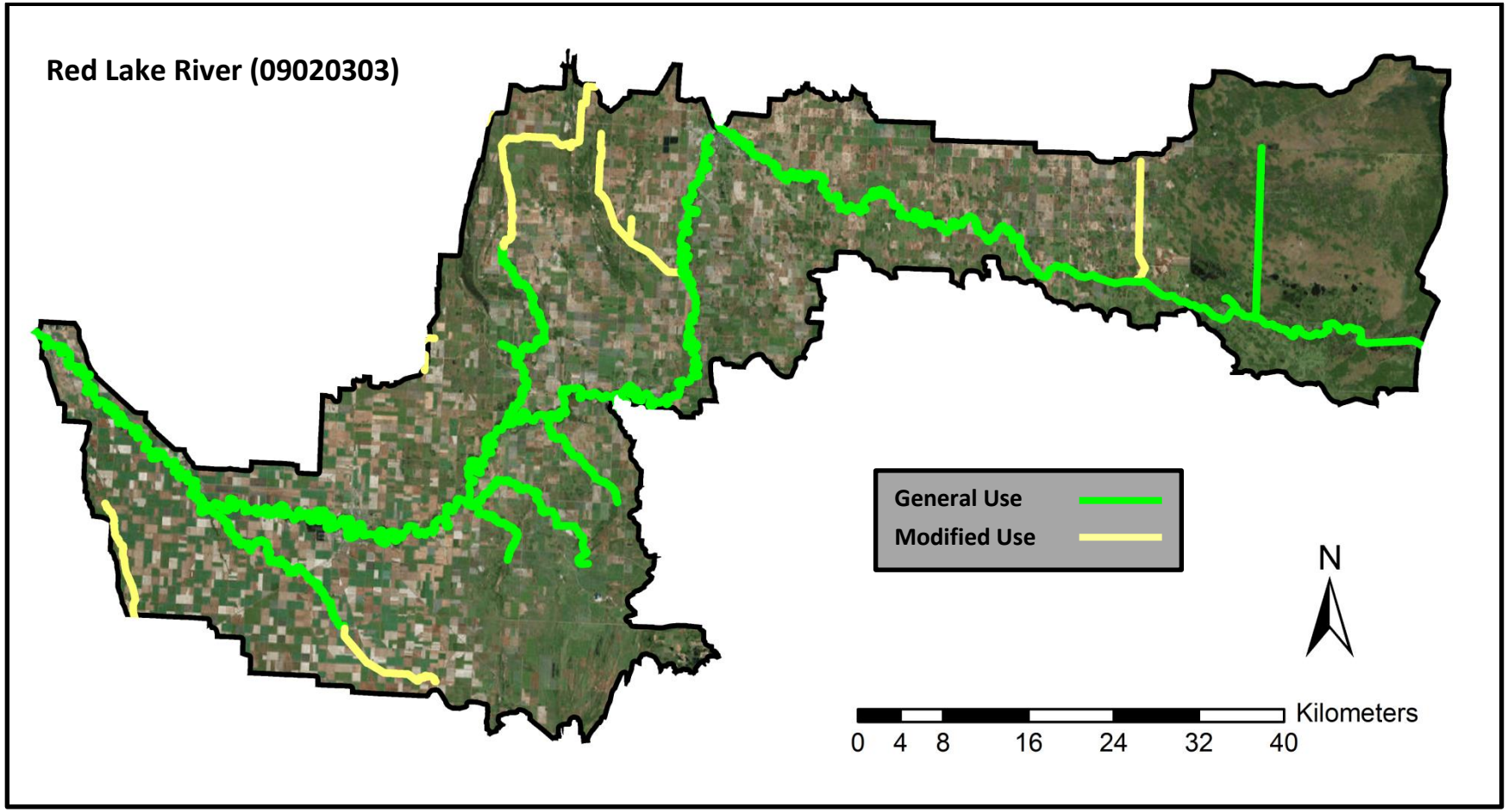
		Biology			Habitat			
Station	**Year**	**Assemblage**	**Type**	**IBI**	**Good**	**Poor**	**P/G**	**MSHA**
13RD052	2013	Fish	**6**	-	11	13	1.17	43
13RD052	2013	Fish	**6**	**ND**	4	15	3.20	40
13RD052	2013	Macroinvertebrates	**5**	**ND**	1.5	8.5	3.80	40

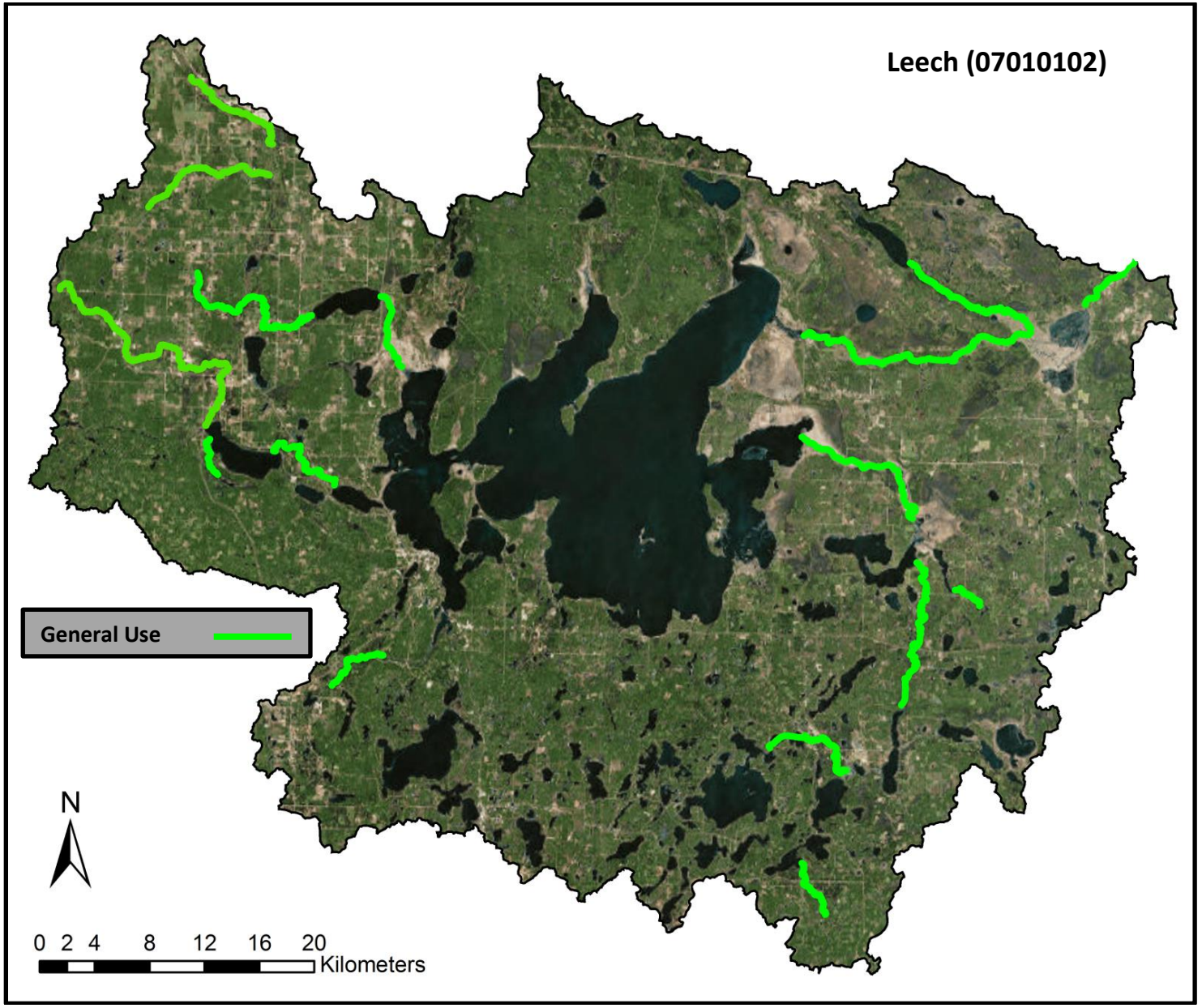
B. Appendix B: Maps of proposed TALU designations

