

April 24, 2017

VIA E-FILING ONLY

Kevin Molloy
Minnesota Pollution Control Agency
520 Lafayette Rd N
Saint Paul, MN 55155
kevin.molloy@state.mn.us

**Re: In the Matter of the Proposed Amendments to MPCA Water Quality Standards Relating to Tiered Aquatic Life Uses and Modification of Class 2 Beneficial U
OAH 5-9003-33998; Revisor R-4237**

Dear Mr. Molloy:

Enclosed herewith and served upon you is the **REPORT OF THE ADMINISTRATIVE LAW JUDGE** in the above-entitled matter. The Administrative Law Judge has determined there are no negative findings in these rules.

The Office of Administrative Hearings has closed this file and will return the rule record under separate cover so that the Minnesota Pollution Control Agency can maintain the official rulemaking record in this matter as required by Minn. Stat. § 14.365. Please ensure that the agency's signed order adopting the rules is filed with our office. The Office of Administrative Hearings will request copies of the finalized rules from the Revisor's office following receipt of that order. Our office will then file four copies of the adopted rules with the Secretary of State, who will forward one copy to the Revisor of Statutes, one copy to the Governor, and one to the agency for its rulemaking record. The Agency will then receive from the Revisor's office three copies of the Notice of Adoption of the rules.

The Agency's next step is to arrange for publication of the Notice of Adoption in the State Register. Two copies of the Notice of Adoption provided by the Revisor's office should be submitted to the State Register for publication. A permanent rule with a hearing does not become effective until five working days after a Notice of Adoption is published in the State Register in accordance with Minn. Stat. § 14.27.

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If you have any questions regarding this matter, please contact Katie Lin at (651) 361-7911 or katie.lin@state.mn.us.

Sincerely,

A handwritten signature in black ink, appearing to read 'JM', followed by a long, wavy horizontal line extending to the right.

JIM MORTENSON
Administrative Law Judge

Enclosure

cc: Office of the Governor
Legislative Coordinating Commission
Revisor of Statutes

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS

In the Matter of the Proposed Amendments
to Minnesota Pollution Control Agency
Rules, Chapters 7050 and 7052, Relating to
Water Quality Standards and Tiered Aquatic
Life Uses

**REPORT OF THE
ADMINISTRATIVE LAW JUDGE**

This matter came before Administrative Law Judge Jim Mortenson for a rulemaking hearing on February 16, 2017. The public hearing was based at the Minnesota Pollution Control Agency (MPCA or Agency), 520 Lafayette Road North, Saint Paul, Minnesota, and connected via interactive television to the MPCA offices at: 525 Lake Avenue South, Duluth; 714 Lake Avenue, Detroit Lakes; and 504 Fairground Road, Marshall, Minnesota.

The MPCA proposes to amend its rules relating to water quality standards and tiered aquatic life uses. The intent of the proposed changes is to modernize the water quality standards for Class 2, lotic waters in the state in order to provide better management and protection of the state's rivers, streams, and other moving waters.

The hearing and this Report are part of a larger rulemaking process conducted under the authority of the Minnesota Administrative Procedure Act¹. The Minnesota Legislature designed this process to ensure that state agencies and regulatory boards have met all of the established requirements for adopting administrative rules.

The hearing was conducted to permit the MPCA to give a public summary of its proposed changes and to facilitate public comment regarding the impact of the proposed rules and any changes to the proposal that might be appropriate. The hearing process provides the general public an opportunity to review, discuss, and critique the proposed rules with the MPCA.

The MPCA must establish that the proposed rules are necessary and reasonable; the rules are within the agency's statutory authority; and any modifications that the agency may have made after the proposed rules were initially published in the *State Register* are within the scope of the matter that was originally announced.²

During the prehearing public comment period, 17 unique written comments or requests for hearing were received.³ In addition, two sets of comments and requests for

¹ Minn. Stat. ch. 14 (2016).

² See, Minn. Stat. §§ 14.05 and 14.50 (2016).

³ Exhibits (Exs.) I.1 through I.17. I.16 is a corrected version of I.15 submitted by the commenter.

hearing were received which contained identical content.⁴ Exhibit I.18 consists of identical letters from 147 individuals. Exhibit I.19 consists of identical letters from 181 individuals.

On February 16, 2017, the MPCA panel at the public hearing included: R. William Bouchard, Ph.D., Research Scientist; Jean Coleman, Staff Attorney; and Kevin Malloy, Rulemaking Coordinator. At least 32 people attended the hearing and signed the hearing register. Following a presentation by Dr. Bouchard, the proceedings continued until all interested persons, groups, or associations had an opportunity to be heard concerning the proposed rules. Nine individuals had questions or comments on the proposed rules, several of which also submitted written comments during or before the hearing. The four written comments submitted at the hearing are labeled Exhibits L.9 through L.12.⁵

After the hearing, the rulemaking record remained open for another 20 working days, until March 17, 2017, to permit interested persons and the MPCA to submit written comments. Four written comments were received during this period.⁶ Following the initial comment period, the hearing record was open an additional five business days to permit interested parties and the MPCA an opportunity to reply to earlier-submitted comments. One organization filed reply comments.⁷ The hearing record closed on March 24, 2017.

SUMMARY OF CONCLUSIONS

The MPCA has established that it has the statutory authority to adopt the proposed rules, that it complied with applicable procedural requirements, and that the proposed rules are necessary and reasonable.

Based upon all the testimony, exhibits, and written comments, the Administrative Law Judge makes the following:

FINDINGS OF FACT

I. Regulatory Background to the Proposed Rules

1. Water quality standards (WQS) are a fundamental tool of the federal Clean Water Act (CWA).⁸ WQS are required to be adopted and implemented by all states.⁹

⁴ Exs. I.18 and I.19.

⁵ Ex. L.9 is Letter from Lenczewski to Bouchard (Feb. 16, 2017); Ex. L.10 is Letter from Johnson to Administrative Law Judge and Bouchard (Feb. 16, 2017); Ex. L.11 is Comments Regarding MPCA's Draft TALU Regulation, Bruce Johnson (Dec. 23, 2017); and Ex. L.12 is Letter from Callahan to Bouchard (Feb. 2, 2017).

⁶ These comments are labeled: Ex. M.1, from White Iron Chain of Lakes Association (Mar. 15, 2017); Ex. M.2, from Minnesota Conservation and Civic Groups (Mar. 16, 2017); Ex. M.3, from Minnesota Cities Stormwater Coalition (Mar. 17, 2017); and M.4, from Howard Markus, Woodbury, MN (Mar. 17, 2017).

⁷ Ex. N.1, from the Minnesota Chamber of Commerce (Mar. 24, 2017).

⁸ Transcript (Tr.) 20; 33 U.S.C. § 1313 (2012).

⁹ *Id.*; Tr. 23.

2. States are responsible for classifying water bodies within their territory by beneficial uses.¹⁰ Minnesota has 80 major watersheds.¹¹ The waters in these watersheds are classified into seven beneficial use categories.¹² The seven beneficial uses are:

- Class 1: Drinking water
- Class 2: Aquatic life and recreation
- Class 3: Industrial use and cooling
- Class 4: Agricultural and wildlife use
- Class 5: Aesthetics and navigation
- Class 6: Other uses
- Class 7: Limited resource value¹³

3. WQS are used as benchmarks to help measure whether a particular area of water is improving or degrading, and what changes need to be made to further protect the water or be more liberal in its use.¹⁴

4. The proposed amendments to Minnesota Rules chapters 7050 and 7052 relate to adding Tiered Aquatic Life Uses (TALU) as a means of evaluating the biologic health of lotic waters (streams and other moving waters), in order to better classify and protect such waters. The result of adding TALU, which are based on new, additional WQS, referred to as Indexes of Biological Integrity (IBIs), leads to more specific Class 2 (aquatic life and recreation) use designations.¹⁵

5. Outreach to the public for developing the rules proposal began in January 2009.¹⁶ At that time, five informational meetings were held around the state to let stakeholders know that the MPCA was interested in pursuing using TALU and obtaining feedback.¹⁷ In February and March 2009 additional meetings were held with different sectors that would be potentially impacted by the TALU framework.¹⁸ In June 2013 the MPCA held a webcast informational meeting concerning a document that described an implementation framework for the TALU rule.¹⁹ In December 2015 draft rule language was made available and in June 2016 a presentation was made at the MPCA Advisory Committee meeting concerning the draft.²⁰ Since 2009 MPCA staff have taken other opportunities to present and discuss TALU.²¹

¹⁰ Tr. 20-21; 33 U.S.C. § 1313(c)(2)(A).

¹¹ Tr. 34.

¹² Tr. 21; Ex. L.4.

¹³ Ex. L.4

¹⁴ Tr. 22.

¹⁵ Ex. D at 13.

¹⁶ Tr. 39-40.

¹⁷ Tr. 40.

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ Tr. 40-41.

²¹ Tr. 41.

6. Minn. R. ch. 7050 contains the WQS for protection of waters of the state.²²

7. Minn. R. ch. 7052 contains the WQS for protection of the Lake Superior Basin.²³

II. Rulemaking Authority

8. Minn. Stat. §§ 115.03, subd. 5, .44, subd. 4 (2016) provide the MPCA the authority to promulgate rules as necessary to carry out and make effective the provisions and purposes of Minn. Stat. §§ 115.41-.53 (2016). This authority also enables the state to comply with the CWA.²⁴

III. Procedural Requirements of Chapter 14

A. Publications and Filings

9. On August 25, 2014, the MPCA published its Request for Comments (RFC) in the State Register.²⁵

10. On August 25, 2014, the MPCA also notified interested parties who are subscribed to the TALU Rulemaking GovDelivery list of the RFC.²⁶ As of December 15, 2016, there were nearly 2,100 subscribers to that list.²⁷

11. On August 25, 2014, the MPCA posted the RFC on its Public Notices webpage at <https://www.pca.state.mn.us/public-notice>.²⁸

12. On August 25, 2014, the MPCA posted and published a “plain language” version of the RFC, together with an explanatory “TALU Concept Plan,” on the MPCA’s TALU webpage at <https://www.pca.state.mn.us/water/tiered-aquatic-life-use-talu-framework>.²⁹

13. On October 14, 2016, the MPCA provided the Commissioner of Agriculture and Department of Agriculture staff a copy of the proposed rule amendments and a draft Statement of Need and Reasonableness (SONAR).³⁰

²² Ex. D at 18; Minn. R. 7050.0110 (2015).

²³ Ex. D at 18; Minn. R. 7052.0005 (2015).

²⁴ 33 U.S.C. § 1313.

²⁵ Ex. A; Ex. D. at 79; Ex. S-71.

²⁶ Ex. D at 79.

²⁷ *Id.*

²⁸ *Id.*

²⁹ *Id.*

³⁰ Ex. K.1. The MPCA maintains that these rules do not directly affect farming operations, but that it took steps to comply with Minn. Stat. § 14.111 (2016) because the rules will impact drainage ditches that are used in farm management. The Administrative Law Judge finds that the relationship between the proposed rules and drainage ditches used in farm operations demonstrates the rules do have an effect on farming operations and thus, pursuant to Minn. Stat. § 14.111, the notification provided to the Commissioner of Agriculture was required.

14. On October 14, 2016, the Commissioner of the MPCA sent a letter to the Commissioner of Minnesota Management and Budget (MMB), together with the proposed rule amendments and SONAR.³¹ The MPCA soon learned that the MMB staff person who routinely conducts the consultation required by Minn. Stat. § 14.131 (2016) no longer worked at MMB.³² MPCA staff followed up with MMB on December 7-8, 2016, to ascertain the new MMB staff person who would be handling the consultation.³³ As of February 8, 2017, the MPCA had received no additional communication from MMB on the proposed rule amendments.³⁴ This failure did not deprive any person or entity an opportunity to participate meaningfully in the rulemaking process. MMB serves as a level of oversight, pursuant to Minn. Stat. § 14.131, and never took a substantive interest in these rules.

15. On December 19, 2016, the MPCA published the SONAR, its approved Dual Notice, and the proposed rules in the *State Register*.³⁵

16. On December 19, 2016, the MPCA e-mailed the SONAR, its approved Dual Notice, and the proposed rules to all persons subscribed to the GovDelivery TALU rulemaking list, tribal authorities and designated contact persons of Minnesota's tribal communities, Minnesota Soil and Water Conservation Districts, and Minnesota Watershed Districts.³⁶

17. As of December 19, 2016, there were no persons registered to receive MPCA rulemaking notices via U.S. Mail.³⁷

18. On December 19, 2016, the MPCA mailed a copy of the Dual Notice, the SONAR, and the proposed rule amendments to legislators who are chairs and ranking minority party members of the legislative policy and budget committees with jurisdiction over the subject matter in the proposed rule amendments, and the Legislative Coordinating Commission.³⁸

19. On December 19, 2016, the MPCA sent an e-mail to each Minnesota city mayor and county chairperson whose information was obtained from lists purchased from the League of Minnesota Cities and the Association of Minnesota Counties.³⁹ The e-mails included a hyperlink to the MPCA's Dual Notice, the SONAR, and the proposed rule amendments.⁴⁰ A mailing list purchased from the Association of Minnesota Townships was used to send the same information to each township clerk.⁴¹

³¹ K.4.

³² *Id.*

³³ *Id.*

³⁴ *Id.*

³⁵ Ex. F.2. Administrative Law Judge Jim Mortenson approved the MPCA's Additional Notice Plan and Dual Notice by Order dated November 29, 2016.

³⁶ Exs. G, H.

³⁷ Ex. G.

³⁸ Ex. K.2.

³⁹ Ex. K.3.

⁴⁰ *Id.*

⁴¹ *Id.*

20. In its December 19, 2016 notifications, the MPCA requested comments on the proposed rules be submitted by 4:30 p.m. on February 2, 2017, 45 days later.⁴²

21. By February 3, 2017, the MPCA had received individual comments from 16 people or organizations.⁴³ The MPCA also received two sets of letters from individuals, each set with identical content.⁴⁴

22. More than 25 people requested a hearing.⁴⁵ On February 3, 2017, a Notice of Hearing was sent to all persons who had requested a hearing.⁴⁶

B. The Notice

23. The Dual Notice (Notice) states the MPCA intends to adopt rules without a public hearing unless 25 or more people request a hearing.⁴⁷ The Notice identified the rules to be amended and the parts of Minnesota Statutes chapter 14 (Minn. Stat. §§ 14.22 to .28) and Minnesota Rules chapter 1400 (Minn. R. 1400.2300 to .2310) that it must follow.⁴⁸

24. The Notice includes a citation to Minn. Stat. §§ 115.03 and .44 as the authority for the proposed rules.⁴⁹

25. The Notice includes descriptions of the various locations and means of viewing the proposed rules, and a description of the nature and effect of the proposed rules.⁵⁰

26. The Notice states that the SONAR is available to the public and describes how to obtain or view it; that the SONAR contains a summary of the justification for the proposed rule amendments, including who will be affected by the proposed rules; and that it includes an estimate of the probable cost of the proposed rule amendments.⁵¹

27. The Notice states that the proposed rule amendments may be modified if the modifications are supported by the information and comments submitted to the MPCA or presented at the hearing and do not make the proposed rules substantially different from what the agency originally proposed.⁵²

⁴² Exs. H, F.1., F.2., K.3.

⁴³ Exs. I.1 through I.17.

⁴⁴ Exs. 1.18 (147 letters), I.19 (181 letters).

⁴⁵ Ex. K.5.

⁴⁶ *Id.*

⁴⁷ Exs. F.1, F.2.

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² *Id.*

28. The Notice states that persons may register with the MPCA to receive notice of future rule proceedings.⁵³

29. The Commissioner of the MPCA, John Linc Stine, signed the Notice on December 5, 2016.⁵⁴

30. The Notice states that the public may comment in support of or in opposition to the proposed rule amendments, or specific parts thereof, and that comments are encouraged.⁵⁵ The Notice also advises that comments should identify the portion of the rules being addressed, any changes proposed, and the reason for the comment or proposed changes.⁵⁶ The Notice states that comments on the legality of the rules must be submitted during the initial comment period prior to the possible public hearing.⁵⁷

31. The Notice states that if 25 or more persons submit a written request for a hearing during the comment period, a public hearing will be held on February 16, 2017, at 3:30 p.m.⁵⁸

32. The Notice states that requests for hearing must include identification of the portion of the proposed rules the person objects to, or that the person may object to the entire proposal, and that a request lacking this information is invalid and will not count toward determining whether a hearing will be held.⁵⁹ The Notice also states that the reasons for the request and proposed changes are encouraged.⁶⁰

33. The Notice includes instructions on how comments and requests for hearing are to be submitted and to whom at the MPCA they are to be sent, including an e-mail address.⁶¹

34. The Notice states that if a public hearing is held, the MPCA will proceed under Minn. Stat. §§ 14.131 to 14.20.⁶²

35. The Notice states that if no hearing is required, the MPCA may adopt the proposed rules after the comment period, and then submit them, and all evidence, to the Office of Administrative Hearings for review of legality.⁶³ The Notice also states that persons may request to be notified of the date the proposed rule amendments are submitted to the Office of Administrative Hearings and how to make that request.⁶⁴

⁵³ *Id.*

⁵⁴ Exs. F.1, F.2.