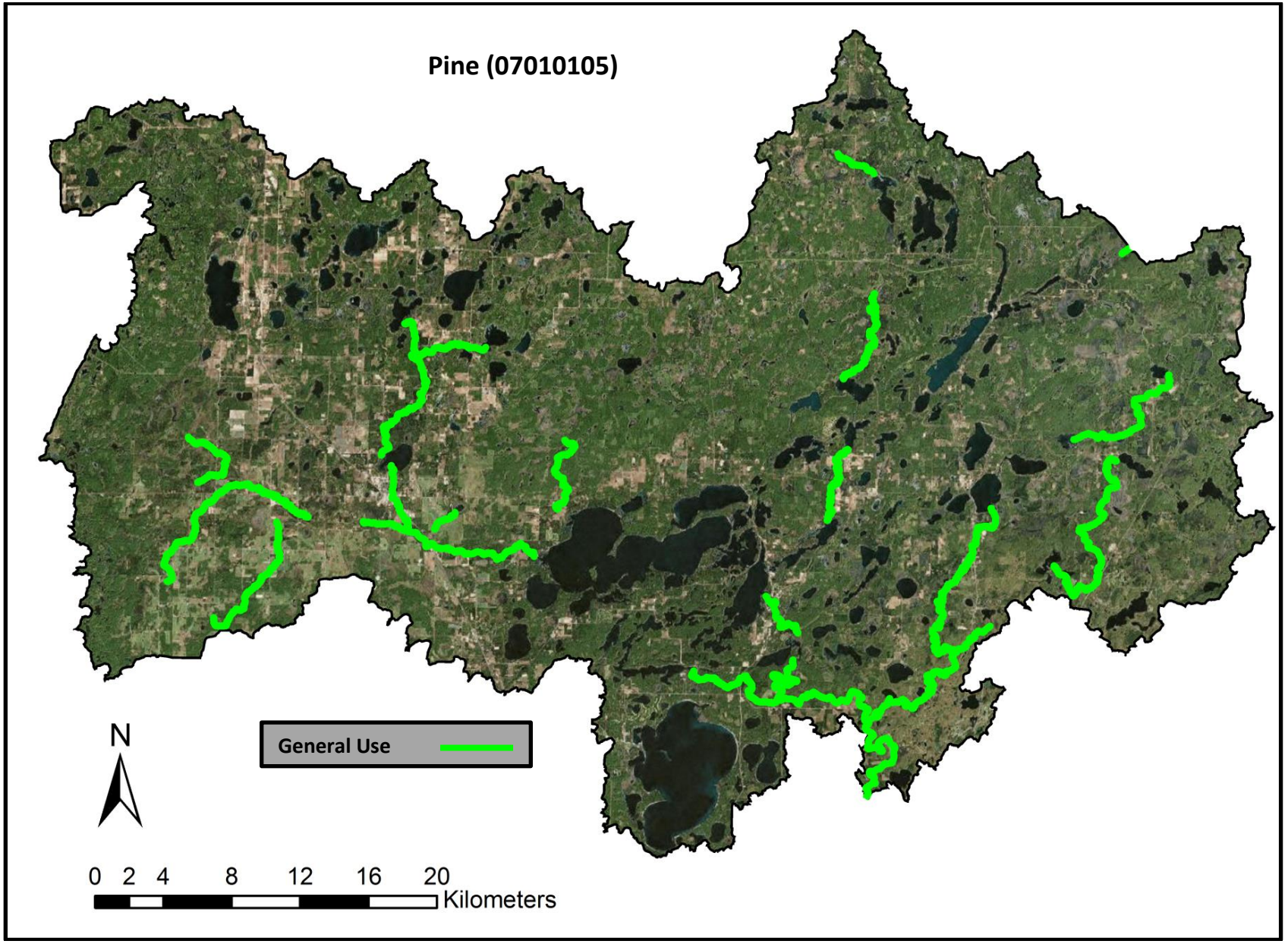
Appendix B includes maps of the 14 Watersheds that were monitored in 2012 and 2013 as part of the IWM approach. Each maps shows the stream reaches with sufficient data to perform a use review (S-62) and the corresponding TALU that was recommended as part of that process.

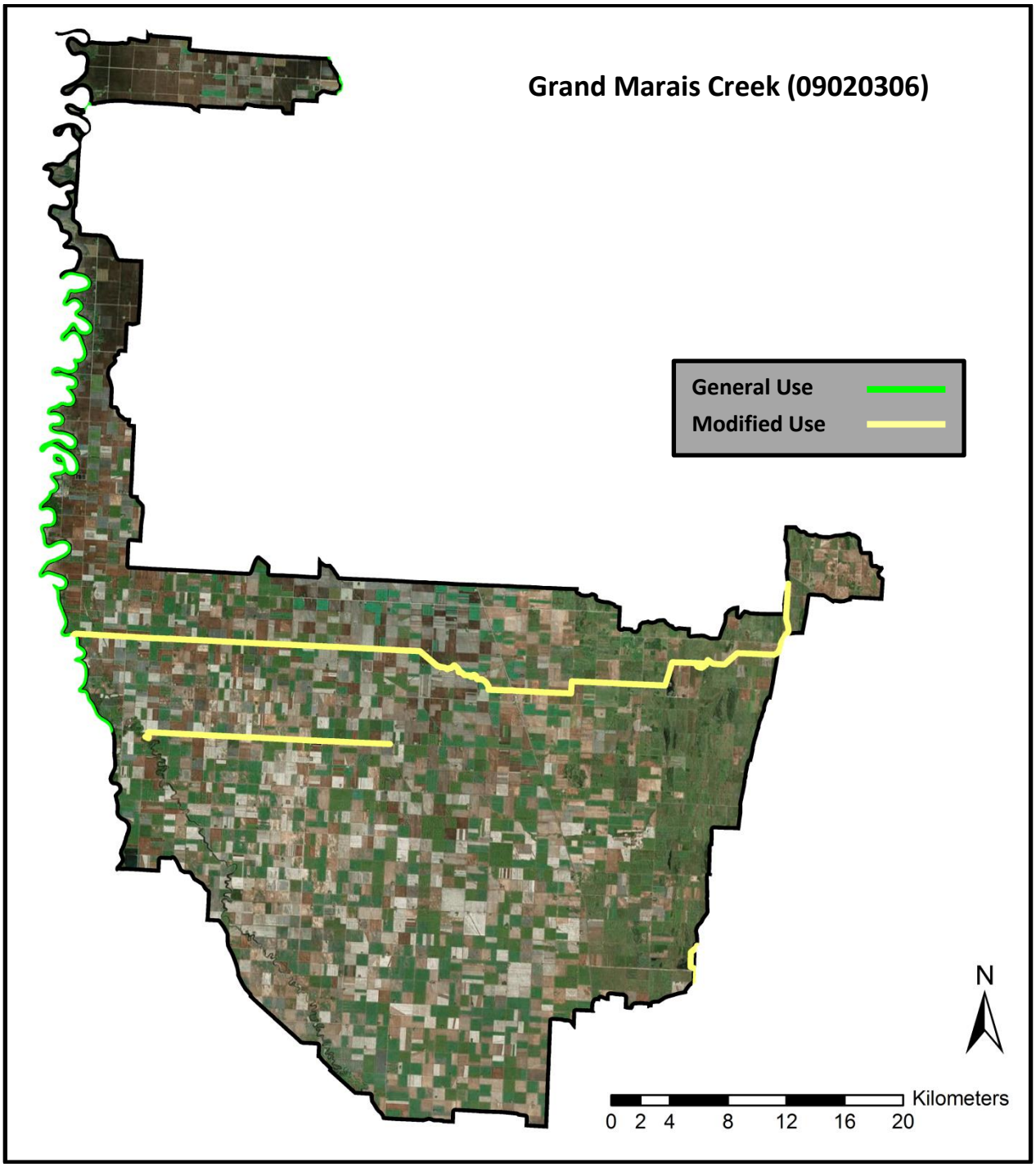

South Fork Crow (07010205)
General Use
Modified Use
N
0 3 6 12 18 24 30
Kilometers