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ *Id.*

⁶² *Id.*

⁶³ *Id.*

⁶⁴ *Id.*

36. The Notice identifies the date, time and location of the hearing in this matter.⁶⁵ The Notice also informs that all interested persons will have an opportunity to participate and that the hearing will be held, simultaneously, at four locations around the state, including in St. Paul, Duluth, Detroit Lakes, and Marshall.⁶⁶ The Notice states that hearing attendees will be able to hear, see, and speak at the hearing.⁶⁷ The notice also includes the name of the Judge and the address and phone number for the Judge's legal assistant.⁶⁸

37. The Notice states that persons will have the opportunity to submit written comments and reply comments after the hearing, pursuant to Minn. R. 1400.2230 (2015).⁶⁹

38. The Notice states that anyone may request to be notified of the date on which the Judge's report will become available and that the request can be made at the hearing or in writing.⁷⁰

39. The Notice states that people may ask to be notified when the MPCA adopts the rules and files them with the Secretary of State, and how to do so.⁷¹

40. The Notice states that lobbyists must register with the State Campaign Finance and Public Disclosure Board (Board) and that questions should be referred to the Board, and the Board's address and telephone number.⁷²

41. The Notice includes an order that the rulemaking hearing will be held at the stated time, date, and locations.⁷³

C. The SONAR

42. The SONAR, published December 19, 2016, includes a description of the classes of persons who probably will be affected by the proposed rules, including classes that will bear the costs of the proposed rules and classes that will benefit from the proposed rules. The SONAR states that all citizens of the state will benefit from the proposed rule amendments, there will be a general cost savings for governments and those who pay for water treatment, and additional revenues for individuals, businesses and government will be generated by higher property values, recreational spending, and

⁶⁵ Exs. F.1, F.2.

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² *Id.*

⁷³ *Id.*

increased numbers of jobs. The SONAR states additional costs are not expected to result for any class of persons.⁷⁴

43. The SONAR states the probable costs of enforcement of the proposed rules to the MPCA and to any other agency will be reduced overall. If a discharge permittee on an Exceptional Use designated stream is well below its permitted effluent limit, the MPCA may need to determine if increasing pollutant loads to the permit limit could threaten the Exceptional Use designation. This situation could result in an increased cost of \$3,106 per review to the MPCA. However, according to the SONAR, the MPCA is unaware of any permitted discharger who will pose such a risk to an Exceptional Use designation.⁷⁵

44. The SONAR states there are no less costly methods or less intrusive methods for achieving the purpose of the proposed rules.⁷⁶

45. The SONAR includes two descriptions of alternative methods for achieving the purpose of the proposed rules that were seriously considered by the MPCA and the reasons why they were rejected in favor of the proposed rules.⁷⁷

46. The SONAR includes a detailed analysis and explanation of the probable costs of complying with the proposed rules, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as governmental units and discharge permittees. The impact varies based on the classification of the stream involved: general use, exceptional use, or modified use.⁷⁸

47. The SONAR describes, in general, the probable costs or consequences of not adopting the proposed rules, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals, and which are addressed in description of classes of people affected by the proposed rule amendments.⁷⁹

48. The SONAR includes a detailed assessment of how the proposed rules implement existing federal regulations, how it improves the current WQS, and a specific analysis of the need for and reasonableness of each proposal.⁸⁰

49. The SONAR includes an assessment of the cumulative effect of the rules with other federal and state regulations related to the specific purpose of the rules and reasonableness of each difference.⁸¹ The SONAR also explains how the regulatory program (the TALU framework) emphasizes superior achievement of the MPCA's

⁷⁴ Ex. D at 62-63.

⁷⁵ Ex. D at 63-64.

⁷⁶ Ex. D at 64.

⁷⁷ *Id.* at 64-65.

⁷⁸ *Id.* at 82-90.

⁷⁹ *Id.* at 62-63, 66.

⁸⁰ Ex. D.

⁸¹ *Id.* at 67-68.

objectives in protecting the water quality of Minnesota’s lotic waters and adding flexibility for regulated parties in meeting those goals by removing a “one-size-fits-all” framework.⁸²

50. The SONAR includes an assessment of the differences between the proposed rules, existing federal standards adopted under the relevant provisions of the CWA, similar standards in states bordering Minnesota, and similar standards in states within the Environmental Protection Agency Region 5.⁸³

51. The SONAR describes the MPCA’s Environmental Justice Policy, which is designed to ensure the agency provides “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.”⁸⁴

D. Documents Required for Hearing Record

52. At the hearing on February 16, 2017, the MPCA filed copies of the following documents, as required by Minn. R. 1400.2220 (2015):

- (a) the MPCA’s Request for Comments published in the *State Register* on August 25, 2014;⁸⁵
- (b) the proposed rules dated September 26, 2016, including the Revisor’s approval;⁸⁶
- (c) the SONAR;⁸⁷
- (d) the Certificate of Furnishing the SONAR to the Legislative Reference Library on December 19, 2016;⁸⁸
- (e) the Dual Notice as mailed, posted on MPCA webpages, and as published in the *State Register* on December 19, 2016;⁸⁹
- (f) the Certificate of Mailing the Dual Notice to the rulemaking mailing list on December 19, 2016;⁹⁰
- (g) the Certificate of Giving Additional Notice Pursuant to the Additional Notice Plan on December 19, 2016;⁹¹
- (h) the written comments on the proposed rules that the MPCA received during the comment period that followed the Dual Notice;⁹²
- (i) the Certificate of Compliance with Minnesota Statutes, Section 14.111, Regarding Farming Operations on October 14, 2016;⁹³

⁸² *Id.* at 15-18, 68.

⁸³ Ex. D at 66-67, 69-71.

⁸⁴ *Id.* at 74-79.

⁸⁵ Ex. A.

⁸⁶ Ex. C.

⁸⁷ Ex. D.

⁸⁸ Ex. E.

⁸⁹ Exs. F.1, F.2.

⁹⁰ Ex. G.

⁹¹ Ex. H.

⁹² Exs. I.1 – I.19.

⁹³ Ex. K.1.

- (j) the Certificate of Sending the Dual Notice and the Statement of Need and Reasonableness to Legislators and the Legislative Coordinating Commission on December 19, 2016;⁹⁴
- (k) the Certificate of Mailing the Dual Notice to Municipalities on December 19, 2016;⁹⁵
- (l) the Certificate of Compliance with Minnesota Statutes, Section 14.131, Regarding Consultation with Minnesota Management and Budget;⁹⁶ and
- (m) the Certificate of Mailing a Notice of Hearing to Those Who Requested a Hearing on February 6, 2017.⁹⁷

E. Cost to Small Businesses and Cities under Minn. Stat. § 14.127 (2016)

53. The MPCA determined that no costs will be associated with compliance of the proposed rules for any small business or small city.⁹⁸

F. Adoption or Amendment of Local Ordinances

54. The MPCA has determined that the proposed amendments will not have any effect on local ordinances or regulations.⁹⁹

G. External Peer Review of WQS

55. The MPCA's technical tools, procedures for determining and incorporating TALUs into current biological framework, assessment work, and implementation plan for TALUs were nearly complete before Minn. Stat. § 115.035 went into effect August 1, 2015. Thus, an external peer review panel was not convened in this matter.¹⁰⁰

V. Rule by Rule Analysis

A. Minn. R. 7050.0140, subp. 3 – Class 2 waters, aquatic life and recreation

56. The MPCA proposes to change Minn. R. 7050.0140, subp. 3 – Class 2 waters, aquatic life and recreation. The differences are noted with underlining (additions) and strikeouts (deletions) below:

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

⁹⁴ Ex. K.2.

⁹⁵ Ex. K.3.

⁹⁶ Ex. K.4.

⁹⁷ Ex. K.5.

⁹⁸ Ex. D at 83-89.

⁹⁹ *Id.* at 73.

¹⁰⁰ *Id.*; See Minn. Stat. § 115.035(a) (2016).

is or may be necessary to protect aquatic or terrestrial life or their habitats or the public health, safety, or welfare.¹⁰¹

57. The MPCA seeks this amendment because, while it does not change the meaning of the terms used, the language change uses a phrase that will be consistent with other parts of the rules and the CWA, and will be clearer.¹⁰²

B. Minn. R. 7050.0150, subp. 3 – Narrative Standards

58. The MPCA proposes to change Minn. R. 7050.0150, subp. 3 – Narrative Standards, as follows:

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~~ aquatic biota normally present shall not be prevented or hindered by the discharge of any sewage, industrial waste, or other wastes to the waters.¹⁰³

59. The MPCA seeks this amendment because it does not change the meaning of the terms used, and it believes the language change is a reasonable clarification and uses a phrase that will be consistent with other parts of the rules and the CWA.¹⁰⁴

C. Minn. R. 7050.0150, subp. 3a – Assessment Criteria

60. The MPCA proposed to add Minn. R. 7050.0150, subp. 3a – Assessment Criteria to provide clarification.¹⁰⁵ Based on comments stating that the proposed amendment did not provide clarification, the MPCA has withdrawn the amendment.¹⁰⁶

D. Minn. R. 7050.0150, subp. 4 – Definitions

61. The MPCA had proposed to add seven definitions to Minn. R. 7050.0150, subp. 4, delete one definition, and make minor modifications to three other definitions.¹⁰⁷ The additions, as well as the basis for each, are as follows:

¹⁰¹ Ex. C at 1.

¹⁰² Ex. D at 52.

¹⁰³ Ex. C at 1.

¹⁰⁴ Ex. D at 52.

¹⁰⁵ Ex. C at 1-2; Ex. D at 53.

¹⁰⁶ MPCA Post-Hr'g Response to Comments Mem. at 3 (Mar. 17, 2017).

¹⁰⁷ Ex. C. at 2-9

C. “Aquatic biota” means the aquatic community composed of game and nongame fish, minnows and other small fish, mollusks, insects, crustaceans and other invertebrates, submerged or emergent rooted vegetation, suspended or floating algae, substrate-attached algae, microscopic organisms, and other aquatic-dependent organisms that require aquatic systems for food or to fulfill any part of their life cycle, such as amphibians and certain wildlife species.¹⁰⁸

This definition was added to more accurately reflect Minnesota and federal goals for the protection of aquatic life and create more consistency throughout Minn. R. ch. 7050.¹⁰⁹

D. “Assemblage” means a taxonomic subset of a biological community such as fish in a stream community.¹¹⁰

This definition was added to provide clarity in the rule.¹¹¹

E. “Biological condition gradient” means a concept describing how aquatic communities change in response to increasing levels of stressors. In application, the biological condition gradient is an empirical, descriptive model that rates biological communities on a scale from natural to highly degraded.¹¹²

This definition was added because it is a phrase used in the application of the TALU framework. The definition is based on accepted understanding of the phrase among water resource professionals.¹¹³

F. “Biological criteria, narrative” or “biocriteria, narrative” means written statements describing the attributes of the structure and function of aquatic assemblages in a water body necessary to protect the designated aquatic life beneficial use. The singular form “biological criterion, narrative” or “biocriterion, narrative” may also be used.¹¹⁴

This definition was added because these phrases are commonly used to describe statements defining goals for designated aquatic life uses. The definition is based on accepted understanding of the phrases among water resource professionals.¹¹⁵

¹⁰⁸ Ex. C. at 2.

¹⁰⁹ Ex. D. at 53.

¹¹⁰ Ex. C. at 2.

¹¹¹ Ex. D at 53.

¹¹² Ex. C. at 2-3.

¹¹³ Ex. D. at 54.

¹¹⁴ Ex. C at 3.

¹¹⁵ Ex. D. at 54.

G. “Biological criteria, numeric” or “biocriteria, numeric” means specific quantitative measures of the attributes of the structure and function of aquatic communities in a water body necessary to protect the designated aquatic life beneficial use. The singular form “biological criterion, numeric” or “biocriterion, numeric” may also be used.¹¹⁶

This definition was added because these phrases are commonly used to describe quantitative measures defining goals for designated aquatic life uses. The definition is based on accepted understanding of the phrases among water resource professionals.¹¹⁷

LL. “Use attainability analysis” means a structured scientific assessment of the physical, chemical, biological, and economic factors affecting attainment of the uses of water bodies. A use attainability analysis is required to remove a designated use specified in section 101(a)(2) of the Clean Water Act that is not an existing use. The allowable reasons for removing a designated use are described in Code of Federal Regulations, title 40, section 131.10(g).¹¹⁸

This definition was added because the TALU framework establishes a system for the reclassification of waters, and the basis for reclassification is the use attainability analysis (UAA). The definition is based on the general understanding of the phrase by water resource professionals and the regulatory expectations of the United States Environmental Protection Agency (EPA).¹¹⁹

NN. “Water body type” means a group of water bodies with similar natural physical, chemical, and biological attributes, where the characteristics are similar among water bodies within each type and distinct from water bodies of other types.¹²⁰

This definition was added because the rule 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. This definition is based on the general understanding of the phrase as it is applied in the scientific literature and TALU programs in other states.¹²¹

62. The deleted definition was at Minn. R. 7050.0150, subp. 4 (I) – “Fish and other biota” and “lower aquatic biota.”¹²² This definition was deleted as a result of the addition of the phrase “aquatic biota” which more accurately reflects state and federal

¹¹⁶ Ex. C at 3.

¹¹⁷ Ex. D at 54.

¹¹⁸ Ex. C at 8-9.

¹¹⁹ Ex. D at 55.

¹²⁰ Ex. C at 9.

¹²¹ Ex. D at 55.

¹²² Ex. C at 4.

goals for the protection of aquatic life, and creates consistency throughout Minn. R. ch. 7050.¹²³

63. The modifications to Minn. R. 7050.0150, subp. 4, were proposed as follows:

~~L.P.~~ “Index of biotic integrity,” “index of biological integrity,” or “IBI” means...

~~R.V.~~ “Normal fishery aquatic biota” and “normally present” mean the fishery and other a healthy aquatic biota community expected to be present in the water body....

~~V.Z.~~ “Reference water body” means a water body minimally or least impacted by point or nonpoint sources of pollution that is representative of water bodies ~~in the same ecoregion or watershed.~~¹²⁴

These definitions were modified to add clarity and consistency, and to broaden the defined phrases used throughout the amended Minn. R. ch. 7050.¹²⁵

64. Based on comments to the proposed changes to Minn. R. 7050.0150, subp. 4, the MPCA proposes to add an additional definition:

S. “Lotic water” means a flowing or moving water body such as a stream, river, or ditch.

This definition was added to support other modifications which clarify the original intent of the rules that the TALU framework is applicable only to lotic (flowing) waters.¹²⁶

E. Minn. R. 7050.0150, subp. 6 – Impairment of biological community and aquatic habitat

65. The MPCA proposes the following changes to Minn. R. 7050.0150, subp. 6, in order to update terms, make them consistent throughout the rules, and provide clarity for the process used to develop biological criteria:

In evaluating whether the narrative standards in subpart 3, which prohibit serious impairment of the normal ~~fisheries and lower~~ aquatic biota ~~upon which they are dependent~~ and the use thereof, material alteration of the species composition, material degradation of stream beds, and the prevention or hindrance of the propagation and migration of ~~fish and other~~ aquatic biota normally present, are being

¹²³ Ex. D at 54.

¹²⁴ Ex. C at 4-6.

¹²⁵ Ex. D. at 54-55.

¹²⁶ MPCA Post-Hr’g Response to Comments Mem. at 4.

met, the commissioner will consider all readily available and reliable data and information for the following factors of use impairment:...

E. any other scientifically objective, credible, and supportable factors. A finding of an impaired condition must be supported by data for the factors listed in at least one of items A to C. The biological quality of any given surface water body will be assessed by comparison to the biological conditions determined for by the commissioner using a biological condition gradient model or a set of reference water bodies which best represents the most natural condition for that surface water body type within a geographic region.¹²⁷

F. Minn. R. 7050.0155 – Protection of Downstream Uses

66. Based on comments received following the hearing and the MPCA's intent to comply with federal requirements to protect downstream waters, the agency added the following amendment to the rules, which is accompanied by other revisions to explicitly include downstream use protection language:

Minn. R. 7050.0155 – Protection of Downstream Uses. All waters must maintain a level of water quality that provides for the attainment and maintenance of the water quality standards of downstream waters, including waters of another state.¹²⁸

G. Minn. R. 7050.0217, subp. 1 – Objectives for Protection of Surface Waters from Toxic Pollutants

67. The MPCA proposed amending Minn. R. 7050.0217, subp. 1, to use terms consistent with other changes to Minn. R. ch. 7050.¹²⁹ The proposal changes the phrase “fish and aquatic life” to “aquatic biota.”¹³⁰

H. Minn. R. 7050.0218, subp. 3 – Definitions

68. The MPCA proposed deleting the definition of “cold water fisheries” because the term will no longer be used in the rules and so does not require a definition.¹³¹

I. Minn. R. 7050.0218, subp. 4 – Adoption of USEPA national criteria

69. The MPCA proposed changing the language of this rule to remove references to Class 2C waters, a class being reassigned, and changing the term

¹²⁷ Ex. C at 9; Ex. D at 55-56.

¹²⁸ MPCA Post-Hr'g Response to Comments Mem. at 4.

¹²⁹ Ex. D at 56.

¹³⁰ Ex. C at 10.

¹³¹ *Id.*; Ex. D at 56.

“fisheries” to “habitats.”¹³² These language changes are the result of substantive changes made to the rules elsewhere, thereby resulting in a consistent rule.¹³³

J. Minn. R. 7050.0218, subp. 9 – Wildlife-based criteria

70. The MPCA proposed changing the language of this rule to remove references to Class 2C waters.¹³⁴

K. Minn. R. 7050.0218, subp. 10 – Applicable criteria or human health-based standard

71. The MPCA proposed changing the language of this rule to remove references to Class 2C waters.¹³⁵

L. Minn. R. 7050.0219, subp. 11 – Final baseline BAF by trophic level

72. The MPCA proposed removing the phrase “for cold water aquatic communities” from Minn. R. 7050.0219, subp. 11, paragraph A.¹³⁶ The MPCA made this proposal to eliminate a phrase no longer used, ensure consistency in the rules as a whole, and remove a redundancy.¹³⁷

M. Minn. R. 7050.0220, subp. 1 – Purpose and scope

73. The MPCA proposed changing some of the language in the four categories of surface waters, and made further proposals based on the comments received following the hearing.¹³⁸ The final proposed changes are as follows:

- A. cold water ~~sport fish (trout waters)~~ aquatic life and habitat, also protected for drinking water: Classes 1B₁; 2A, 2Ae or 2Ag; 3A or 3B₁; 4A and 4B₁; and 5 (subpart 3a);
- B. cool and warm water ~~sport fish~~ aquatic life and habitat, also protected for drinking water: Classes 1B or 1C₁; 2Bd, 2Bde, 2Bdg, or 2Bdm; 3A or 3B₁; 4A and 4B₁; and 5 (subpart 4a);
- C. cool and warm water ~~sport fish, indigenous aquatic life, and wetlands~~ aquatic life and habitat and wetlands: Classes 2B, 2C, 2Be, 2Bg, 2Bm, or 2D; 3A, 3B, 3C, or 3D; 4A and 4B or 4C; and 5 (subpart 5a); and
- D. limited resource value waters: Classes 3C₁; 4A and 4B₁; 5₁; and 7 (subpart 6a).¹³⁹

¹³² Ex. C at 18.

¹³³ Ex. D at 56.

¹³⁴ Ex. C at 19.

¹³⁵ *Id.*

¹³⁶ *Id.* at 20.

¹³⁷ Ex. D at 56.

¹³⁸ *Id.* at 20-21; MPCA Post-Hr'g Response to Comments Mem. at 5.

¹³⁹ Ex. C at 20-21.

74. These changes were proposed to ensure that the rule applies to all aquatic life, not only sport fish, to reflect federal goals, and to add tiered aquatic life use identifiers to reflect the proposed changes to beneficial uses in Minn. R. 7050.0222, subs. 2, 3, and 4.¹⁴⁰ Further, the changes to the proposal following comments, to revert back to inclusion of all Class 2A, 2Bd, and 2B water quality standards, was made to ensure clarity because the intent was not to remove these classes from the applicable water quality standards.¹⁴¹

N. Minn. R. 7050.0220, subp. 2 – Explanation of tables

75. The MPCA proposed to correct a typographical error under paragraph D of this subpart by changing “carcinoge” to “carcinogen.”¹⁴²

O. Minn. R. 7050.0220, subp. 3a – Cold water ~~sport fish~~ aquatic life and habitat, drinking water, and associated use classes.

76. The MPCA proposed making the change above to the subpart title¹⁴³ and, in response to comments following the hearing, added:

The water quality standards in 7050.0222, subpart 2, that apply to Class 2A also apply to Classes 2Ae and 2Ag. In addition to the water quality standards in 7050.0222, subpart 2, the biological criteria defined in 7050.0222, subpart 2d, apply to Classes 2Ae and 2Ag.¹⁴⁴

77. These changes were proposed to ensure that the rule applies to all aquatic life, not only sport fish, and to ensure clarity that the water quality standards that apply to Classes 2A, 2Bd, and 2B also apply to Classes 2Ae, 2Ag, 2Bde, 2Bdg, 2Bdm, 2Be, 2Bg, and 2Bm, with the only addition being an indication that the biological criteria for different TALU also apply.¹⁴⁵

P. Minn. R. 7050.0220, subp. 4a – Cool and warm water ~~sport fish~~ aquatic life and habitat, drinking water, and associated use classes.

78. The MPCA proposed making the change above to the subpart title¹⁴⁶ and, in response to comments following the hearing, added:

The water quality standards in 7050.0222, subpart 3, that apply to Class 2Bd also apply to Classes 2Bde, 2Bdg, and 2Bdm. In addition to the water quality standards in 7050.0222, subpart 3, the biological

¹⁴⁰ Ex. D at 57.

¹⁴¹ MPCA Post-Hr’g Response to Comments Mem. at 5.

¹⁴² Ex. C at 21.

¹⁴³ *Id.* at 22.

¹⁴⁴ MPCA Post-Hr’g Response to Comments Mem. at 5.

¹⁴⁵ *Id.*; Ex. C at 22; Ex. D at 57.

¹⁴⁶ Ex. C at 22.

criteria defined in 7050.0222, subpart 3d, apply to Classes 2Bde, 2Bdg, and 2Bdm.¹⁴⁷

79. These changes were proposed to ensure that the rule applies to all aquatic life, not only sport fish, and to ensure clarity that the water quality standards that apply to Classes 2A, 2Bd, and 2B also apply to Classes 2Ae, 2Ag, 2Bde, 2Bdg, 2Bdm, 2Be, 2Bg, and 2Bm, with the only addition being an indication that the biological criteria for different TALUs also apply.¹⁴⁸

Q. Minn. R. 7050.0220, subp. 5a – Cool and warm water sport fish aquatic life and habitat and associated use classes.

80. The MPCA proposed making the change above to the subpart title,¹⁴⁹ adding identifiers for the subclasses of TALUs (“e,” “g,” and “m”) to all references to Class 2, and deleting the temperature standard relating to the Class 2C use.¹⁵⁰ In response to comments following the hearing, the MPCA added:

The water quality standards in 7050.0222, subpart 4, that apply to Class 2B also apply to Classes 2Be, 2Bg, and 2Bm. In addition to the water quality standards in 7050.0222, subpart 4, the biological criteria defined in 7050.0222, subpart 4d, apply to Classes 2Be, 2Bg, and 2Bm.¹⁵¹

81. These changes were proposed to ensure that the rule applies to all aquatic life, not only sport fish, and to ensure clarity that the water quality standards that apply to Classes 2A, 2Bd, and 2B also apply to Classes 2Ae, 2Ag, 2Bde, 2Bdg, 2Bdm, 2Be, 2Bg, and 2Bm, with the only addition being an indication that the biological criteria for different TALUs also apply.¹⁵²

R. Minn. R. 7050.0220, subp. 6a – Limited resource value waters and associated use classes

82. The MPCA proposed the following changes to Minn. R. 7050.0220, subp. 6a:

C. The level of dissolved oxygen—shall must be maintained at concentrations:
(1) that will avoid odors or putrid conditions in the receiving water;
(2) or at concentrations at not less than one milligram per liter (daily average); and

¹⁴⁷ MPCA Post-Hr’g Response to Comments Mem. at 5.

¹⁴⁸ Ex. C at 22; Ex. D at 57; MPCA Post-Hr’g Response to Comments Mem. at 5.

¹⁴⁹ Ex. C at 22.

¹⁵⁰ Ex. C. at 22-28; Ex. D at 57.

¹⁵¹ MPCA Post-Hr’g Response to Comments Mem. at 6.

¹⁵² *Id.* at 5; Ex. C at 22; Ex. D at 57.

(3) provided that measurable concentrations are present above zero milligrams per liter at all times.¹⁵³

83. These changes were proposed to clarify, but not change, the existing dissolved oxygen standard for Class 7 waters.¹⁵⁴

S. Minn. R. 7050.0222, subps. 2 – Class 2A waters; aquatic life and recreation; 3 – Class 2Bd waters; and 4 – Class 2B waters

84. The MPCA proposed to amend Minn. R. 7050.0222, subparts 2, 3, and 4, to replace “sport and commercial fish and associated aquatic biota” with “aquatic biota” in order to ensure consistency with the CWA which protects more than only sport and commercial fish.¹⁵⁵ The MPCA also proposed to add a reference to the new subpart 2c, which describes how the aquatic life use is defined and measured, which adds clarity to the rule.¹⁵⁶

85. The MPCA also proposes language to maintain the exception to the standards for Class 2B for the reach of the Minnesota River from the outlet of the Blue Lake wastewater treatment works to the mouth at Fort Snelling, because that exception was part of subpart 5 which the MPCA proposes to repeal due to the overall elimination of Class 2C as a category.¹⁵⁷

T. Minn. R. 7050.0222, subps. 2c – Beneficial use definitions for lotic cold water aquatic life and habitat (Class 2A); 3c – Beneficial use definitions for lotic warm or cool water aquatic life and habitat (Class 2Bd); and 4c – Beneficial use definitions for lotic warm or cool water aquatic life and habitat (Class 2B)

86. The MPCA proposed adding subparts 2c, 3c, and 4c to Minn. R. 7050.0222 in order to provide narratives for each TALU tier under Classes 2A, 2Bd, and 2B.¹⁵⁸ These narratives describe the aquatic assemblage protected by each TALU, and provide references detailing how aquatic assemblage condition is measured and how the biological criteria were developed.¹⁵⁹ The proposed language 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 be completed followed by rulemaking to list any water as a Modified use.¹⁶⁰ The proposed language establishes, by reference, water quality standards based on the TALU framework for lotic waters.¹⁶¹

¹⁵³ Ex. C at 28.

¹⁵⁴ Ex. D at 58.

¹⁵⁵ Ex. C at 28, 42, and 59; Ex. D at 59.

¹⁵⁶ *Id.*

¹⁵⁷ Ex. C at 69, 77; Ex. D at 59-60

¹⁵⁸ Ex. C at 40-41, 55-57, 73-76; Ex. D at 59.

¹⁵⁹ *Id.*

¹⁶⁰ Ex. D at 59.

¹⁶¹ Ex. C. at 40-41, 55-57, 73-76.

87. Based on public comments, the MPCA proposed, following the hearing, to modify the headings for the subparts 2c, 3c, and 4c to use the terms “lotic” and “aquatic life” in place of “stream and river.”¹⁶² This was proposed to clarify that the TALU framework is applicable only to lotic, or flowing, waters.¹⁶³

88. Based on public comments, the MPCA proposed, following the hearing, to add and modify several subitems to subparts 2c, 3c, and 4c in the following findings.¹⁶⁴

89. Subparts 2c, item A, subitem 2; 3c, item A, subitem 2; and 4c, item A, subitem 2, are all proposed to be modified with the following wording:¹⁶⁵

(2) The attributes of species composition, diversity, and functional organization are measured using:
(a) the fish-based IBI as defined in ~~Development of a Fish-based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control Agency (2014) Fish data collection protocols for lotic waters in Minnesota (2017); or~~
(b) the macroinvertebrates IBI as defined in ~~Development of a Macroinvertebrate based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control Agency (2014) Macroinvertebrate data collection protocols for lotic waters in Minnesota (2017).~~¹⁶⁶

These proposed modifications provide for a more recent and accessible reference which describes the requirements for collecting data that can be used in use attainability analyses and assessments of lotic waters in Minnesota. The information in the new reference documents is not substantially different from the original.¹⁶⁷

90. Subparts 2c, item A, subitem 4; 3c, item A, subitem 4; and 4c, item A, subitem 4, are all proposed to be modified as follows:¹⁶⁸

(4) The following documents are incorporated by reference and are not subject to frequent change:
(a) Calibration of the Biological Condition Gradient for Streams of Minnesota, Gerritsen et al. (2012). The document is available on the agency's Web site at www.pca.state.mn.us;
(b) ~~Development of a Fish-based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control~~

¹⁶² MPCA Post-Hr'g Response to Comments Mem. at 6.

¹⁶³ *Id.*

¹⁶⁴ *Id.* at 6-12.

¹⁶⁵ Because these subitems were initially all proposed additions to the rule, this version is both underlined and includes strikeouts and double-underlining of proposed modifications of the original proposed additions. Further, the language under each subpart here is identical, and is only set forth once.

¹⁶⁶ Ex. C at 40, 55, 74; MPCA Post-Hr'g Response to Comments Mem. at 7, 9, 11.

¹⁶⁷ MPCA Post-Hr'g Response to Comments Mem. at 7, 9, 11.

¹⁶⁸ The language under each subpart here is identical and is only set forth once.

Agency (2014) Fish data collection protocols for lotic waters in Minnesota (2017). The document is available on the agency's Web site at www.pca.state.mn.us:

(c) Development of a Macroinvertebrate-based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control Agency (2014) Macroinvertebrate data collection protocols for lotic waters in Minnesota (2017). The document is available on the agency's Web site at www.pca.state.mn.us; and

(d) Development of Biological Criteria for Tiered Aquatic Life Uses, Minnesota Pollution Control Agency (2016). The document is available on the agency's Web site at www.pca.state.mn.us.¹⁶⁹

These proposed modifications provide for a more recent and accessible reference which describes the requirements for collecting data that can be used in use attainability analyses and assessments of lotic waters in Minnesota. The information in the new reference documents is not substantially different from the original.¹⁷⁰

91. Subparts 2c, item A, subitem 5; 3c, item A, subitem 5; and 4c, item A, subitem 5, are all proposed to be added to the original proposed changes to these subparts. These proposed changes are as follows:

Minn. R. 7050.0222, Subp. 2c (A)

(5) The beneficial use subclass designators "e" and "g" are added to the Class 2A designator as specific additional designators. The additional subclass designators do not replace the Class 2A designator. All requirements for Class 2A cold water stream and river habitats in 7050.0222 and 7052.0100 continue to apply in addition to requirements for Class 2Ae or Class 2Aq cold water stream and river habitats in 7050.0222. These subclass designators are only applied to lotic waters.¹⁷¹

Minn. R. 7050.0222, Subp. 3c (A)

(5) The beneficial use subclass designators "e," "g," and "m" are added to the Class 2Bd designator as specific additional designators. The additional subclass designators do not replace the Class 2Bd designator. All requirements for Class 2Bd warm or cool water stream and river habitats in 7050.0222 and 7052.0100 continue to apply in addition to requirements for Class 2Bde, Class 2Bdq, or Class 2Bdm warm or cool water stream and river habitats in 7050.0222. These subclass designators are only applied to lotic waters.¹⁷²

¹⁶⁹ MPCA Post-Hr'g Response to Comments Mem. at 7, 9, 12.

¹⁷⁰ *Id.*

¹⁷¹ *Id.* at 6.

¹⁷² *Id.* at 8.

Minn. R. 7050.0222, Subp. 4c (A)

(5) The beneficial use subclass designators “e,” “g,” and “m” are added to the Class 2B designator as specific additional designators. The additional subclass designators do not replace the Class 2B designator. All requirements for Class 2B warm or cool water stream and river habitats in 7050.0222 and 7052.0100 continue to apply in addition to requirements for Class 2Be, Class 2Bg, or Class 2Bm warm or cool water stream and river habitats in 7050.0222. These subclass designators are only applied to lotic waters.¹⁷³

The MPCA proposed these modifications to the proposed additions in response to comments indicating that people were confused about the need and intent to continue to apply Class 2A WQS to waters with TALU classifications. All WQS that apply to Classes 2A, 2Bd, and 2B would also apply to Classes 2Ae, 2Ag, 2Bde, 2Bdg, 2Bdm, 2Be, 2Bg, and 2Bm, with the only addition being an indication that the biological criteria for different TALU also apply. Thus, the proposed modification provides additional clarity to the rule.¹⁷⁴

92. Subparts 3c, item D, subitem 1 and 4c, item D, subitem 1, are proposed to be further modified as follows:

Minn. R. 7050.0222, Subp. 3c (D)

(1) To meet the definition in this item, waters must have been the subject of a use attainability analysis where it is determined that attainment of and must have been found to be incapable of supporting and maintaining the Class 2Bdg beneficial use is not feasible because of human-induced modifications of the physical habitat that preclude the potential for recovery of the fauna. These modifications must be the result of direct alteration to the channel, such as drainageway maintenance, bank stabilization, and impoundments.¹⁷⁵

Minn. R. 7050.0222, Subp. 4c (D)

(1) To meet the definition in this item, waters must have been the subject of a use attainability analysis where it is determined that attainment of and must have been found to be incapable of supporting and maintaining the Class 2Bg beneficial use is not feasible because of human-induced modifications of the physical habitat that preclude the potential for recovery of the fauna. These modifications must be the result of direct alteration to the channel, such as drainageway maintenance, bank stabilization, and impoundments.¹⁷⁶

¹⁷³ MPCA Post-Hr'g Response to Comments Mem. at 11.

¹⁷⁴ *Id.* at 6, 8, 11.

¹⁷⁵ *Id.* at 10.

¹⁷⁶ *Id.* at 12.

The MPCA proposed these modifications in response to comments in order to more clearly convey the purpose of the provision. The modifications more closely follow the phrases in the CWA at 40 C.F.R. § 131.10(g).¹⁷⁷

U. Minn. R. 7050.0222, subps. 2d – Biological criteria for lotic cold water aquatic life and habitat (Class 2A); 3d - Biological criteria for lotic warm or cool water aquatic life and habitat (Class 2Bd); and 4d Biological criteria for lotic warm or cool water aquatic life and habitat (Class 2B).

93. The MPCA proposed adding subparts 2d, 3d, and 4d to Minn. R. 7050.0222 in order to establish the biological criteria and relevant assemblage for Classes 2A, 2Bd, and 2B, as well as identify the water-body type and TALU.¹⁷⁸ These additions provide transparency and consistency regarding the process used to assess aquatic life use goals.¹⁷⁹

94. Based on public comments, the MPCA proposed, following the hearing, to modify the headings for Subparts 2d, 3d, and 4d to use the terms “lotic” and “aquatic life” in place of “stream and river.”¹⁸⁰ This was proposed to clarify that the TALU framework is applicable only to lotic, or flowing, waters.¹⁸¹

95. Based on public comments, the MPCA proposed, following the hearing, to add to and modify proposed Minn. R. 7050.0222, subp. 2d, by adding the following:

A. The biological criteria for lotic cold water aquatic life and habitats (Class 2A) are applicable to perennial and intermittent waters that allow for colonization of fish and macroinvertebrates.¹⁸²

96. Based on public comments, the MPCA proposed, following the hearing, to add to and modify proposed Minn. R. 7050.0222, subp. 3d, by adding the following:

A. The biological criteria for lotic warm or cool water aquatic life and habitats (Class 2Bd) are applicable to perennial and intermittent waters that allow for colonization of fish and macroinvertebrates.¹⁸³

97. Based on public comments, the MPCA proposed, following the hearing, to add to and modify proposed Minn. R. 7050.0222, subp. 4d, by adding the following:

¹⁷⁷ MPCA Post-Hr’g Response to Comments Mem. at 10, 12.