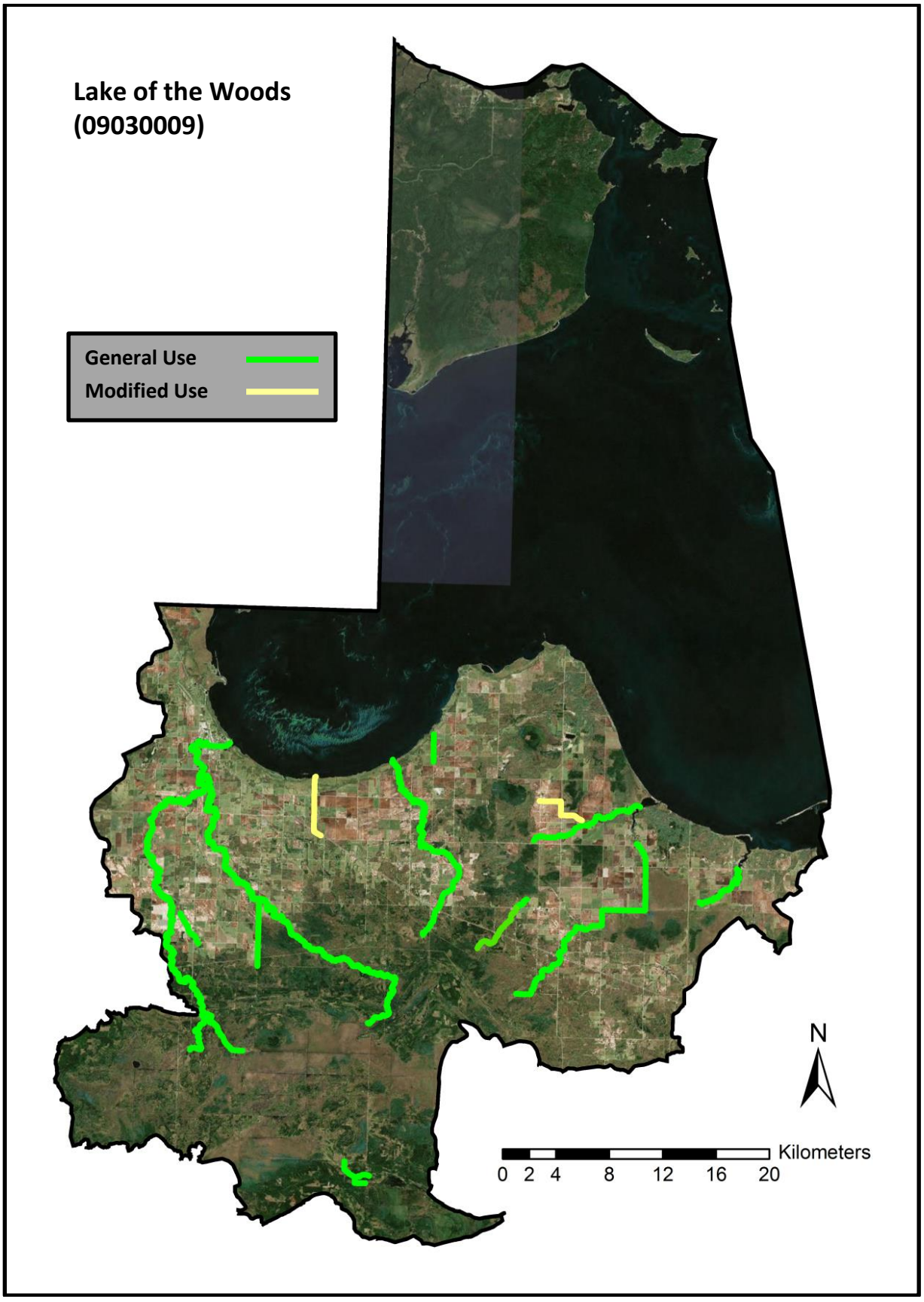

Zumbro (07040004)
General Use
Modified Use
N
0 3 6 12 18 24 30
Kilometers

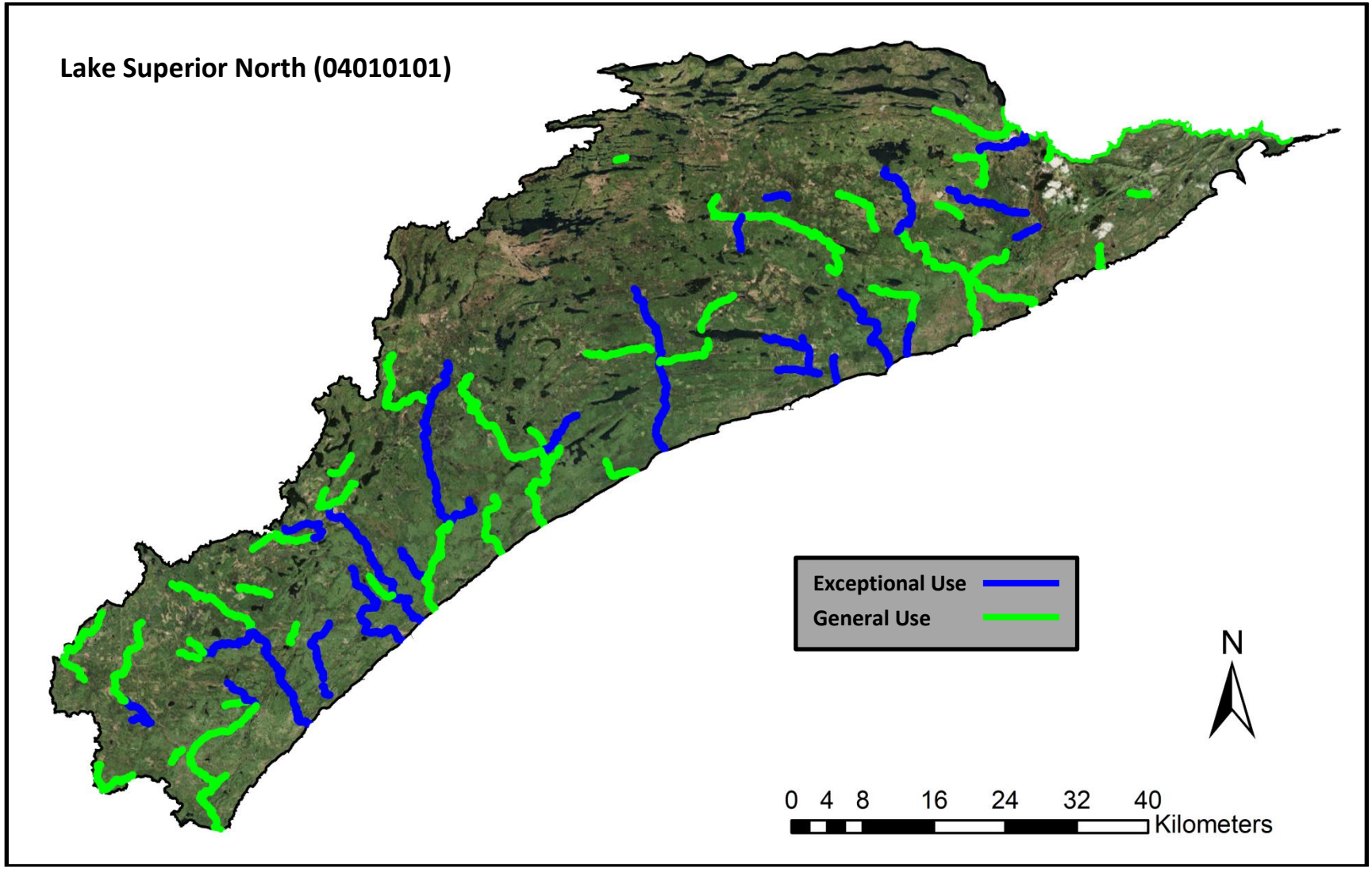

Red Lake River (09020303)
General Use
Modified Use
N
Kilometers
0 4 8 16 24 32 40

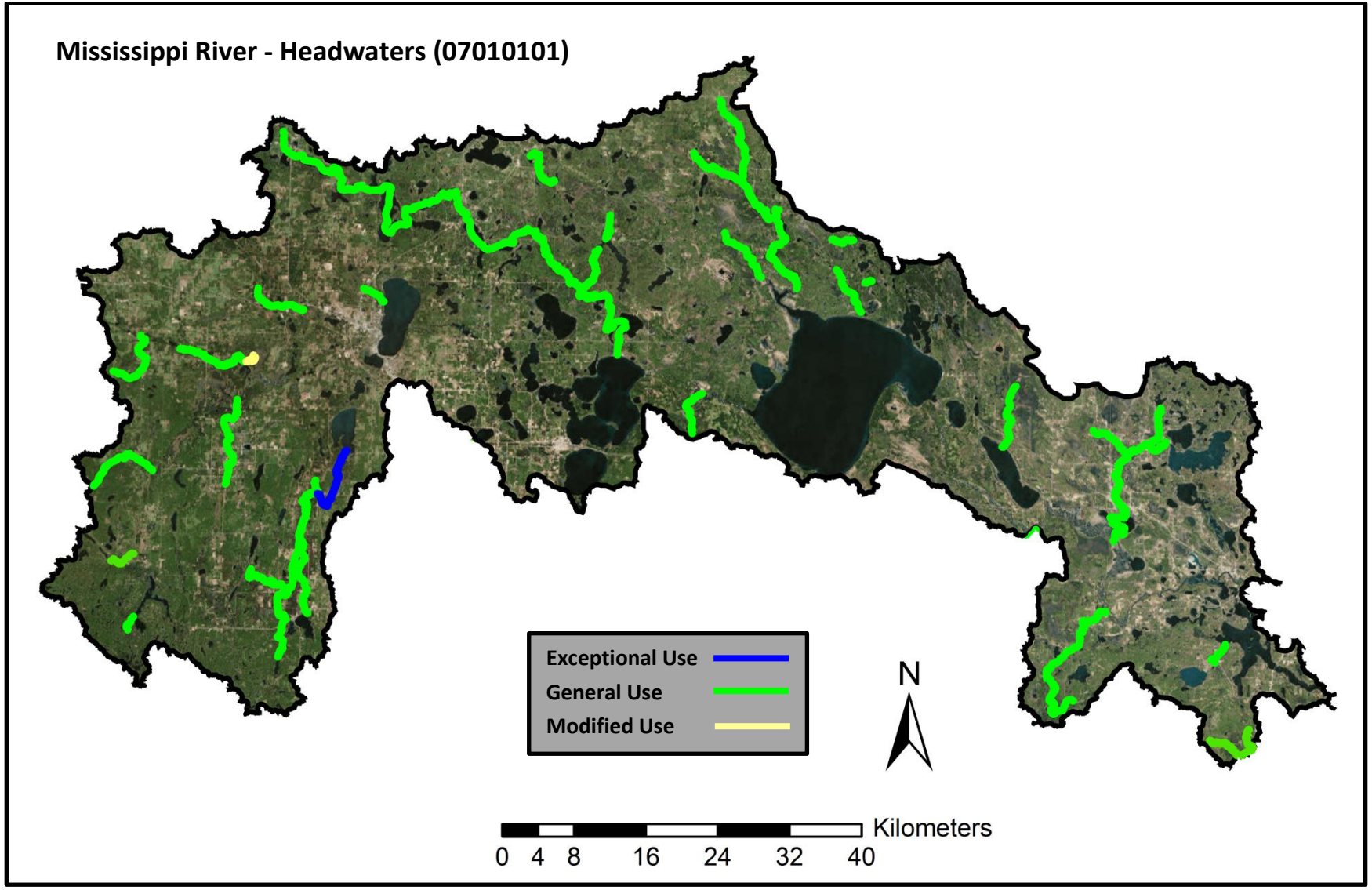

Leech (07010102)
General Use
N
0 2 4 8 12 16 20
Kilometers

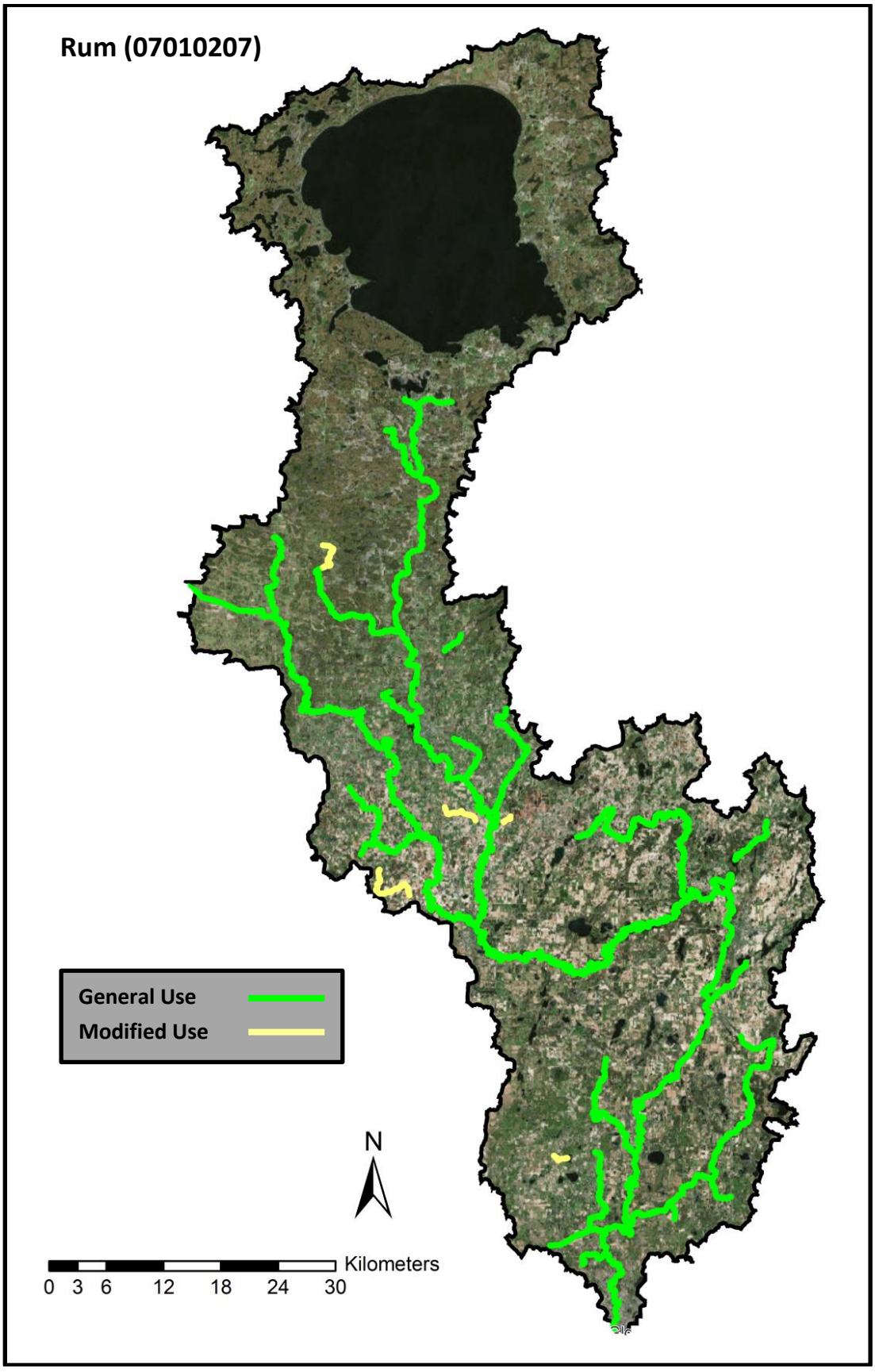

Pine (07010105)
N
General Use
0 2 4 8 12 16 20
Kilometers

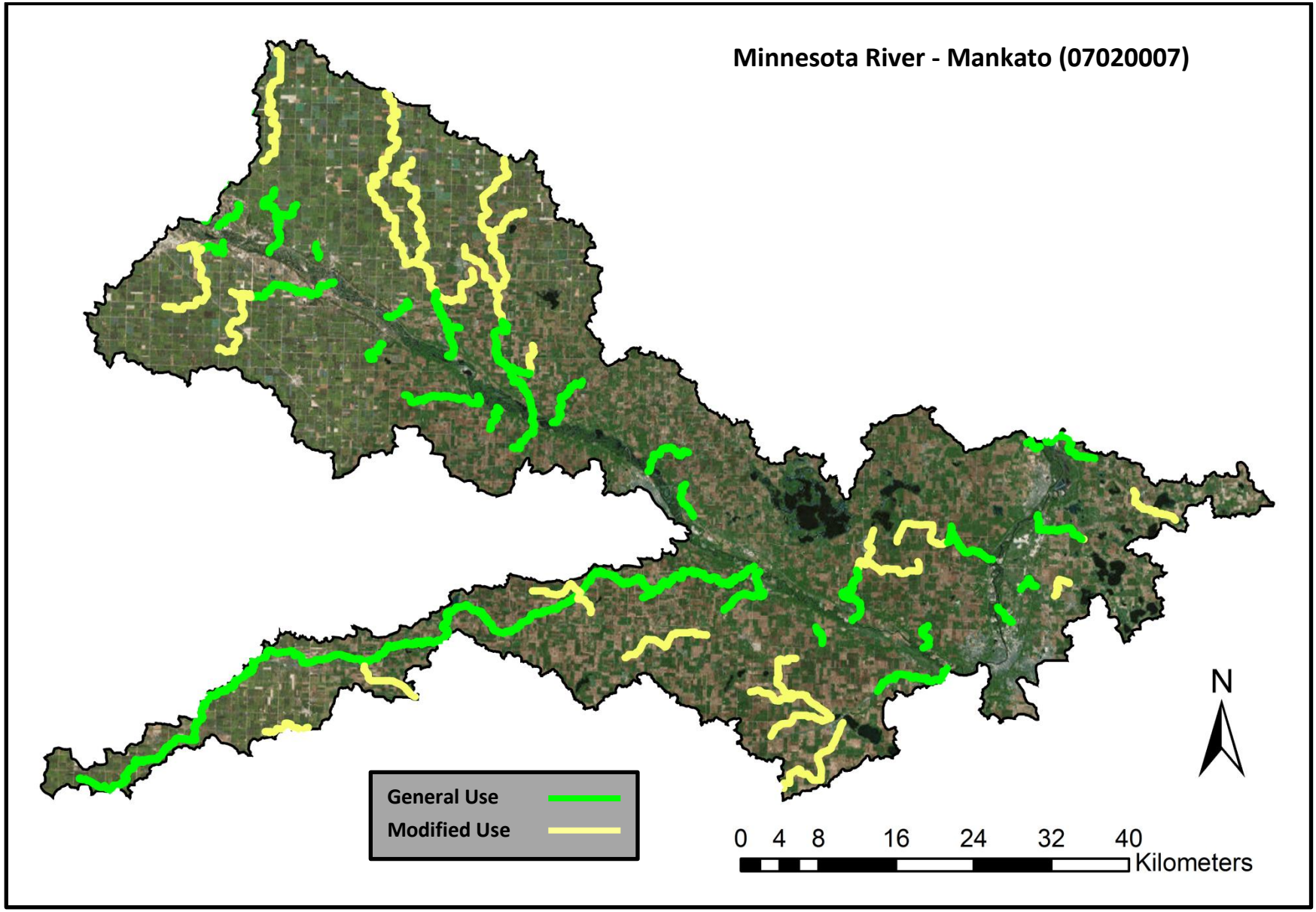