¹⁷⁸ Ex. C at 42, 57-58, 76-77; Ex. D at 59.

¹⁷⁹ Ex. D. at 59.

¹⁸⁰ MPCA Post-Hr’g Response to Comments Mem. at 8, 10, 13.

¹⁸¹ *Id.*

¹⁸² *Id.* at 8.

¹⁸³ *Id.* at 10.

A. The biological criteria for lotic warm or cool water aquatic life and habitats (Class 2B) are applicable to perennial and intermittent waters that allow for colonization of fish and macroinvertebrates.¹⁸⁴

98. The MPCA proposed the modifications to the proposed Minn. R. 7050.0222, subps. 2d, 3d, and 4d, because the MPCA does not routinely sample ephemeral, lotic waters for fish and macroinvertebrates because the IBIs and biological criteria are not developed for use in that type of habitat, and the additions clarify the applicability of the IBIs.¹⁸⁵

V. Minn. R. 7050.0222, subp. 5 – Class 2C waters

99. The MPCA proposed to repeal Minn. R. 7050.0222, subp. 5, which sets the standards for Class 2C designated waters.¹⁸⁶ Under the TALU framework, Class 2C is outdated because the new proposed standards more accurately describe the standards for waters with the characteristics of current Class 2C.¹⁸⁷

W. Minn. R. 7050.0227, subp. 2 – Class 7 waters; limited resource waters

100. The MPCA proposed to clarify, but not substantively change, Minn. R. 7050.0227, subp. 2, regarding the dissolved oxygen standard for Class 7 waters.¹⁸⁸

X. Minn. R. 7050.0430 - UNLISTED WATERS

101. The MPCA proposed amending Minn. R. 7050.0430, including by proposed modifications following the hearing to clarify the intent of the rule that the TALU framework is applicable only to lotic waters, as follows:¹⁸⁹

Subpart 1. **Statewide surface waters.** Except as provided in subparts 2 and 3, all surface waters of the state that are not listed in part 7050.0470 and that are not wetlands as defined in part 7050.0186, subpart 1a, are hereby classified as Class 2B, ~~2Bg~~, 3C, 4A, 4B, 5, and 6 waters. Unlisted lotic waters are also assigned the beneficial use subclass designator “g” to the Class 2B designator.

Subp. 2. **Boundary Waters Canoe Area Wilderness.**

A. All streams in the Boundary Waters Canoe Area Wilderness [11/5/84P] not listed in part 7050.0470 are classified as Class 1B, 2Bdg, 3B.

¹⁸⁴ MPCA Post-Hr'g Response to Comments Mem. at 13.

¹⁸⁵ *Id.*

¹⁸⁶ Ex. C at 170; Ex. D at 60.

¹⁸⁷ Ex. D at 60.

¹⁸⁸ Ex. C at 78; Ex. D at 60.

¹⁸⁹ Ex. C at 78-79; Ex. D at 60; MPCA Post-Hr'g Response to Comments Mem. at 13.

B. All lakes in the Boundary Waters Canoe Area Wilderness [11/5/84P] not listed in part 7050.0470 are classified as Class 1B, 2Bdg, 3B.

C. All wetlands in the Boundary Waters Canoe Area Wilderness [11/5/84P] not listed in part 7050.0470 are classified as Class 2D.

Subp. 3. Voyageurs National Park.

A. All streams in Voyageurs National Park [11/5/84P] not listed in part 7050.0470 are classified as Class 2Bdg, 3B.

B. All lakes in Voyageurs National Park [11/5/84P] not listed in part 7050.0470 are classified as Class 2B, 3B.

C. All wetlands in Voyageurs National Park [11/5/84P] are classified as Class 2D.¹⁹⁰

102. The MPCA proposed these changes to update the provisions consistent with the new classifications in the TALU framework, to move the provisions of Minn. R. 7050.0470 regarding the Boundary Waters Canoe Area Wilderness (BWCAW) and Voyageurs National Park to Minn. R. 7050.0430, and to incorporate the lists of waters in the BWCAW and Voyageurs National Park by reference.¹⁹¹

Y. Minn. R. 7050.0460 – WATERS SPECIFICALLY CLASSIFIED; EXPLANATION OF LISTINGS IN PART 7050.0470.

103. The MPCA proposed amending Minn. R. 7050.0460, subpart 1, Explanation of Listings, to clarify the method for describing the extent of stream reaches and to describe the new approach for incorporating the beneficial use list by reference.¹⁹² The changes are as follows:

Subpart 1. **Explanation of listings.** The waters of the state listed in part 7050.0470 are classified as specified. ~~The specific stretch of watercourse of the location of a water body is~~ lakes, wetlands, calcareous fens, and scientific and natural areas are described by township, range, and section. Specific stream stretches are described by township, range, and section; stream confluence; geographic coordinates; road crossing; some other recognizable landmark; or a combination of these descriptors. Streams and rivers are listed by the eight-digit hydrologic unit code (HUC) of the major watersheds in part 7050.0469 in which the streams and rivers are located. The tables that specify the applicable beneficial uses for the stream and river reaches are incorporated by reference in part 7050.0470. Any community listed in part 7050.0470 is the community nearest the water classified, and is included solely to assist in identifying the water. Most waters of the state are not specifically

¹⁹⁰ Ex. C at 78-79; Ex. D at 60; MPCA Post-Hr'g Response to Comments Mem. at 13.

¹⁹¹ Ex. D at 60.

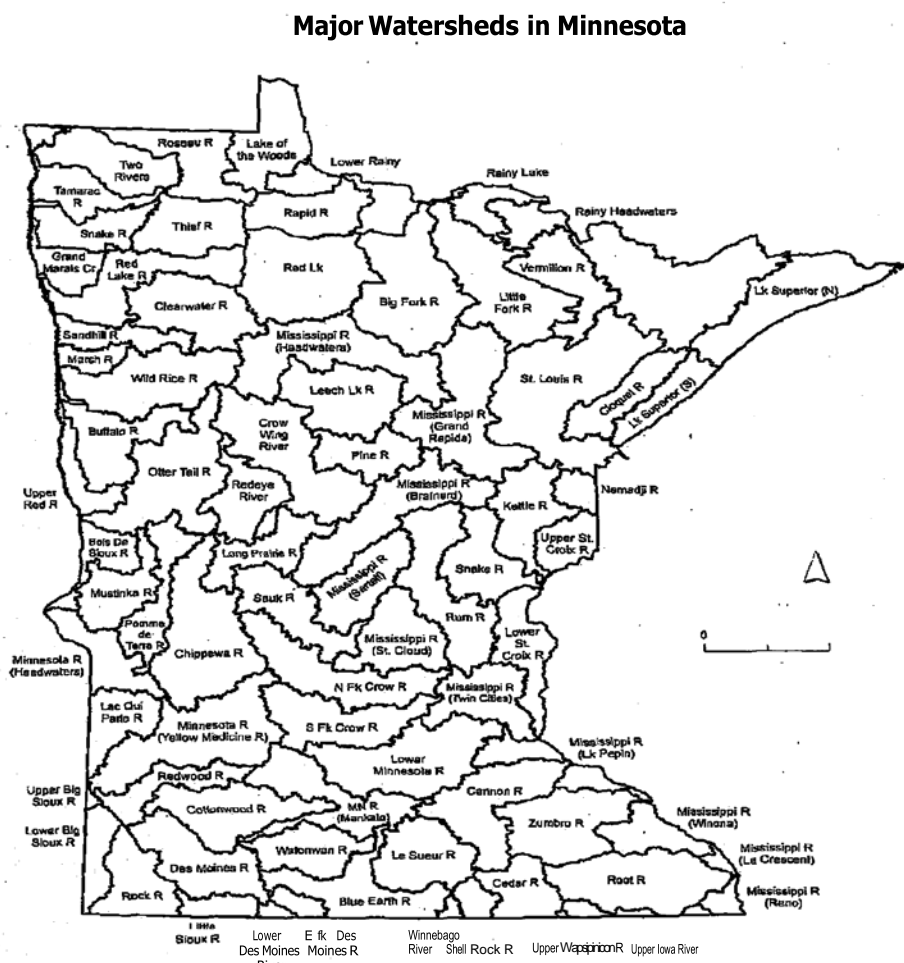
¹⁹² *Id.*

listed in part 7050.0470. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed.¹⁹³

104. This information is necessary because of the proposed changes to the format of water listings provided in Minn. R. 7050.0470.¹⁹⁴

Z. Minn. R. 7050.0469 – MAP: MINNESOTA’S MAJOR WATERSHEDS

105. The MPCA proposed adding a map of Minnesota’s major watersheds in order to provide a reference to assist with locating the correct use table.¹⁹⁵ The use tables are proposed to be incorporated by reference at Minn. R. 7050.0470.¹⁹⁶ The map is as follows:¹⁹⁷



¹⁹³ Ex. C at 79-80.

¹⁹⁴ Ex. D at 60.

¹⁹⁵ Ex. C at 80; Ex. D at 61.

¹⁹⁶ Ex. C at 81; Ex. D at 61.

¹⁹⁷ Ex. C at 80.

AA. 7050.0470 – CLASSIFICATIONS FOR SURFACE WATERS IN MAJOR DRAINAGE BASINS

106. The MPCA proposed to change how classifications for surface waters in the nine major drainage basins in the state are listed and organized.¹⁹⁸ The proposal organizes the beneficial uses for stream reaches by major watersheds, identified by their eight-digit hydrologic unit code (HUC).¹⁹⁹ The MPCA used the same language to incorporate the water use classifications for each of the following watershed basins: Lake Superior Basin; Lake of the Woods Basin; Red River of the North Basin; Upper Mississippi River Basin; Minnesota River Basin; Saint Croix River Basin; Lower Mississippi River Basin; Cedar-Des Moines River Basin; and Missouri River Basin.²⁰⁰ The language is as follows:

The water use classification for the stream reaches within each of the major watersheds in the [Name] Basin listed in item A are found in tables entitled “Beneficial Use Designations for Stream Reaches” published on the Web site of the Minnesota Pollution Control Agency at www.pca.state.mn.us. The tables are incorporated by reference and are not subject to frequent change. The date after each watershed listed in item A is the publication date of the applicable table. The water use classifications for the other listed waters in the [Name] Basin are as identified in items A B to D. See parts 7050.0425 and 7050.0430 for the classifications of waters not listed. Designated use information for water bodies can also be accessed through the agency’s Environmental Data Access (<http://www.pca.state.mn.us/quick-links/eda-surface-water-data>).²⁰¹

Stream reaches are no longer specifically stated in the proposed Minn. R. 7050.0470, but rather are incorporated by reference to a listed published table of streams within a specific watershed.²⁰²

107. The MPCA proposes to change the classifications of 141 stream reaches from Class 2 under the current rule to the more specific Class 2 designations under the proposed TALU regulations.²⁰³ Stream reaches in current Class 2B are being changed to Class 2Bm or 2Be.²⁰⁴ Stream reaches in current Class 2A are being changed to Class 2Ae.²⁰⁵ Stream reaches in current Class 2C are being changed to Class 2Bm.²⁰⁶

¹⁹⁸ Ex. C at 81-167; Ex. D at 61.

¹⁹⁹ *Id.*

²⁰⁰ Ex. C at 81, 102, 108-09, 115, 130-32, 144-45, 148-49, 162-63, and 165-66.

²⁰¹ *Id.*

²⁰² Ex. C at 81-167.

²⁰³ *Id.*; Ex. D at 61.

²⁰⁴ Ex. D at 61. (Letter “m” designates modified or poor. Letter “e” designates exceptional or very good.)

²⁰⁵ *Id.*

²⁰⁶ *Id.* (Letter “g” designates general use.)

108. The MPCA is proposing the classification changes above based on the results of UAAs for aquatic life use for these 141 stream reaches.²⁰⁷ The changes to the modified use are proposed because those stream reaches have been legally modified and maintained for drainage, resulting in habitat loss and a loss in biological integrity.²⁰⁸ The changes to exceptional use are proposed because those stream reaches have biological assemblages with the ability to meet a higher use tier.²⁰⁹

109. The MPCA is proposing that all remaining Class 2C stream reaches be classified as Class 2Bg.²¹⁰ This change results from the similarities of Class 2C, which is proposed to be eliminated, and the new proposed Class 2Bg.²¹¹

BB. 7052.0100 – WATER QUALITY STANDARDS

110. The MPCA proposes to remove references to Class 2C in Minn. R. 7052.0100, because the classification will no longer exist as a result of proposed changes to Minn. R. 7050.0222, subp. 5.²¹²

CC. 7052.0110, subp. 3(C) – Bioaccumulation Factors

111. The MPCA proposes to remove references to Class 2C in Minn. R. 7052.0110, subp. 3 (C), because the classification will no longer exist as a result of proposed changes to Minn. R. 7050.0222, subp. 5.²¹³

VI. Summary of Comments to Proposed Changes and MPCA Responses

A. Comments Supporting Proposals and MPCA Response

112. Multiple commenters expressed general support for the proposed amendments as an improvement to the existing water quality standards framework, with some concerns and requested modifications or clarifications. This includes commenters who expressed support for the whole rule and others who expressed support for the concept followed by comments regarding the implementation of the amendments. Other comments of support were focused on the use of biological tools to better monitor and assess the condition of Minnesota's streams. One commenter expressed support for the removal of Class 2C.²¹⁴

113. The MPCA states the primary goal of this rulemaking is to improve protection of Minnesota's water quality and the aquatic life (e.g., fish, insects, mussels, plants) that depend on healthy streams. This goal is consistent with the Clean Water Act's

²⁰⁷ Ex. D at 61.

²⁰⁸ *Id.*

²⁰⁹ *Id.*

²¹⁰ *Id.* (The letter "g" designates general use.)

²¹¹ *Id.*

²¹² Ex. C at 167, 169; Ex. D at 62.

²¹³ Ex. C at 170; Ex. D at 62.

²¹⁴ Exs. I.1, I.3, I.5, I.9, I.12, I.16, I 17, L.12; M.2; Transcript (Tr.) at 77-78.

objective to “restore and maintain the chemical, physical, and biological integrity of the Nation's waters.”²¹⁵ The TALU framework builds upon existing water quality standards with a goal of improving how water resources are monitored and managed. Because of improvements in biological, habitat, and water quality monitoring tools, amending Minnesota’s water quality rules to include the TALU framework will lead to better outcomes for assessing and ensuring the protection of aquatic life, and better restoration efforts to reach water quality goals. The TALU framework is a reasonable mechanism to address issues that arise from the current “one-size-fits-all” framework for protecting aquatic life and reasonably sets standards for protecting and restoring aquatic life based on attainable biology.²¹⁶

B. Comments Regarding Designated Use List and Format and MPCA Response

114. Several commenters felt the lists of designated uses are not user friendly or that they could not determine which specific reaches have proposed TALU beneficial use designations. Commenters indicated that additional information should be included in the tables, including: the date the beneficial use was adopted; public land survey (PLS) sections; county; and adjacent stream reaches and tributaries. It was also suggested that having the information in 80 separate documents (i.e., one for each major watershed) makes them unsearchable and that they should all be in one text-searchable document.²¹⁷

115. To enhance accessibility and respond to comments, the MPCA intends to include information suggested by the commenters either in the beneficial use tables or through an interactive map tool.²¹⁸

116. The proposed reformatting of the designated beneficial use tables does not in any way impact how water bodies are designated.²¹⁹ The proposed reformatting merely creates a framework that provides more information in a more readily accessible format.²²⁰ The proposed table reformatting, while not ideal, is sufficient and it is an improvement over the current format in Minn. R. 7050.0470 (e.g., Exhibit D, SONAR Appendix C). It is similar to the format used by the Ohio Environmental Protection Agency (Ohio EPA) for listing their beneficial uses.²²¹

117. The requested PLS information is included in the current Minn. R. 7050.0470, but only for the small fraction of Minnesota stream reaches that are listed in rule. The majority of stream reaches (>10,000) are not currently listed in Minn. R. 7050.0470 and the PLS information has not been compiled for each of these reaches, which is why the MPCA did not include PLS information in the proposed reformatted

²¹⁵ 33 U.S.C. § 1251(a) (2012).

²¹⁶ Ex. D at 13-18, 39-51; MPCA Post-Hr’g Response to Comments Mem, Attachment 2 at 2.

²¹⁷ Exs. I.3, I.9, I.16, I.17.

²¹⁸ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 3.

²¹⁹ Ex. D at 61.

²²⁰ *Id.* at 50.

²²¹ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 3, Attachment 9.

tables. To make the reformatted tables more comprehensive and include all stream WIDs, it was not technically feasible at the time of the rulemaking to include the PLS information and ensure its accuracy. However, the MPCA intends to include the PLS information in revisions to the tables or through a map-based tool. The revisions to include the PLS information are estimated to be made within the next year or two, depending on the technical difficulty and how difficult it is to ensure this information is accurate.²²²

118. According to the MPCA, the tables are proposed to be incorporated by reference as permitted by Minn. Stat. § 14.07, subd. 4. The term in the proposed rule stating the reference tables are “not subject to frequent change,” means the tables may be changed no more than once per year according to the Minnesota Revisor of Statutes.²²³ Any changes to a document that is incorporated by reference must be available to the public in the same manner as the original document. The MPCA will note any changes to the tables at the same website location as the original tables.²²⁴

119. The MPCA intends to develop a searchable map-based interface tool that can be used to access the information contained in the rules. This tool will make the tables text-searchable and display adjacent stream reaches and tributaries as requested by commenters.²²⁵

120. The MPCA believes that the proposed designated beneficial use lists are an improvement over the existing list of streams in Minn. R. 7050.0470 for a number of reasons (Exhibit D at 18, 50):

- 1) They align the list to the existing water body cataloging system used by most programs at the MPCA involved with protecting and restoring designated beneficial uses. This system assigns a number (Waterbody ID or WID; also called an Assessment Unit ID or AUID) to discrete stream reaches which are used to structure the use designations. By providing use designation information catalogued by WID number in Minn. R. 7050.0470, users can identify designated uses that are relevant to MPCA activities. Currently, Minn. R. 7050.0470 does not provide WID information and in many cases streams listed in Minn. R. 7050.0470 consist of multiple WIDs.
- 2) The revised tables provide more information. These enhancements include:
 - a. WID number: as discussed above.
 - b. Information regarding whether or not the use is default or confirmed: The information in Column 4 of the designated use tables contains this information (e.g., Ex. D, Appendix C). It permits not only the documentation

²²² MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 3-4.