Grand Marais Creek (09020306)
General Use
Modified Use
N
Kilometers
0 2 4 8 12 16 20

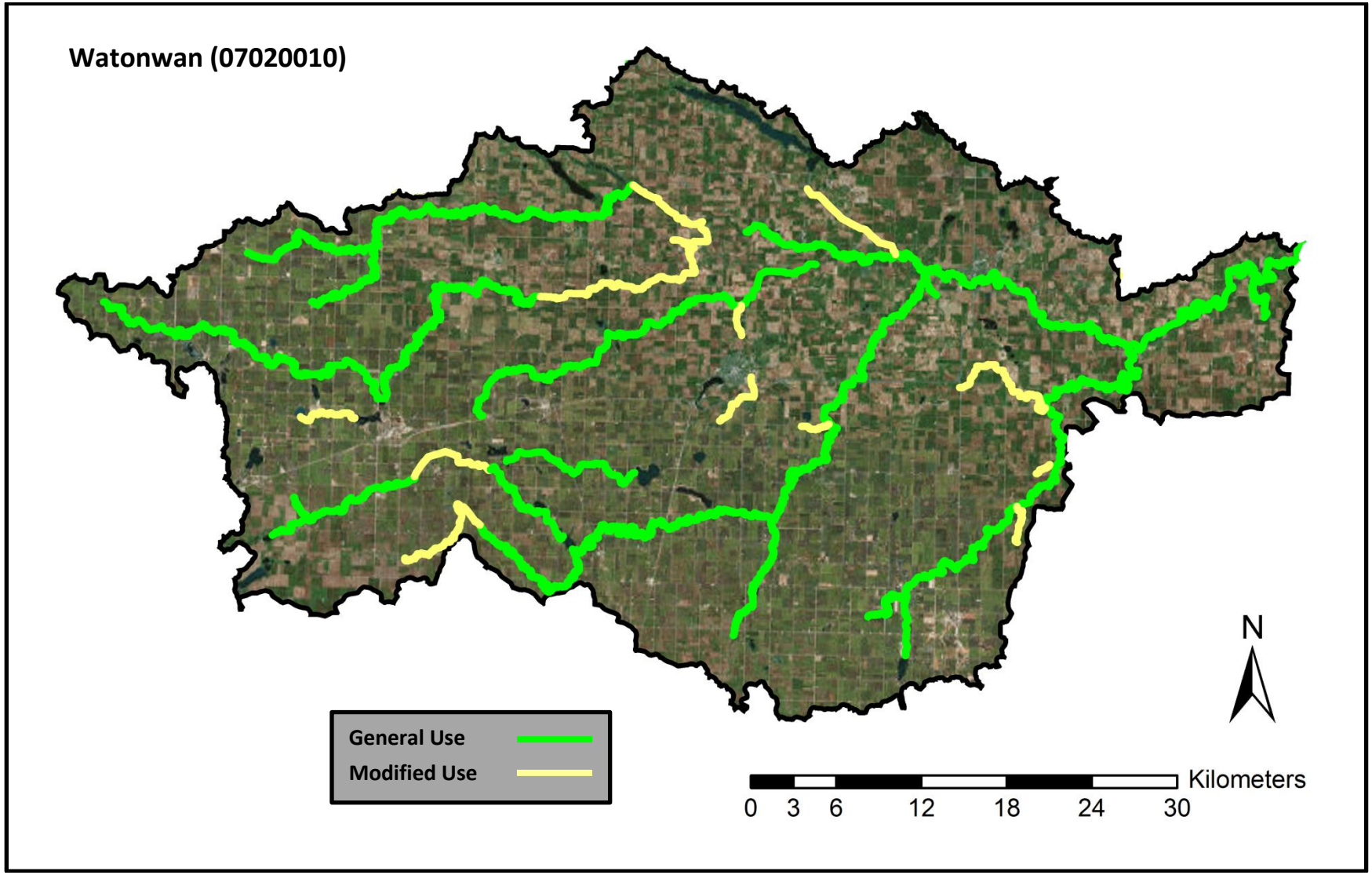

Lake of the Woods
(09030009)
General Use
Modified Use
N
Kilometers
0 2 4 8 12 16 20