²²³ However, if a reference table is changed and its title or publication date changes, the rule will have to be changed pursuant to the Minnesota Administrative Procedures Act (MAPA) in order to rely on the new publication. (See Minn. Stat. § 14.07, subd. 4(a) (2016).)

²²⁴ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 4.

²²⁵ *Id.*

of Classes 1, 2A, 2Bd, and 7, it also documents the confirmation of General Use waters (Class 2B). In doing so this documents that a stream reach has been reviewed and thereby identifies the existing use. This is important for tracking existing use to ensure that a use is not downgraded.

c. All stream WIDs are included in the new tables. Currently only a small subset of the stream reaches in the state are included in Minn. R. 7050.0470 (e.g., Classes 1, 2A, and 7). The vast majority of streams are designated by default as Class 2B (see Minn. R. 7050.0430) and are not included in this table.

3) The new format is more easily updated. Although any change to designated beneficial uses require a formal rulemaking regardless of the format of the use list (Ex. D at 18), the updated list format can be updated more easily following rulemaking. The current process for tracking and making changes to the list in Minn. R. 7050.0470 is cumbersome and requires considerable staff time both from the MPCA and the Revisor's office. The new format does not change the public participation requirements for making a use designation, but facilitates the logistics of documenting that change in rule.²²⁶

C. Comments Regarding Documentation of Science Supporting Proposed Amendments and MPCA Responses

121. The MPCA received several comments related to the sufficiency and documentation of the science undertaken to support the proposed amendments. These comments ranged from general to the specific. One commenter questioned the data presented in the administrative record and the data analysis performed by the MPCA in development of the TALU framework as generally insufficient based on the example of a low R2 value.²²⁷ Other commenters asked the MPCA to address year-to-year variability in the IBI scores, and stated that the IBI calculation mechanism needs to be available for public review and comment.²²⁸ Finally, one commenter stated that they felt peer review of the science supporting the rule was not sufficient.²²⁹

122. According to the MPCA, the scientific supporting documentation for the TALU rule amendments is extensive and sufficient. Extensive documentation was necessary because it is important to the MPCA that it provide thorough documentation and transparency regarding the science it relied upon. A commenter extracted a small part of the science supporting the rule as evidence that the data and analyses are not sufficient. This takes the science out of context and is misleading. The science supporting the TALU rule amendment is constructed of many elements, and the analysis noted by the commenter is only one part of the foundation of the science. The commenter noted that the R2 (a statistical measure that indicates how much of the variance in the

²²⁶ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 4; Ex. D at 18, 50.

²²⁷ Ex. I.12.

²²⁸ Exs. I.10, I.14.

²²⁹ Ex. I.12.

dependent variable can be explained by the independent variable) for one of these analyses was low. In the example provided by the commenter, the IBI scores are the dependent variable and the habitat score (i.e., MSHA) is the independent variable. The purpose of the R2 analysis was not to develop a predictive model, but rather was an exploratory exercise to identify relationships between biological scores from different stream types and habitat scores. The habitat models actually used as part of the UAAs are several steps removed from this preliminary analysis and are described in more detail in Exhibits S-66 and S-63.²³⁰

123. In general, the use of biological data has the advantage of providing an integrated assessment of stressors over time due to the fact that many of these organisms are relatively long lived.²³¹ However, there is still variability in these assemblages that needs to be understood. As part of Minnesota's biological monitoring framework, the MPCA estimates the variability in sampling. Therefore, it is possible to determine IBI score variability associated with sampling the same sites across years (i.e., year-to-year variability). This is estimated by calculating 90% confidence limits for IBI scores using the residual error term from an analysis of variance (ANOVA).²³² The datasets used to estimate confidence limits included replicate samples collected from sites across years (including 1210 macroinvertebrate sample and 1531 fish samples). This variability is 4 points for macroinvertebrates and three points for fish samples. This variability is manageable and can be used as part of assessments and UAAs when scores are near thresholds. It should be noted that these values likely overestimate the variability that can be assigned to annual differences alone because it includes samples that were collected more than ten years apart and because variability that is the result of changes caused by anthropogenic stressors (i.e., the changes in biological communities that the IBIs are designed to detect) cannot be partitioned out.²³³

124. The documentation for the IBIs has been available on the MPCA's website for this rulemaking for public review for approximately three years. This was sufficient time for those interested in these tools to review them and provide feedback. As part of TALU outreach with Barr Engineering (August 2016), the MPCA was asked to provide additional details on the mechanisms behind calculating the IBI model scores. The MPCA indicated that it would compile this information and it made the information available publically on January 26, 2017, and February 8, 2017.²³⁴ The information contained in these documents is also largely contained within Exhibits S-64 and S-65 and was made available through correspondence with Barr Engineering staff. Although the MPCA does not view these new documents as necessary for reviewing the merit of TALU rule amendments, the MPCA believes it has provided sufficient time for stakeholders to review the small amount of additional information in these new documents. In addition, the MPCA has provided Attachments 3 and 4 to the MPCA Response to Comments Memorandum

²³⁰ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 5.

²³¹ Ex. D at 40.

²³² Ex. S-85.

²³³ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 5-6.

²³⁴ Exs. L.7, L.8.

that further clarify methods by incorporating several existing protocols into two documents.²³⁵

125. The MPCA disagrees that the science used to support the TALU rule amendments was not sufficiently peer reviewed. Furthermore the Agency asserts it fully complied with Minn. Stat. § 115.035, which, in instances where the MPCA Commissioner does not convene an external peer review panel during the amendment of water quality standards, requires the MPCA Commissioner to state in the SONAR the reason an external peer review panel was not convened. The SONAR (Ex. D) includes this statement on pages 73-74. In addition, the following supplemental information on peer review during the development of the rule is provided in support of the Commissioner's decision.²³⁶

126. According to the MPCA, the development of the technical tools supporting the proposed rule amendments span nearly a decade. These technical tools have undergone peer review both through formal independent peer reviews and through implementation of many of these tools. The development of the technical tools followed peer-reviewed scientific methods. For example, the IBIs were developed following the methods described in Exhibit S-86. For research that advanced the science of biological monitoring and assessment, the MPCA underwent a formal, external review to ensure that the science behind this research was sound. This includes the development of the biological criteria (Exhibit S-85) and the Biological Condition Gradient (BCG) models that underlie the biological criteria. The independent peer-review of the BCG models has also been completed and the resulting article is being readied for publication. The scientific journal publishing this article has approved the inclusion of a pre-publication version of the article as Attachment 5 to the MPCA's post-hearing response to comments.²³⁷ In addition, the research is fully documented in Gerritsen et al. (2013), which is Exhibit L.6.²³⁸

127. In addition to formal peer review, the IBIs, biological criteria, and BCG models have been in use by the MPCA for more than four years for assessing Class 2A, 2Bd, 2B, and 2C waters (equivalent to the proposed General Use). They are used as numeric translators for narrative standards (see Exhibit D at 41, 44; and Minn. R. 7050.0150, subp. 6) and are an update to the tools used in biological assessment extending back to 2002 (see Exhibit D at 23). The MPCA states it is important to note that the proposed TALU rule amendments do not implement a new or wholly untested framework, as they are a refinement to the existing framework. As a result, stakeholders have seen these tools or earlier versions of these tools since 2002.²³⁹

²³⁵ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 6.

²³⁶ *Id.*

²³⁷ Gerritsen, et al, *Calibration of the biological condition gradient in Minnesota streams: a quantitative expert-based decision system*, *Freshwater Science*, (forthcoming 2017).

²³⁸ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 6.

²³⁹ *Id.*, Attachment 2 at 7.

128. The MPCA also received comments regarding the difficulty of accessing a peer-reviewed article published in an international journal. It is not always possible to get open access for copyrighted peer-reviewed articles. The MPCA cannot “republish” these articles on the Agency website unless permission has been purchased from the copyright holder. However, these articles are available for purchase online or they can be accessed through some libraries. In addition, the MPCA ensured that this research is readily available so the material in the peer-reviewed article (Exhibit S-85) is also available in a MPCA report (Exhibit S-84). The peer review did not change the substance of the research because the independent reviewers were supportive of the approach. Therefore, stakeholders interested understanding and reviewing the technical basis for the biological criteria and the tiered use goals can review Exhibit S-84.²⁴⁰

D. Comments Recommending Clarifications and MPCA Responses

129. Several commenters requested specific clarifying changes to the proposed rule. Most of these comments did not criticize the intent of the proposed rule language, but rather sought clarification and shoring up of the rule amendments to ensure that the intended language was not ambiguous.²⁴¹

130. First, two commenters requested that the MPCA clarify in rule that the TALU framework applies to only streams and other flowing waters. It is unclear if the TALU framework applies to wetlands.²⁴² The MPCA made changes to Minn. R. 7050.0150, subp. 4, and Minn. R. 7050.0222 to address these requests for clarification.²⁴³

131. Second, one commenter asked the MPCA to define or clarify the intended use of the terms “incapable” and “maintaining” as used in the phrase “incapable of supporting and maintaining the ... beneficial use,” and use of the word “potential” in proposed Minn. R. 7050.0222, subp. 3c.D.(1) and 4c.D.(1).²⁴⁴ The MPCA made modifications to these two rule proposals to address these requests for clarification.²⁴⁵

132. Third, two commenters asked whether the standards that apply to 2A, 2Bd, and 2B also apply to classes 2Ae, 2Ag, 2Bde, etc.²⁴⁶ The MPCA responded that all water quality standards that apply to Classes 2A, 2Bd, and 2B would also apply to Classes 2Ae, 2Ag, 2Bde, 2Bdg, 2Bdm, 2Be, 2Bg, and 2Bm, with the only addition being an indication that the biological criteria for different TALUs also apply.²⁴⁷ The MPCA made modifications to the rule amendments for Minn. R. 7050.0220, subps. 1, 3a, 4a, 5a, and Minn. R. 7050.0222, subps. 2c, 3c, 4c, in order to provide clarity to the rules.²⁴⁸

²⁴⁰ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 7.

²⁴¹ *Id.*, Attachment 2 at 8.

²⁴² Exs. I.11, 1.14.

²⁴³ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 8-9; *See also* findings 49 and 76-90, *supra*.

²⁴⁴ Ex. I.3.

²⁴⁵ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 9-10; *See also* findings 78-82, *supra*.

²⁴⁶ Exs. I.9, I.11.

²⁴⁷ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 11.

²⁴⁸ *Id.*, Attachment 2 at 11-12; *See also* findings 63, 64, 66-71, 78-82, *supra*.

133. Fourth, one commenter asserted that water quality standards would cease to apply to waters designated as Class 2C in Minn. R. 7050.0470 when the Class 2C is eliminated.²⁴⁹ According to the MPCA, each water body currently classified as Class 2C will fall into one of two categories under the TALU rule: Class 2Bm or default Class 2Bg.²⁵⁰ A total of 7 Class 2C waters are proposed to be reclassified as Class 2Bm as part of this rule amendment, as listed in Appendix A of Exhibit D. The remaining Class 2C waters will be designated as default Class 2Bg as specified in proposed rule amendment Minn. R. 7050.0430.²⁵¹ The MPCA modified the proposed amendments to Minn. R. 7050.0430, subp. 1, to address these concerns.²⁵²

134. Fifth, one commenter suggested that consumption of aquatic biota should be included in the new definition of “aquatic biota.”²⁵³

135. According to the MPCA, protecting fish and other edible aquatic life for consumption by people or wildlife is an important and long-standing foundation of the Class 2 water quality standards. Comprehensive methods and numeric standards have been in place for the objective of protecting fish and aquatic life for consumption by people and wildlife since 1990. The addition of the term “aquatic biota” in the proposed rule is meant to consolidate and clarify different terminology used in the rule that relate to the depth and breadth of many types of living organisms that need protection from adverse effects under our water quality standards, and has no bearing on the many aspects of the narrative standards that address consumption of aquatic life (see Minn. R. 7050.0150, subp. 7, Minn. R. 7050.0217 to Minn. R. 7050.0220, Minn. R. 7050.0222). The narrative standards in the rules related to aquatic life consumption for humans and wildlife are maintained and would not benefit by stating “aquatic life” has the same definition as “aquatic biota.” Based on the use of “aquatic life” in Minn. R. 7050.0140, subp. 3, it has an overarching definition consistent with MPCA and EPA expectations that include consumption of fish and other edible aquatic organisms and protection of the aquatic biota itself. Further, the objectives to protect consumption of aquatic biota by humans and wildlife is addressed in Minn. R. 7050.0217. While the CWA and Minnesota rule include both the protection of aquatic consumption and the protection of aquatic biota, they are not the same. One protects the health of humans who consume fish and other edible aquatic life and the consumption of aquatic organisms by wildlife. The other protects the aquatic plants and animals in and of themselves. The chemical standards for the protection of consumption of aquatic biota by humans and wildlife are in Minn. R. 7050.0222. Thus, the proposed biological water quality standards are reasonable because they do not replace the chemical standards that protect consumption of aquatic biota by humans and wildlife, and there is no need to further modify the proposal.²⁵⁴

²⁴⁹ Ex. I.9.

²⁵⁰ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 12.

²⁵¹ *Id.*

²⁵² *Id.*; See also finding 93, *supra*.

²⁵³ Ex. I.9.

²⁵⁴ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 13.

E. Comments Regarding Adoption of Documents by Reference and MPCA Response

136. Several commenters were concerned that the adoption of documents (i.e., assessment guidance manual, BCG and IBI background documents, and the designation of beneficial use tables) by reference gives the MPCA an ability to change rules without going through rulemaking, or to change documents too frequently. One commenter requested clarification for the term “frequent” in the proposed rule language “...are incorporated by reference and are not subject to frequent change.”²⁵⁵ In response, the MPCA refers to Minn. Stat. § 14.07, subd. 4(a), which permits and specifies how a document is incorporated into a rule.²⁵⁶

137. With regard to the adoption of the assessment guidance manual by reference in proposed section Minn. R. 7050.0150, subp. 3a, the MPCA’s intent for adding this reference into rule was to improve clarity and convenience in regards to how beneficial uses are assessed. The MPCA was not proposing to change the public process by which the Guidance Manual for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment: CWA §305(b) Report and CWA § 303(d) List is revised. The document is revised once every two years as part of the impaired waters listing process. As part of the impaired waters listing process, the assessment guidance manual is published for review and comment with a formal public notice. The intent was not to adopt these methods into rule or to change the process by which the documents are modified. Due to apparent confusion, the MPCA has eliminated the proposed addition of Minn. R. 7050.0150, subp. 3a.²⁵⁷

138. Regarding the guidance documents in proposed sections Minn. R. 7050.0222, subps. 2c, 3c, and 4c, they are proposed for incorporation by reference due to their size which makes incorporation of their text into rule infeasible. The assessment criteria are made conveniently available to the public on the MPCA’s website.²⁵⁸

139. Regarding the proposed beneficial use tables described in proposed sections Minn. R. 7050.0460 and Minn. R. § 7050.0470, subps. 1-9, they are proposed for incorporation by reference in order to improve comprehensiveness and accessibility.²⁵⁹

140. According to the MPCA, all of the documents that the Agency is proposing to include in the rule by reference are currently in use. Incorporating them by reference will make them more accessible and actually less subject to change.²⁶⁰

²⁵⁵ Exs. I.3, I.9, I.13, Tr. at 96.

²⁵⁶ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 14.

²⁵⁷ *Id.*, Attachment 2 at 15; See finding of fact 52.

²⁵⁸ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 15.

²⁵⁹ *Id.*

²⁶⁰ *Id.*

141. Whether a referenced and incorporated document is “subject to frequent change” must be stated in the rule, pursuant to Minn. Stat. § 14.07, subd. 4(a). According to the MPCA, the Minnesota Revisor of Statutes interprets “...not subject to frequent change” to mean less than once a year. The TALU proposed rule language was reviewed and approved by the Revisor. Any changes to a document that is incorporated by reference must be available to the public in the same manner as the original document. MPCA will note any changes to the documents at the same website location as the original documents.²⁶¹ However, before a changed document becomes the new referenced document, the rule itself must be changed to refer to the new or changed document if the title, author, publisher, or date of publication of the document changed.²⁶²

142. The process followed to make changes to documents incorporated by reference are specific to the document. As part of the TALU rule amendments, the MPCA can group these into two types: 1) documents describing scientific methodologies/protocols; and 2) lists of beneficial use designations in Minn. R. 7050.0470. In the case of the documents describing scientific methodologies/protocols in proposed section Minn. R. 7050.0222, subps. 2c., 3c, and 4c, these can be updated without following the Minnesota Administrative Procedures Act (APA) although depending on the document some form of public participation is involved. These include the documents that describe the biological sampling methods (Attachments 3 and 4), the biological criteria (Exhibit S-84), and biological condition gradient (Exhibit L.6). These documents are inherently tied to the proposed TALU biological criteria. As such, materially changing the methods or models described by these documents would alter the biological criteria. Since the biological criteria cannot be changed without a formal rulemaking process following the APA, materially changing these documents is not possible without this formal process. However, more minor changes could be made to these documents. For example, if a stakeholder asks for language which clarifies the methods in these documents, then the MPCA could update these documents without a formal rulemaking, but not more than once a year.²⁶³

143. For the proposed lists which document the beneficial use designations for streams and rivers in proposed section Minn. R. 7050.0470, these could not be changed without following the APA. This is described or noted in numerous locations in the SONAR (see Exhibit D at 15, 17-18, 29, 48, 51, 61, 64, 72-73, 83, 85-86). The MPCA is not proposing to change the process by which designated uses are changed, only how they are listed in rule. Changes to designated uses, including TALUs and beneficial use classes (e.g., Classes 1, 2, 3, etc.), will require the same formal rulemaking process that is currently required. Therefore, reformatting the beneficial use list in these documents does not change the process by which beneficial uses are designated. The MPCA is simply altering the formatting to include more information and make the actual updating

²⁶¹ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 15.