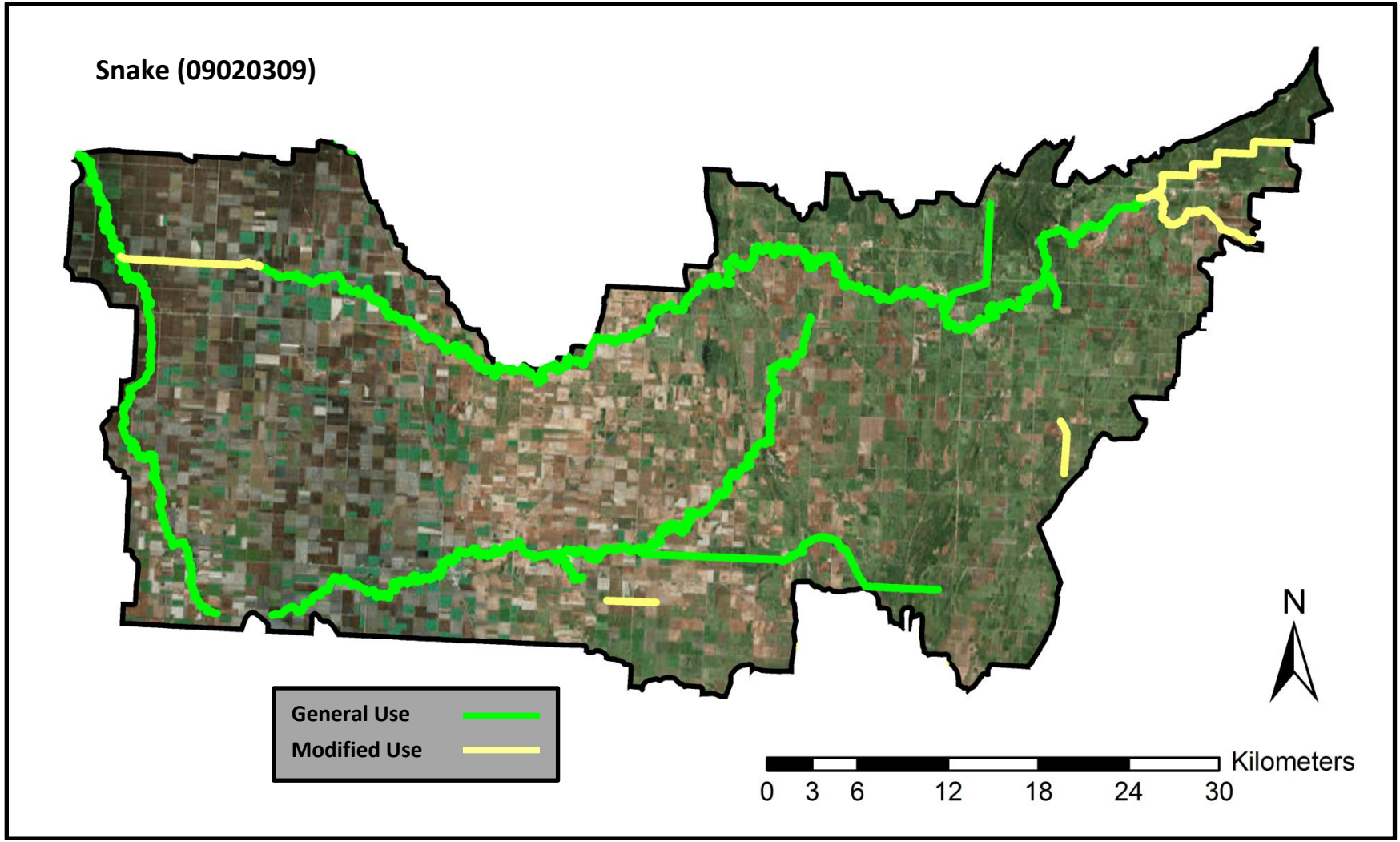

Lake Superior North (04010101)
Exceptional Use
General Use
N
0 4 8 16 24 32 40
Kilometers

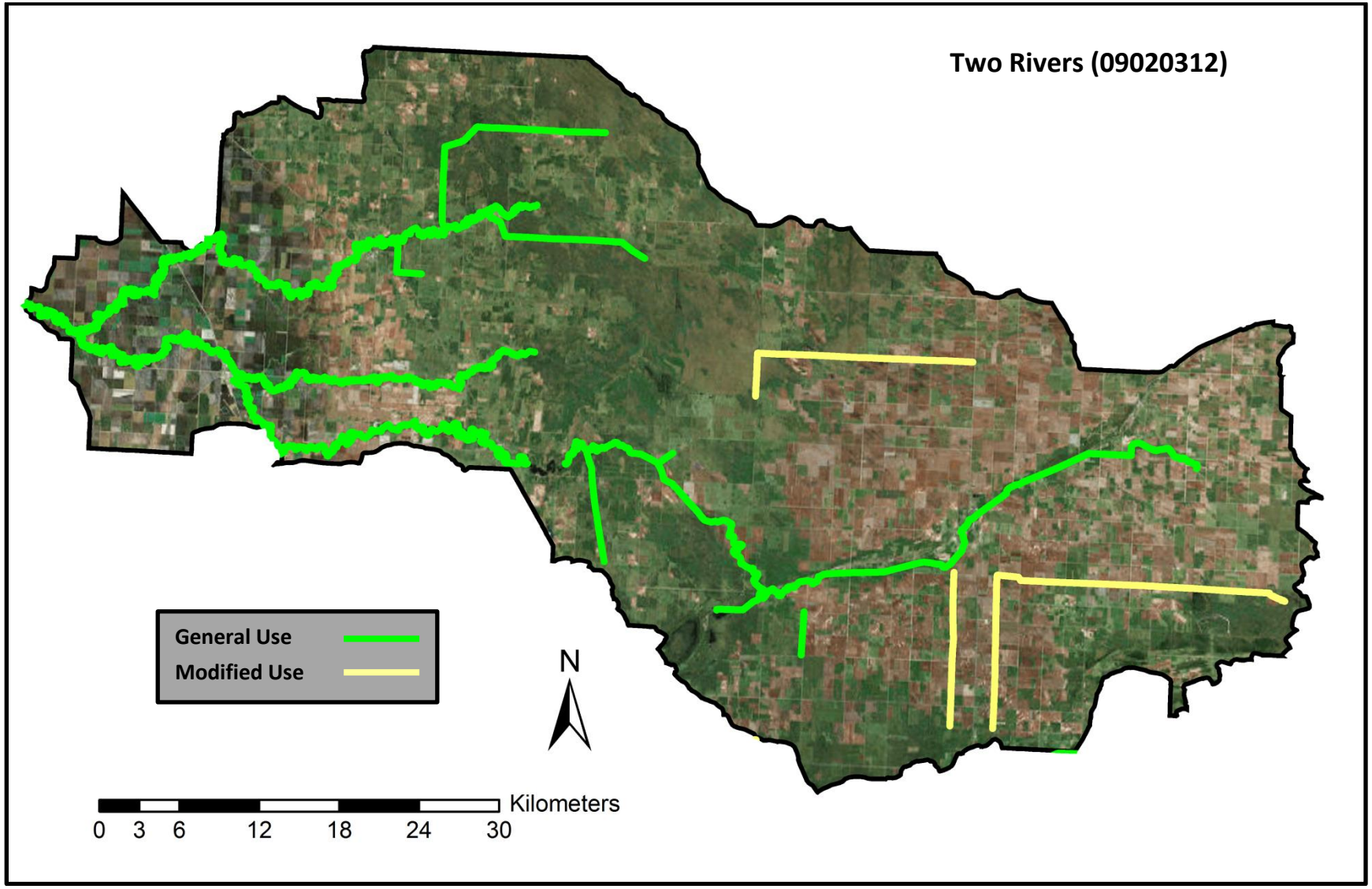

Mississippi River - Headwaters (07010101)
Exceptional Use
General Use
Modified Use
N
Kilometers
0 4 8 16 24 32 40