²⁶² Minn. Stat. § 14.07, subd. 4(a). (“If the rule incorporates by reference other publications and documents, the rule must contain a statement of incorporation. The statement of incorporation must include the words ‘incorporated by reference’; must identify by title, author, publisher, and date of publication the standard or material to be incorporated[.]”)

²⁶³ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 15-16.

of these lists logistically simpler. The beneficial use tables provided do in fact reflect the current rule because the agency has not yet adopted the TALU framework or any specific TALUs. Changes to these tables require rulemaking. Following adoption of the TALU rule amendments, the 141 stream WIDs that are proposed for designation will be updated in these tables.²⁶⁴

F. Comments Regarding Use Attainability Analysis Implementation and MPCA Responses

144. Several comments were related to UAA implementation. Several commenters wanted to know who is responsible for determining water body type, possible WID splits, and beneficial use designations; and what entity will bear the cost of performing UAAs.²⁶⁵ Others asked if there will be future revisions to the "Technical Guidance for Reviewing and Designating Tiered Aquatic Life Uses in Minnesota Streams and Rivers" document; and whether more than one IBI score should be required for designating TALUs.²⁶⁶

145. According to the MPCA, the UAA process would be unchanged from the current process for a UAA, with the exception that determination of TALUs would also be part of this process. The MPCA is responsible for determining water body type, possible WID splits, and beneficial use designations with input from public stakeholders.²⁶⁷

146. There are a number of pathways that could result in a change to a designated use. Changes to use destinations can be initiated by the MPCA as the result of the collection of data that demonstrates the current use is not appropriate. Any person may also petition the MPCA to consider a change to a use designation.²⁶⁸ For the most part, the cost of performing UAAs is largely borne by the MPCA, although the MPCA also encourages public input through stakeholder engagement (e.g., Intensive Watershed Monitoring (IWM) planning meetings, professional judgement group meetings (PJG)) and rulemaking since a change to a beneficial use designation requires a rule change.²⁶⁹

147. Water body type determinations are made by the MPCA following protocols for fish²⁷⁰ and macroinvertebrates.²⁷¹ The information included in these documents also allows other parties to make these determinations.²⁷²

148. WID splits related to TALUs are determined by the MPCA as part of the use review process that occurs before water quality assessments. Stakeholders have input in the location of these splits as part of the various stakeholder engagement activities (e.g.,

²⁶⁴ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 16.

²⁶⁵ Exs. I.3, I.7.

²⁶⁶ Exs. I.5, I.17.

²⁶⁷ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 17.

²⁶⁸ Minn. R. 7050.0405.

²⁶⁹ Ex. D at 64; MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 17.

²⁷⁰ Exs. L.8, S-64; MPCA Post-Hr'g Response to Comments Mem., Attachment 3.

²⁷¹ Exs. L.7, S-65; MPCA Post-Hr'g Response to Comments Mem., Attachment 4.

²⁷² MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 17.

IWM planning meetings, PJG meetings). In addition, when the WID split is driven by the designation of an Exceptional or Modified Use, there will be opportunity for public participation as part of rulemaking to designate those uses.²⁷³

149. The Agency will update the "Technical Guidance for Reviewing and Designating Tiered Aquatic Life Uses in Minnesota Streams and Rivers" as needed based on internal and external stakeholder input. This could include revisions to provide more information or clarifications or changes to the process for UAAs to incorporate changing restoration technologies. For example, as best management practices are improved or developed, they can be included as proven restoration techniques that may be required in altered waters.²⁷⁴

150. In most cases there are both macroinvertebrate and fish IBI scores used in the UAA determinations and often there are multiple visits either from the same or multiple stations on a stream reach. In addition, the UAA review is not performed in a vacuum using only biological information. This is important in all reviews, but it is especially important for reaches with one or two biological samples. This includes reviewing chemical, habitat, and land use information and data from adjacent or nearby stations. This process is described in Exhibit S-63.²⁷⁵

G. Comments Regarding Application of IBI models, biological criteria, and UAA tools and MPCA Responses.

151. Several commenters suggested that the MPCA should better clarify the methods used as part of the TALU framework, including clearly describing the methodology for performing biological assessments and designation of uses.²⁷⁶

152. In order to clarify the methods for the fish and macroinvertebrate IBI methods, the MPCA modified the references to two of the documents referenced in proposed section Minn. R. 7050.0222. Specifically, the two IBI documents for fish and macroinvertebrates that were originally referenced in several places (Development of a Fish-based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control Agency (2014) and Development of a Macroinvertebrate-based Index of Biological Integrity for Minnesota's Rivers and Streams, Minnesota Pollution Control Agency (2014)) will be replaced by references incorporating documents that describe in detail the protocols for sampling, sample processing, and IBI calculation (Fish data collection protocols for lotic waters in Minnesota (2017) and Macroinvertebrate data collection protocols for lotic waters in Minnesota (2017)). These documents describe the requirements for collecting data that can be used in UAAs and assessments of lotic waters in Minnesota.²⁷⁷

²⁷³ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 17.

²⁷⁴ *Id.*, Attachment 2 at 17-18.

²⁷⁵ *Id.*, Attachment 2 at 18.

²⁷⁶ Exs. I.9, I.17, M.2.

²⁷⁷ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 19, Attachments 3 and 4.

153. One commenter suggested the Class 2A narrative water quality standards should be more specific to native taxa to make it consistent with the IBI models; or, the IBIs should be altered to consider non-native trout; or, the Minnesota Department of Natural Resources should stock only native trout in Class 2A streams. The commenter also asked how new IBI models or site-specific standards would be implemented in cases where natural habitat conditions are limiting biological assemblages.²⁷⁸

154. According to the MPCA, in developing biological assessment tools and biological criteria for cold water streams, the MPCA considered and accounted for cold water streams where native cold water fish species are naturally absent. As a result, the presence of native cold water species are not required for a stream to meet the goals for General Use cold water streams. Specifically, the development of the cold water fish IBIs and biological criteria included numerous streams where brook trout and other cold water obligate species may not have been historically present. First, these streams were part of the dataset used to develop the fish IBIs (Exhibit S-64). Second, this type of stream was considered as part of the Biological Condition Gradient (BCG) models (Exhibit L.6 and MPCA Response to Comments Memorandum, Attachment 5). This is best illustrated by the metrics used in the models (see Exhibit L.6 at 37, Table 8). There are two important points to make from Table 8. First, for BCG Levels 1-3, the metrics include alternate metrics for both streams with and without native brook trout populations. Second, BCG Levels 3 and 4 do not require the presence of native cold water taxa. BCG Levels 3 and 4 are important as most fish communities that attain this level of condition meet the General Use aquatic life use goals (Exhibit D at 42; see also Exhibits S-84 and S-85). Therefore, the biological criteria assigned to General Use cold water streams do not require the presence of native cold water taxa.²⁷⁹

155. Minnesota Rules also provide mechanisms for modifying standards in cases where a water body is atypical or unusual. Specifically, it may be appropriate to apply a site-specific modification to the standard (Minn. R. 7050.0220, subp. 7). The IBI models developed for assessing aquatic life were developed to apply to most streams, rivers, and ditches in the state, however, local conditions may result in the standards not being appropriate leading to the need to set a site-specific standard. UAAs are also a mechanism that can be used if certain criteria can be met (e.g., natural habitat conditions are limiting biological communities). Further, site specific standards are currently authorized under the CWA and Minnesota law and will continue to be available under the TALU framework. The MPCA states that it will work with the commenter on the possibility of using this option.²⁸⁰

156. Several commenters expressed concern that the TALU standards and IBIs might be applied to ephemeral waters.²⁸¹ In response to rule language modifications proposed to Minn. R. 7050.0222, subps. 2d, 3d, and 4d, at the hearing on February 16, 2017 (Exhibit L.5), the Agency received a comment that the modified language should be

²⁷⁸ Ex. I.7.

²⁷⁹ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 21.

²⁸⁰ *Id.*, Attachment 2 at 21-22.

²⁸¹ Exs. I.10, I.11, I.14.

changed to say “fish and/or macroinvertebrates” instead of “fish and macroinvertebrates.”²⁸²

157. According to the MPCA, it does not routinely sample ephemeral, lotic waters for fish and macroinvertebrates because the IBIs are not developed for use in this type of habitat. The IBIs and the associated biological criteria are only applicable to waters where the IBI models can be appropriately applied. Specifically, the water needs to be suitable to allow for the colonization of fish or macroinvertebrates (Exhibit D at 41, footnote 19; Exhibit S-85 at 3). The second comment regarding the commenter’s proposed modification is based on the idea that the modification should not require both fish and macroinvertebrates to be able to colonize before the biological criteria are applied; but, rather, that the colonization of either fish or macroinvertebrates, or both, must be allowed before the biological criteria are applied. The intent was not to require both. Thus, the MPCA has modified the language in Minn. R. 7050.0222, subps. 2d, 3d, and 4d, from “and” to “or” to better convey the intent that the stream should be suitable for the colonization of either fish or macroinvertebrates, or both, for the application of the biological criteria to be appropriate.²⁸³

158. Two commenters stated that waters need to be first reviewed to determine if the IBIs can be appropriately applied.²⁸⁴ Others commented that streamflow at the time of sampling should be considered.²⁸⁵

159. According to the MPCA, the review of waters to determine if the IBIs can be appropriately applied is already part of the UAA and assessment process. Specifically, the first phase of this determination is the site reconnaissance (MPCA Response to Comments Memorandum, Attachment 6) where it is determined if the station is appropriate for biological sampling. Reasons for rejecting a site include: no definable channel; insufficient wetted area for sampling; and wetland characteristics. A major reason for performing site reconnaissance is to determine if a water body is sufficient to allow for colonization of fish or macroinvertebrates. This is accomplished by both fall and spring reconnaissance visits to ascertain these conditions and provides the MPCA with multiple data points to make the determination. During the sampling event, no sample may be collected if conditions are not suitable (e.g., insufficient wetted area) or the sample may be flagged as not reportable if a sufficient sample could not be collected (e.g., electrofishing equipment not functioning properly). Following sample collection, but before UAA analysis and assessment, the data are reviewed to determine if the data are assessable. For example, samples may be flagged as not assessable if it is determined that flow conditions were atypical. The UAA and use designation steps are also important to determine the assessability of the data and the attainability of the use (MPCA Response to Comments Memorandum, Attachment 7 at 12). The assessability is also

²⁸² Tr. at 98.

²⁸³ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 22-23.

²⁸⁴ Exs. I.10, I.14.

²⁸⁵ Exs. I.5, I.17.

considered through the assessment steps as well as during other steps such as the IWM planning meetings, PJG meetings, and stressor identification studies.²⁸⁶

160. One commenter felt that because the Human Disturbance Score (HDS) used in the development of the biological criteria does not include percent mining, that, therefore the IBI scores in streams impacted by mining are inflated.²⁸⁷

161. According to the MPCA, the HDS is a generalized disturbance score that is used to “train” the IBI models (Exhibits S-64 and S-65). Specifically, it is used to select biological metrics that respond to a generalized disturbance gradient. Even though the HDS score that is used to develop the IBI models is not stressor or impact specific, biological communities have fundamental and predictable responses to stress. This means that although the HDS scores did not explicitly include mining land use, the impacts from these activities will still be reflected in the IBI scores. As a result, the IBIs are robust measures of biological health for a range of stressor types. In addition to the HDS not requiring a percent mining metric, the metrics within the HDS already directly and indirectly capture the potential impacts of mining on aquatic communities. The HDS includes a metric for the number of point sources per km² and a proximity correction factor for point sources which directly capture mining activity. In addition, there are other activities that are associated with mining that that are captured by the HDS score. These include: percent impervious surface, percent channelized stream per stream km², degree channelized at site, percent disturbed riparian habitat, condition of riparian zone, number of road crossings per km², and urban land use adjacent to site. It is reasonable to use HDS scores that incorporate mining through multiple metrics that directly or indirectly capture the impacts of mining.²⁸⁸

162. One commenter stressed that the index of biological integrity should include specific conductance as a metric in order to assist in measuring human disturbance to the water.²⁸⁹

163. According to the MPCA, the inclusion of specific conductance as a metric in the IBIs is not logical. The metrics in the IBIs are biological metrics that measure different aspects of the biological community. As part of a stressor identification review, the IBI scores, biological metric scores, and raw biological data can be used to determine if specific conductance (or the constituents which are causing elevated specific conductance) are a stressor, but specific conductance cannot be part of the IBI itself.²⁹⁰

164. Federal statute states the objective of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.”²⁹¹ One commenter felt that achieving the CWA objective means achieving the natural state of a water, which

²⁸⁶ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 23.

²⁸⁷ Tr. at 101-02.

²⁸⁸ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 23-24.

²⁸⁹ Tr. at 103-105.

²⁹⁰ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 24.

²⁹¹ 33 U.S.C. § 1251(a).

is equivalent to the Biological Condition Gradient Level 1, and therefore any water with a BCG designation less than Level 1 has room for improvement. This means, according to the commenter, waters that have the potential to meet the Exceptional Use should be designated as such.²⁹²

165. According to the MPCA, this is not an appropriate interpretation of the CWA and its objective. The CWA is clear that the 33 U.S.C. § 1251(a)(2) goal of the Act is consistent with the objective. It is an interim goal that provides for the protection and propagation of fish, shellfish and other wildlife.²⁹³ This goal is sometimes called by the shorthand “fishable/swimmable”. This goal is not equivalent to the natural condition or BCG Level 1. The practice of managing water quality is tied to the 33 U.S.C. § 1251(a)(2) goal and the CWA’s definition of an existing use. The CWA protects beneficial uses that are “existing uses” (i.e., uses actually attained in a surface water on or after November 28, 1975).²⁹⁴ Because the “restore and maintain” objective of the CWA is tied to existing uses that were actually attained in a surface water on or after November 28, 1975, and some surface waters have not actually attained “natural” conditions on or after that date, the CWA does not require that “natural” conditions be attained for all surface waters. There must exist some evidence that water quality has been sufficient to support a given use at some point in time since November 28, 1975, for that use to be defined as an “existing use” for a water body. In addition, the CWA interim goal explicitly says that it is consistent with the Act’s objective.²⁹⁵ Thus, the proposed TALU amendments do not require all waters to be classified as Exceptional Use. It should be noted that a General Use designation does not preclude efforts to improve the condition of a stream to the Exceptional Use.²⁹⁶

166. One commenter felt that the TALU approach, including the IBIs, must be informed by data on constructed and highly modified open channels, which are components of many public drainage systems.²⁹⁷

167. According to the MPCA, the commenter is incorrect that the IBIs were not informed by data on constructed and highly modified open channels. Channelized systems were explicitly considered as part of the IBI and biological criteria development process. Approximately one-third of samples collected by the MPCA and used in IBI and biological criteria development were from stream reaches determined to be channelized

²⁹² Tr. at 106-109.

²⁹³ 33 U.S.C. § 1251(a)(2) (“[I]t 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.”)

²⁹⁴ 40 C.F.R. § 131.3(e) (2016).

²⁹⁵ 33 U.S.C. § 1251(a) (“The objective of this Act is to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters. In order to achieve this objective it is hereby declared that, consistent with the provisions of this Act... (2) 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.”)

²⁹⁶ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 24.

²⁹⁷ Ex. I.4.

(e.g., Exhibits S-84 at 32-36, S-64 and S-65.)²⁹⁸ The MPCA has explicitly considered where the biological tools are applicable and designed these tools for assessing both natural and altered water bodies.²⁹⁹

168. One commenter asked that the MPCA standardize the location of biological monitoring stations as part of the TALU approach.³⁰⁰

169. The MPCA is not clear about exactly what the commenter means by standardizing the location of stream sites. If it means that the Agency should use a protocol to select the location of sampling stations, then this is already the case. For example, site reconnaissance is performed to determine if the water can be sampled at the station (described above in finding of fact 149). In addition, consideration is given to locating stations on stream reaches that are representative of the WID. For example, if a WID channel is largely natural then the goal is to locate the sampling station on a natural reach.³⁰¹

170. There are also broader strategies used by the MPCA for locating biological monitoring stations. These include:

- **IWM Cycle 1:** Selection of biological monitoring sites for the Intensive Watershed Monitoring (IWM) program follows a systematic approach. The first cycle of IWM used a framework of subwatersheds within each major watershed as the basis for selecting the location of sites near the outlet of each minor (~ 5 mi²) and major (~40 mi²) watershed. Sites were established in close proximity to these outlet unless there were unique circumstances (e.g., lake or large wetland) that made it impossible. Sites were also selected irrespective of their channel condition (natural stream or channelized/ditch) at the road crossing closest to the watershed outlet.

- **IWM Cycle 2:** Site selection for Cycle 2 of IWM also represents a systematic approach, though one that is slightly different than IWM Cycle 1. In Cycle 2 a shift in the watershed framework (to ~20-30 mi²) and changes to the guidelines for selecting sites within each watershed occurred. Rather than selecting sites that were close to the watershed outlet of these subwatersheds, IWM Cycle 2 guidelines emphasize the selection of sites that best represent the watershed. For example, if watercourses in the watershed are predominantly channelized, then a representative stream sampling location should be located on a channelized section as well. Often times, sites selected in IWM Cycle 1 meet this new criteria and will be retained in IWM Cycle 2, though on occasion new site locations will need to be selected to replace IWM Cycle 1 sites that do not satisfy the new guidelines.

²⁹⁸ The MPCA also pointed out that these SONAR exhibits do not explicitly mention channelized stream reaches because such waters were included in the analysis. In other words, if they were to be discussed in these documents it would have been to note that channelized streams were excluded from analyses.

²⁹⁹ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 25.

³⁰⁰ Ex. I.5.

³⁰¹ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 25.

- In addition to being representative of the predominant stream type in the watershed, IWM Cycle 2 site selection also considers the following:
 - Site access - sites should be reasonable to access and for which landowner permission is either not needed (e.g., public land or public right-of-way) or for which landowner permission has been granted previously.
 - Proximity to watershed outlet – sites that are closer to the outlet better reflect the condition of the watershed by “capturing” more of its area compared to a site that is closer to the headwaters of a watershed.
 - Co-location of sites – if a previously monitored station meets the IWM Cycle 2 guidelines, then it has preference over a new location, because there is less uncertainty regarding access to the site and the ability to effectively sample the biological communities there. It is also beneficial to co-locate biological monitoring and water quality (i.e., chemistry) monitoring sites as these combined data sets will provide a more comprehensive evaluation of watershed condition.³⁰²

171. One commenter asserted that the IBI dataset was not sufficiently large because a larger dataset of chemical measurements was determined to be a “modest” number of samples. The commenter felt this would result in under protective biological criteria values.³⁰³

172. According to the MPCA, the commenter appears to be mixing the data needs of biological samples with chemical samples. Fewer biological samples are needed because these samples integrate multiple stressors over time as compared to one-time chemical grab samples.³⁰⁴ A small or insufficient dataset would not necessarily result in under protective biological criteria, but rather would increase the risk of setting inaccurate thresholds (i.e., either too high or too low). This was a concern for the Agency so several different analyses were performed to determine the dataset size necessary to set accurate and protective biological criteria (see Exhibits S-84 at Appendix and S-85 at 8-9). As a result, the datasets used to set the proposed biological criteria thresholds were sufficient in size to set accurate and protective goals.³⁰⁵

173. One commenter thought that because the macroinvertebrate data is collected in the fall it misses the sensitive organisms which occur in the spring.³⁰⁶

174. The MPCA uses a fixed index period (late-July through October) to reduce the variability in the biological communities.³⁰⁷ This is important because macroinvertebrate communities change seasonally and by sampling these communities

³⁰² MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 25-26.

³⁰³ Tr. 119-120.

³⁰⁴ Ex. D at 40.

³⁰⁵ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 26.

³⁰⁶ Tr. 120-121.

³⁰⁷ MPCA Post-Hr’g Response to Comments Mem., Attachment 4 at 6.

within a fixed season reduces this variability. This means that the sampling of these organisms needs to be limited to defined time period. The selection of the late summer through fall index period was selected to sample macroinvertebrate communities during the period of greatest stress (i.e., lower water levels, higher temperatures, etc.). In doing so, these measurements are more likely to identify negative anthropogenic impacts than a spring sample where conditions (e.g., cooler temperatures, higher dissolved oxygen) might mask these impacts. There is also a practical reason to not use spring samples and that is avoiding high spring flows. These flows can make it impractical or dangerous to sample these waters. Sampling during high flows can also introduce unwanted sample variability as the IBI models were developed from streams sampled under normal flow conditions.³⁰⁸

175. One commenter felt that the taxonomic resolution used by the MPCA for fish and macroinvertebrates is not sufficient or at least not clear.³⁰⁹

176. The MPCA has well-defined taxonomic resolution goals which takes most macroinvertebrate taxa to the genus level and fish to the species level.³¹⁰ These are described in Exhibits L.7 and L.8 and in the MPCA Response to Comments Memorandum, Attachments 3 and 4. This is a standard taxonomic resolution used by advanced biological monitoring programs.³¹¹ Although the macroinvertebrate IBI models and biological criteria are based on genus-level data, the MPCA currently identifies some groups to the species level (e.g., Odonata (dragonflies and damselflies), Plecoptera (Stoneflies), Ephemeroptera (mayflies), and Trichoptera (caddisflies)). This finer taxonomic resolution can be used now as part of standards development, stressor identification, and beneficial use reviews or in future refinements of the biological monitoring tools.³¹²

177. One commenter stated that the MPCA's watershed approach fails to follow the ecoregion approach in EPA guidance for developing biological tools.³¹³

178. According to the MPCA, the use of ecoregions in biological tool development (e.g., IBIs) addresses natural variability in biological communities in order to maximize the ecological signal from anthropogenic impacts. For example, large rivers in southern Minnesota have naturally different biological communities than cold water streams in northern Minnesota. To address these dissimilarities, different models are developed so that comparisons are made between water bodies with similar natural characteristics. As mentioned by the commenter, ecoregions are one stream typology framework that can be used. However, this is not the only organizing framework that can be used and other frameworks can be used if appropriate and if they are demonstrated to be effective. The ecoregion approach is a *a priori* prediction of type, quality, and quantity of

³⁰⁸ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 26.

³⁰⁹ Tr. 121-123.

³¹⁰ Ex. D at 13, fn. 4.

³¹¹ See Ex. S-21.

³¹² MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 27.

³¹³ Tr. 123-124.

environmental resources. Ecoregions are classified based on similar geology, landforms, soils, vegetation, climate, land use, wildlife, and hydrology. Although ecoregions are useful, the MPCA relied on a more empirical approach to classifying streams using cluster analysis (the details of this are described in Exhibits S- 64 at 7-9 and S-65 at 8-10). As part of this analysis, ecoregions were evaluated as a possible classification framework, however it was determined that a different framework using geographic location, thermal regime, gradient, and stream size was more effective for grouping naturally similar streams (see proposed rule item Minn. R. 7050.0150 Subp. 4. (NN)). As a result, the typology framework used in Minnesota was developed and determined to be more robust and effective than the ecoregion framework. This framework is also better tailored to Minnesota's lotic resources and the biological monitoring program. Because the Minnesota framework was determined to be effective for Minnesota streams, it is a reasonable approach to address natural variability.³¹⁴

179. One commenter suggested that draft criteria do not belong in proposed rules. Specifically, the Biological Criteria for TALU, 2014 at 39 refers to "draft criteria" and Table 11 is "Draft."³¹⁵

180. According to the MPCA, the biological criteria remained draft because until recently they had not been proposed and the Agency had been seeking feedback from stakeholders on these documents during the previous 2+ years that they have been available. Once the TALU rule amendment is adopted, this document can be updated to reflect that they are no longer draft, but rather adopted biological criteria. In Exhibit D at 43, the biological criteria are also referred to as "draft" and should be "proposed."³¹⁶

H. Comments Regarding Modified Use Provisions and MPCA Responses

181. The development and implementation of a Modified Use in the proposed TALU rule elicited concerns from many commenters displaying divergent perspectives. These perspectives ranged from the view that all "artificial" watercourses should automatically be designated as Modified Use, to the view that the Modified Use creates a framework for unlawfully "downgrading" streams through a "mass reclassification." Several comments were received related specifically to the process for designating Modified Uses. This process includes both: the requirement in proposed section Minn. R. 7050.0222, subps. 3c and 4c, that a UAA be conducted supporting the designation; and that a rulemaking be undertaken to change the stream's classification in Minn. R. 7050.0470. Because the comments were varied on this topic, specific comments or groups of related comments are listed below followed by MPCA's response. Several comments were explicitly concerned with the protection of Class 2A waters. It should be noted that the proposed rule amendments do not propose to change any waters from Class 2A to Class 2B or *vice versa*. Nor do the rules propose to change how Class 2A or

³¹⁴ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 27.

³¹⁵ Ex. I.13.

³¹⁶ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 27-28.

2B designated uses are determined or changed.³¹⁷ The specific comments and responses follow.

182. There were several comments that were concerned that either the TALU rule amendments would result in broad reclassifications of waters or that the amendments need to include provisions to allow for broad reclassifications of waters. Some commenters were concerned that the Modified Use designation would create a framework for unlawfully “downgrading” streams through a “mass reclassification.”³¹⁸ Contrasting with this comment, another commenter suggested that “artificial” watercourses should automatically be designated as Modified Use.³¹⁹

183. According to the MPCA, the TALU rule amendments and supporting documentation create a framework for performing individualized determinations. Therefore, mass reclassifications do not occur for any group/class of streams such as drainage ditches. These individualized determinations are done through the CWA-required UAA process (40 C.F.R. § 131.10(j)) as that process is defined in proposed rule section Minn. R. 7050.0150, subp. 4. (LL), and as that process is required by proposed rule sections Minn. R. 7050.0222, subp. 3c. D(1) and subp. 4c. D(1). The UAA process is detailed on pages 28 through 31 of the SONAR (Ex. D) and explained in more detail in Exhibit S-63. Each of the 112 stream reaches proposed for designation to the Modified Use have been subjected to a UAA that demonstrates the General Use designation is not attainable. In Appendix A of Exhibit D (SONAR), data that were used in this evaluation along with narrative statements that describe the outcome of the data review are provided. It is reasonable to use a UAA process to make individualized determinations for the classification of Modified Use streams.³²⁰

184. If a UAA results in a classification that a stream is a Modified Use, it is not a downgrading of a stream from the current classification (i.e., default General Use); rather, it is a recognition that the current classification is not accurate. These are stream reaches where the use has not been assessed before, and therefore, the General Use is not an existing use. The UAA process does not result in a Modified Use (or Exceptional Use) classification without due consideration. The UAA process is rigorous as required by 40 C.F.R. § 131.10, and must demonstrate that the existing use is not attainable because of natural conditions or human-induced changes that have been in place since the date on which the CWA established existing uses (i.e., November 28, 1975). The result of a UAA is an appropriate classification of a stream. A UAA cannot result in the loss of an existing use because a UAA cannot violate the antidegradation provisions of the CWA and state law, which prohibit the loss of an existing use. It is reasonable to use the CWA-authorized UAA process to assign appropriate classifications to streams.³²¹

³¹⁷ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 28-29.

³¹⁸ Exs. I.3, I.4, I.7, I.8, I.9., I.10, I.13, I.14, I.16, I.17, I.18, I.19, M.1, M.2.

³¹⁹ Ex. I.17.

³²⁰ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 29.

³²¹ *Id.*

185. There is evidence from other states which have adopted a TALU framework into rule that it does not result in a mass reclassification of waters to uses below the 33 U.S.C. § 1251(a)(2) goal. Both Ohio and Maine have documented improvements in water quality since adoption of these rules.³²² For example, both Ohio and Maine have documented an increase in the number of stream reaches where the designated use is upgraded.³²³

186. Several comments were received regarding how the Agency interprets the available data when performing UAAs. Some commenters disagreed with the bar for data sufficiency in determining what is attainable in waters maintained for drainage and indicated that these waters may be restorable now or in the future and should be protected for their potential restorability.³²⁴ Related to this, a commenter expressed concern that UAAs would be based on the condition at the time of sampling meaning that a ditch might have recovered and been cleaned out sometime between November 28, 1975, and the time of sampling, thereby missing the existing General Use.³²⁵ The commenter further suggested that the five-year natural restoration threshold be reconsidered because it is arbitrary.³²⁶ One commenter suggested that the monitoring framework is not sufficient because stream reaches that are several miles long are being designated based on only 1-2 monitoring stations.³²⁷ One commenter was concerned that the process for designating waters does not require the agency to demonstrate existing use and shifts that burden to a party opposing the designation.³²⁸

187. According to the MPCA, as part of the UAA, the MPCA is making a reasonable determination of the restorability of waters proposed for Modified Use designation. This includes a review of available data (i.e., biological, chemical, and physical data) whether current or historical, a determination of whether or not the modification predates the existing use date, and an assessment of the status of the drainageway (i.e., whether or not it will recover on its own in the near term, if it is restorable, or if drainage maintenance is likely to continue). As part of this review, the five-year recovery period is intended as a guideline to determine if the modification to the channel is temporary and will recover in a relatively short period of time or if the intent is to retain the channelized state through routine maintenance.³²⁹

188. Regarding the spatial extent of the monitoring framework, it is not feasible to sample every mile of stream in the state. However, the MPCA does use guidelines that limit extrapolation of a designated use beyond what is reasonable. For both the Modified and Exceptional Uses, the designation is typically only extrapolated 5 miles from the sampling station (see Exhibit S-63 [pp. 16-17]). This may vary and it is more likely that the extrapolated use will extend less than 5 miles from the biological station. The objective

³²² Ex. D at 26.

³²³ *Id.*; MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 29-30, Attachment 7.

³²⁴ Tr. 94-95, 108-112; Exs. I.8, I.9.

³²⁵ Tr. 84-87.

³²⁶ Tr. 79-80.

³²⁷ Exs. I.16, L.12.

³²⁸ *Id.*

³²⁹ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 30.

is to identify relatively homogenous stream sections with similar natural characteristics and anthropogenic influences. As a result, land use changes, major tributary confluences, channel condition, and other landscape changes are considered as part of the UAA to determine the reasonable extent of the beneficial use between the monitored and unmonitored reaches.³³⁰

189. It is unreasonable to require the UAA to prove that the condition existed at every point in time after November 28, 1975.³³¹ The use of available data to make a determination of the existing use is consistent with guidance provided by the EPA:

EPA recognizes, however, that all the necessary data may not be available to determine whether the use actually occurred or the water quality to support the use has been attained. When determining an existing use, EPA provides substantial flexibility to states and authorized tribes to evaluate the strength of the available data and information where data may be limited, inconclusive, or insufficient regarding whether the use has occurred and the water quality necessary to support the use has been attained. In this instance, states and authorized tribes may decide that based on such information, the use is indeed existing.³³²

190. In making UAA determinations, the MPCA considers all available information – not only recent information. In Exhibit S-63 this is summarized as: “This approach seeks to bring in all available current and historical information from a water body unit (identified as a WID) in order to build supporting evidence for the attainability of a beneficial use.” In performing UAAs, the Agency considers historical information. For example, historical aerial imagery is important for determining the date when a stream was channelized to ensure the channelization is an existing use (i.e., a use existing on or before November 28, 1975). In cases where limited historical information is available, the Agency must make a reasonable determination using available data. Although not necessarily germane to the current proposed rule amendments, any proposal to change a Class 2A to Class 2B or *vice versa* would include historical information if available to determine the existing use. Due to the interest in many Class 2A waters (i.e., trout waters), there is often considerable historical data that can be used to determine the existing use. It is reasonable to base UAA studies on a comprehensive review of all available data to make a determination of the appropriate beneficial use, which protects the existing use.³³³

191. The burden of demonstrating the existing use for a stream does fall to the Agency.³³⁴ The definition of a UAA in proposed section Minn. R. 7050.0150, subp. 4(LL) states: “A use attainability analysis is required to remove a designated use specified in 33 U.S.C. § 1251(a)(2) that is not an existing use.” This statement indicates that a

³³⁰ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 30.

³³¹ *Id.*

³³² Water Quality Standards Regulatory Revisions, 80 Fed. Reg. 51027 (2015).

³³³ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 31.

³³⁴ Ex. D at 63-64.

designated use cannot be removed if it is an existing use. If a designated use is not an existing use then a UAA is required before the designated use may be removed. In application, a Modified Use designation is below the General Use designation (i.e., the 33 U.S.C. § 1251(a)(2) goal), which is why a UAA is required. The General Use designation cannot be removed if the General Use is an existing use. It is reasonable to require a UAA before removing a designated use that is not an existing use.³³⁵

192. A commenter suggested that the Modified Use designations should sunset after five years.³³⁶

193. The Modified Use designation does not create a permanent use without periodic review. Federal regulations require that, “The State shall also re-examine any waterbody segment with water quality standards that do not include the uses specified in section 101(a)(2) of the Act [33 U.S.C. § 1251(a)(2)] every 3 years to determine if any new information has become available.”³³⁷ 33 U.S.C. § 1251(a)(2) states “the protection and propagation of fish, shellfish, and wildlife and...recreation in and on the water” as goals, which are equivalent to the proposed General Use designation. This means that as new data is available, it will be considered to determine if the Modified Use designation is still appropriate. This process to consider new data will occur within the well-established “triennial review” that MPCA undertakes to comply with the CWA. Because of this required periodic review, it is unreasonable to automatically sunset Modified Use designations every five years as one commenter suggested. It is reasonable to rely on the triennial review process for periodic review of Modified Uses.³³⁸

194. Commenters suggested potential modifications to the Modified Use process in the rule as proposed. Commenters suggested that a Modified Use should only be designated when the nonattainment of the General Use biological criteria is solely caused by a nonpollutant, not when the stream is impacted by any chemical pollutant.³³⁹ A commenter further suggested there was a need to perform a stressor identification study as part of the UAA process for designating a Modified Use.³⁴⁰ Commenters also expressed concerns that chemical pollutants for which there are no promulgated standards would receive less scrutiny in water bodies designated as a Modified Use,³⁴¹ and that wastewater treatment permits for discharges to Modified Use streams would be designed to only protect the lower biological goals.³⁴² One commenter suggested that water quality standards cannot be set to balance important socioeconomic needs.³⁴³

195. According to the MPCA, the TALU framework, and its tiered biological uses, are just one part of the larger structure of Minnesota’s water regulations that are designed

³³⁵ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 31.