Rum (07010207)
General Use
Modified Use
N
Kilometers
0 3 6 12 18 24 30


Minnesota River - Mankato (07020007)
General Use
Modified Use
N
0 4 8 16 24 32 40
Kilometers


Watonwan (07020010)
General Use
Modified Use
N
Kilometers
0 3 6 12 18 24 30


Snake (09020309)
General Use
Modified Use
N
0 3 6 12 18 24 30
Kilometers


Two Rivers (09020312)
General Use
Modified Use
N
Kilometers
0 3 6 12 18 24 30

C. Appendix C: Example of 7050.0470 table for streams within a Hydrological Unit Code (HUC) 8 Watershed

Beneficial Use Legend

1A	Domestic Consumption (does not require treatment)
1B	Domestic Consumption (requires moderate treatment)
1C	Domestic Consumption (requires heavy treatment)
2Ae	Aquatic Life and Recreation - Exceptional Cold Water Habitat (streams)
2Ag	Aquatic Life and Recreation - General Cold Water Habitat (lakes and streams)
2Bde	Aquatic Life and Recreation also protected as a source of drinking water - Exceptional Warm Water Habitat (streams)
2Bdg	Aquatic Life and Recreation also protected as a source of drinking water - General Warm Water Habitat (lakes and streams)
2Bdm	Aquatic Life and Recreation also protected as a source of drinking water - Modified Warm Water Habitat (streams)
2Be	Aquatic Life and Recreation - Exceptional Warm Water Habitat (streams)
2Bg	Aquatic Life and Recreation - General Warm Water Habitat (lakes and streams)
2Bm	Aquatic Life and Recreation - Modified Warm Water Habitat (streams)
2C	Aquatic Life and Recreation - Indigenous aquatic life and their habitats
2D	Aquatic Life and Recreation -Wetlands
3A	Industrial Consumption (no treatment)
3B	Industrial Consumption (moderate treatment)
3C	Industrial Consumption (heavy treatment)
3D	Industrial Consumption (wetlands - moderate treatment)
4A	Agriculture and Wildlife (irrigation)
4B	Agriculture and Wildlife (livestock and wildlife)
4C	Agriculture and Wildlife (wetlands - livestock and wildlife)
5	Aesthetic Enjoyment and Navigation
6	Other Uses
7	Limited Resource Value Water
ORVW	[month/day/year/letter code] following the name of the outstanding resource value water in brackets is the effective date the water resource was designated as an outstanding resource value water. The letter code (P or R) indicates the applicable discharge restrictions in Minn. R. 7050.0180. The letter code P corresponds to the prohibited discharges provision in Minn. R. 7050.0180, subpart 3. The letter code R corresponds to the restricted discharges provision in Minn. R. 7050.0180, subpart 6.

Beneficial use designations for stream reaches[‡] in the Red River of the North - Grand Marais Creek Watershed (09020306) (Table created September 5, 2014).

Reach Name and Description[#]	Water-body ID	Uses	√[#]	ORVW
County Ditch 126 - Unnamed cr to Grand Marais Cr	09020306-511	2Bg, 3C, 4A, 4B, 5, 6	*	
County Ditch 2 - CD 66 to Grand Marais Cr	09020306-515	2Bm, 3C, 4A, 4B, 5, 6	+	
County Ditch 43 (Judicial Ditch 75) - Unnamed ditch to CD 7	09020306-517	2Bm, 3C, 4A, 4B, 5, 6	+	
County Ditch 66 - Headwaters to CD 2	09020306-514	2Bg, 3C, 4A, 4B, 5, 6	*	
County Ditch 7 - CD 43 to Unnamed ditch	09020306-518	2Bg, 3C, 4A, 4B, 5, 6	*	
Grand Marais Creek - CD 2 to Red R	09020306-512	2Bg, 3C, 4A, 4B, 5, 6	*	
Grand Marais Creek - Headwaters to CD 2	09020306-507	2Bg, 3C, 4A, 4B, 5, 6	*	
Grand Marais Creek - Diversion ditch to Red R	09020306-513	2Bg, 3C, 4A, 4B, 5, 6	*	
Judicial Ditch 1 - County Ditch 7 to Red River	09020306-519	2Bg, 3C, 4A, 4B, 5, 6	*	
Judicial Ditch 75 - County Ditch 7 to Red River	09020306-520	2Bm, 3C, 4A, 4B, 5, 6	+	
Red River of the North - English Coulee (ND) to Grand Marais Cr	09020306-502	1C, 2Bdg, 3C, 4A, 4B, 5, 6	*	
Red River of the North - Grand Marais Cr to North Marais R (ND)	09020306-501	1C, 2Bdg, 3C, 4A, 4B, 5, 6	+	
Red River of the North - Snake R to Park R (ND)	09020306-505	1C, 2Bdg, 3C, 4A, 4B, 5, 6	*	
Red River of the North - Forest R (ND) to Snake R	09020306-504	1C, 2Bdg, 3C, 4A, 4B, 5, 6	*	
Red River of the North - North Marais R (ND) to Forest R (ND)	09020306-503	1C, 2Bdg, 3C, 4A, 4B, 5, 6	*	
Unnamed creek (County Ditch 44) - Headwaters to CD 7	09020306-516	2Bg, 3C, 4A, 4B, 5, 6	*	
Unnamed creek (Red Lake Watershed Ditch 15) - Headwaters to CD 66	09020306-509	2Bg, 3C, 4A, 4B, 5, 6	*	
Unnamed ditch - Headwaters to CD 66	09020306-510	2Bg, 3C, 4A, 4B, 5, 6	*	

[‡] ***Some stream miles within the watershed have not been assigned their own water-body identification. These water bodies are not included in the use table, but they are labeled xxxxxxxx-999 in the Minnesota Pollution Control's databases. The default uses (2Bg, 3C, 4A, 4B, 5, 6) apply to these waters.***

[#] ***Abbreviations: * = Tiered aquatic life use review has not been performed; + = use confirmed; f = use confirmed by fish only; m = use confirmed by macroinvertebrates only; WR = Wild Rice water; CD = County Ditch; JD = Judicial Ditch; R = River; Cr = Creek; Bk = Brook; Lk = Lake; N = North; S = South; W = West; E = East; Fk = Fork; Br = Branch; M = Middle; ND = North Dakota.***