³³⁶ Ex. I.9.

³³⁷ 40 C.F.R. § 131.20(a).

³³⁸ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 31-32.

³³⁹ Ex. I.9.

³⁴⁰ Ex. I.13.

³⁴¹ Exs. I.9, I.13.

³⁴² Tr. 81-82.

³⁴³ Ex. I.9.

to reach the CWA objective of restoring and maintaining the chemical, physical, and biological integrity of our nation's waters. The larger structure of water regulations includes distinct chemical water quality standards, as well as implementation of chemical and biological standards through Total Maximum Daily Loads (TMDL), Watershed Restoration and Protection Strategies (WRAPS), and permits. It is not reasonable to demand that TALU incorporate aspects of water regulation that already exist in other portions of statute and rule.³⁴⁴ The proposed rule does not change any of the existing chemical water quality standards in Minn. R. ch. 7050. All existing water quality standards (e.g., chemical pollutant standards, antidegradation standards) continue to exist parallel to the proposed biological water quality standards in the TALU rule. The MPCA will continue to implement water quality standards for chemicals. In addition, as stated in the SONAR: "Designation to Modified Use will not change the standards that apply to Class 2 water bodies or affect existing permit conditions."³⁴⁵ Therefore, a Modified Use would not result in permits that are designed to protect a lower use. It is unreasonable for the TALU rule to be expected to somehow contain and convey all previously adopted water quality standards.³⁴⁶

196. The MPCA will continue to implement chemical standards even in stream reaches that are determined to have a biological impairment, as it has been doing using existing chemical standards and the narrative biological standard. During 2012-2013, the Agency assessed stream reaches to determine if they were impaired under the applicable chemical water quality standards and the narrative biological standard. If a stream reach was determined to be impaired for a chemical pollutant, the Agency included it on the 2016 impaired waters list. If the stream reach was determined to be impaired for aquatic life under the currently applicable narrative standard equivalent of the General Use, the agency included it on the 2016 impaired waters list. Of the 112 stream reaches proposed for Modified Use designation, 67 (61%) were included on the 2016 impaired waters list for aquatic life use impairments. Aquatic life use impairments are biological impairments. In the future, under a TALU framework, the Agency will assess streams for both chemical impairments and for biological impairments relative to the stream's TALU tier. The difference from the past is only that the biological impairment assessments are more precise and appropriate for the stream.³⁴⁷

197. The proposed rule requires that a Modified Use designation must be based on the demonstration that habitat is limiting one or both of the biological assemblages. This means that regardless of the chemical conditions, good or bad, the water body would still not meet the General Use biological criteria based on habitat conditions.³⁴⁸ This is stated in the WQS handbook:

In some instances, physical factors may preclude the attainment of uses regardless of improvements in the chemistry of the receiving

³⁴⁴ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 32.

³⁴⁵ Ex. D at 90.

³⁴⁶ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 32.

³⁴⁷ *Id.*, Attachment 2 at 32-33.

³⁴⁸ *Id.*, Attachment at 33.

water. This is particularly true for fish and wildlife protection uses where the lack of a proper substrate may preclude certain forms of aquatic life from using the stream for propagation, or the lack of cover, depth, flow, pools, riffles, or impacts from channelization, dams, or diversions may preclude particular forms of aquatic life from the stream altogether.³⁴⁹

198. According to the MPCA, it is reasonable to base biological water quality standards on an assessment that biological habitat is the limiting factor; and rely on water chemistry when assessing for separately authorized chemical water quality standards.³⁵⁰

199. The CWA does have provisions for setting goals below the 33 U.S.C. § 1251(a)(2) goal using socioeconomic reasons outside of antidegradation regulations. Pursuant to 40 CFR § 131.10(g)(6) “[c]ontrols more stringent than those required by sections 301(b) and 306 of the Act [33 U.S.C. §§ 1311, 1316] would result in substantial and widespread economic and social impact.”³⁵¹ However, the MPCA is not basing the Modified Use determinations on this reason.³⁵² Rather:

Adopting the TALU framework in rule:

- “Will better balance the requirement and need to protect and restore aquatic resources while recognizing that legacy, physical conditions may preclude the attainment of the CWA 101(a)(2) goal[.]”³⁵³

200. According to the MPCA, after considering the comments it was determined that in Appendix A of Exhibit D, the reason stated for designating the Modified Use was incorrect. In Exhibit D, 40 C.F.R. § 131.10(g)(3) is used: “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[.]” However, because these assessments are based on habitat limitation it is more appropriate to use 40 C.F.R. § 131.10(g)(4): “Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use[.]” As a result the Agency has modified the citation in Appendix A of the SONAR.³⁵⁴

201. Several commenters expressed concerns about the protection of downstream waters when a Modified Use is designated upstream.³⁵⁵ Related to this, a

³⁴⁹ Ex. S-113.

³⁵⁰ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 33.

³⁵¹ 40 CFR § 131.10(g)(6).

³⁵² MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 33.

³⁵³ Ex. D at 14.

³⁵⁴ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 34, Attachment 10.

³⁵⁵ Tr. 82-83, 97-98; Ex. I.9.

commenter suggested that it should not be possible to assign Modified Uses upstream of waters impaired for chemical pollutants.³⁵⁶ In some cases these concerns were specific to how Modified Uses might affect designated trout waters (2A streams) through downstream impacts or because trout may move from designated Class 2A streams to other waters (Class 2B) during certain periods of the year.³⁵⁷

202. The process of designating uses must protect downstream uses as required by 40 C.F.R. § 131.10(b), which states:

In designating uses of a water body and the appropriate criteria for those uses, the State shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters.

This provision requires the MPCA to consider and to ensure the attainment and maintenance of downstream water quality standards during the establishment of designated uses. Therefore, a downstream Class 2A cold water stream is considered during the assessment to reclassify a stream to a Modified Use. It is reasonable to comply with federal requirements to protect downstream waters as part of the use designation process. To clarify this, the Agency has modified the TALU amendments by including a new part to explicitly include downstream use protection language that follows federal regulations at Minn. R. 7050.0155.³⁵⁸ Although this modification is an improvement to the rules, the proposed Modified Uses already comply with this requirement. The designation of Modified Uses is based on legacy modifications to local, physical habitat conditions, which are limiting the biological assemblages. As such, the TALU framework does not ignore chemical pollutants that can increase loading of these pollutants downstream and cause downstream impairments.³⁵⁹

203. In their comments on the Modified Use process, commenters suggested potential modifications that would impact the entirety of the rule as proposed. One commenter suggested that the TALU rules should somehow prohibit future hydrological alterations in a watershed that could have an impact on stream biology.³⁶⁰ Taking an opposite perspective, another commenter suggested that waters impacted by unregulated activities that cause hydrological alterations (such as tiling, private ditching) should be eligible for a Modified Use designation.³⁶¹ In addition, this commenter and another noted that since cold water streams (Class 2A) can be impacted by legal, physical habitat alterations, the Modified Use designation and biological criteria should be applicable to these streams.³⁶²

³⁵⁶ Tr. 97-98.

³⁵⁷ Exs. I.16, L.12.

³⁵⁸ See finding 56, *supra*.

³⁵⁹ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 34.

³⁶⁰ Ex. I.9.

³⁶¹ Ex. I.7.

³⁶² Exs. I.7, I.11.

204. There are existing mechanisms in the CWA and state regulations that govern practices that impact hydrology in Minnesota watersheds and streams. These include: protection of existing uses (40 C.F.R. § 131.3); TMDL load allocations for non-point pollutant sources and related implementation strategies in WRAPS (33 U.S.C. § 1313(d); Minn. Stat. ch. 114D); stormwater management requirements under MS4 permits (Minn. R. ch. 7090); water withdrawal permits (Minn. Stat. ch. 103H); and drainage law (Minn. Stat. ch. 103E). The proposed TALU rule amendments do not alter these existing laws, which manage hydrological impacts. Rather, the TALU rule amendments create a framework within which these existing laws can be more precisely implemented using the best methods for each biological tier. The SONAR, as well as the CWA, are clear on how the concept of existing use is important for protecting beneficial uses and preventing hydrological alterations that impact attainment of beneficial uses. It is reasonable to rely on existing laws for the management of hydrological impacts and rely on water quality standards for establishing biological criteria to protect existing uses.³⁶³

205. According to the MPCA, the TALU framework is a proposed refinement of the Class 2 aquatic life beneficial use classification and related biological criteria. The proposed rule is not intended to substantively amend the narrative water quality standard in Minn. R. 7050.0150, subp. 3. The only amendment proposed in this rulemaking to the narrative water quality standard is to standardize the use of terms related to the TALU framework. The addition to the narrative standard language proposed by the commenter relates to regulating water flow. The need for an amendment of the narrative standard to control flow has not been established in this rulemaking.³⁶⁴

206. A Modified Use for cold water (Class 2A) streams (i.e., “coldwater Modified Use”) was considered during the development of the tiered biological criteria. This was determined not to be a feasible classification to develop and employ. There are a relatively small number of channelized cold water streams with biological monitoring data in the state.³⁶⁵ It is possible with the collection of additional data that a subset of legally altered cold water streams could support the development of a coldwater Modified Use. Regardless, the implementation of a TALU framework does not preclude use of a UAA to change the goals for a cold water stream if it can be demonstrated that the use is not feasibly attainable due to one of the six reasons stated in 40 C.F.R. § 131.10(g).³⁶⁶

207. The MPCA received a comment that the TALU UAA process should consider designation of Limited Use waters.³⁶⁷

208. According to the MPCA, Limited Resource Value waters (Class 7) are for the most part waters that are not appropriate (e.g., ephemeral) for application of the current biological tools (i.e., IBIs, biological criteria). As such, ephemeral stream reaches

³⁶³ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 35.

³⁶⁴ *Id.*

³⁶⁵ Exs. D at 48; S-84; S-85 at 14.

³⁶⁶ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 35.

³⁶⁷ Exs. I.4, I.10, I.14.

are avoided as part of biological monitoring (Exhibit D at 41, fn. 19), and therefore are reasonably not part of the UAA process for TALUs.³⁶⁸

I. Comments Regarding Specific Proposed Use Designations or Beneficial Use Tables and MPCA Responses

209. Concerns with the proposed Modified Use designations of 07020007-688, 07020007-525, 07020007-664, and 07040004-585 were raised because these stream reaches are proposed to be designated as Modified Use.³⁶⁹

210. There are three reaches proposed for Modified Use designation upstream of the reach (Fort Ridgely Creek - 07020007-689) noted by the commenters. As noted by one commenter, the reach 07020007-689 is managed as a seasonal, put-and-take trout (rainbow and brown trout) fishery. However, due to habitat and temperature limitations there is no reproduction or year-to-year carryover of trout (meaning they do not survive through the summer months). This reach is not a designated trout water (Minn. R. 6264.0050) or coldwater stream (Class 2A; Minn. R. 7050.0470). There are currently no plans to change the designation of this water to a cold water reach due to the conditions which limit survival of trout.³⁷⁰

211. Another commenter noted that the Minnesota River - Mankato Watershed Monitoring and Assessment Report (October 2016) listed some of the proposed Modified Use reaches upstream of 07020007-689 as supporting aquatic communities that meet the General Use (Class 2Bg) goals for aquatic life.³⁷¹ However, this is not the case. The determination of support in this report is based on the Modified Use (Class 2Bm) goals, meaning that these reaches meet the Modified Use biological criteria, but not the General Use biological criteria. The MPCA cannot propose a Modified Use for reaches that meet the General Use for both fish and macroinvertebrates. As mentioned previously, Modified Use designations are supported by limitations to the biological communities are the result of habitat limitation and not other stressors. A review of chemical data collected from these stream reaches indicated that there was an occurrence of low dissolved oxygen in one reach. This corresponded with an impairment of the macroinvertebrate community (i.e., the macroinvertebrate community did not meet the Modified Use goals and was listed as impaired). This triggers a more in-depth stressor identification study and a report that will describe restoration recommendations (i.e., WRAPS). As a result, the Modified Use designations for these reaches are not expected to negatively impact the beneficial uses of the downstream reach (i.e., 07020007-689).³⁷²

³⁶⁸ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 36.

³⁶⁹ Exs. I.16; L.12.

³⁷⁰ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 37.

³⁷¹ Ex. L.12.

³⁷² MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 37.

212. A commenter noted Fort Ridgely Creek was misspelled in several locations (as “Ridgley”). The MPCA will correct this in the SONAR (Attachment 10) and in the MPCA waterbody databases.³⁷³

213. Reach 07040004-585 on Trout Brook is proposed for designation as a Modified Use based on poor habitat which is limiting the fish communities. A detailed stressor identification study has been completed and concluded that habitat was limiting the fish community and did not identify any other stressors. The stream reach upstream from 07040004-585 has been confirmed as General Use, but is currently designated a Class 2B. Trout (brook trout) have been collected in this reach, but there are currently no plans to change the designation of this reach to cold-water. Regardless this is outside the scope of this rulemaking. Since the proposed Modified Use is downstream of the designated trout waters and the reach is limited by habitat, it is not expected to negatively impact these waters.³⁷⁴

214. Two commenters stated that queries from the MPCA’s database indicate that there is not adequate information for assessment, and therefore there is not enough information to perform UAAs.³⁷⁵

215. According to the MPCA, the online database referenced by the commenters does not display the most up-to-date data. This information is based on the latest Impaired Waters List approved by the EPA. The last list approved by the EPA is the 2012 list, so these data are more than four years out of date. Recognizing this as an issue the MPCA has begun a policy change that will update this database more regularly. This will make this information available to stakeholders in a timely manner. However, for the reaches proposed for TALU designations as part of the TALU rule amendments, this information is contained in Appendix A of Exhibit D. All of these reaches have sufficient data to perform the UAA and assessments.³⁷⁶

216. One commenter stated “Colby Lake is a drinking water, so any water” “within Colby Lake “should not have a lesser designation.”³⁷⁷

217. According to the MPCA, the listing of this WID in the St. Louis beneficial use table (<https://www.pca.state.mn.us/sites/default/files/wq-s6-46c.pdf>) is an error. This WID is an “Artificial Flow Through Path” and it has no bearing on the designated uses for the lake. These artificial segments are needed to create continuity for the streams as they move other bodies of water. These “Artificial Flow Through Path” WIDs are intended to be eliminated and the use tables and this WID will be removed.³⁷⁸

³⁷³ Ex. L.12; MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 37.

³⁷⁴ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 37-38.

³⁷⁵ Exs. I.8, L.12.

³⁷⁶ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 38.

³⁷⁷ Ex. I.13.

³⁷⁸ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 38-39.

J. Comments Regarding Proposed UAA Process for Designating Exceptional Uses and MPCA Responses

218. Some commenters suggested that the TALU rules create an improper presumption that streams not found to be “Exceptional” in a current assessment are not “Exceptional” existing uses. As a result, waters that attained the Exceptional Use on or after November 28, 1975, but which have been degraded below that goal before sampling would not be protected.³⁷⁹

219. The proposed rule amendments are fully consistent with the CWA. There is a presumption that waters be protected to the interim goal of the CWA at 33 U.S.C. § 1251(a)(2) (“provides for the protection and propagation of fish, shellfish, and wildlife”). However, the CWA does not provide a presumption for an Exceptional Use, and therefore, according to the MPCA, this use must be reasonably demonstrated. Currently, these determinations are made using fish and macroinvertebrate data along with supplemental information such as habitat, water chemistry, and land use data. However, at a minimum this currently requires sampling of both fish and macroinvertebrates using standard protocols (see MPCA Response to Comments Memorandum, Attachments 3 and 4) and a demonstration that they meet or did meet these goals on or after November 28, 1975. Hypothetically, it is not unreasonable to designate an Exceptional Use using different information than is currently required and the proposed rule language does not preclude that. However, the MPCA has not encountered a case where such information was available and sufficient for an Exceptional Use designation.³⁸⁰

220. Several commenters suggested that some broad categories of waters should be designated as Exceptional Use including waters in the BWCA, Lake Superior, waters in Voyageurs National Park, scientific and natural areas, wilderness areas, wild river segments, and trout streams.³⁸¹ Related to this were comments seeking clarification regarding the need to perform a UAA to designate Exceptional Use streams.³⁸²

221. According to the MPCA, the designation of an Exceptional Use requires sufficient data to demonstrate that it is an existing use (i.e., the data must demonstrate attainment of the biocriteria by both fish and macroinvertebrates). Although a UAA is not required by the CWA, a UAA-like process is needed.³⁸³ The resumption of Exceptional Uses for these other broad categories of waters cannot on its own fulfill the demonstration of Exceptional attainment and to automatically designate them as such would result in assessment errors. In Ohio in the 1970s and 1980s, Exceptional Uses were originally classified on a cultural basis and without a confirmation of biological status as Exceptional.³⁸⁴ This resulted in a correction process as biological data has become available via routine biological assessments. Other regulations and programs provide

³⁷⁹ Exs. I.9, I.13, I.19, M.1, M.2.

³⁸⁰ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 39-40. See findings 177-181, *supra*.

³⁸¹ Exs. I.9, I.13, I.17.

³⁸² Exs. I.9, I.13, M.3.

³⁸³ MPCA Post-Hr’g Response to Comments Mem., Attachment 7 at 5; Ex. S-63.

³⁸⁴ *Id.*, Attachment 11.

additional protection to these waters (antidegradation, general stormwater permits, etc.). However, conflating all ORVWs or natural scenic waters, for example, with the Exceptional Use does not recognize the differences in the programs.³⁸⁵

222. One commenter asked for more guidance to define what Exceptional Use means in order to standardize its application. The commenter also felt the word “comparable” has little meaning in science.³⁸⁶

223. According to the MPCA, the term Exceptional Use is well defined in both rule and in the supporting documents.³⁸⁷ In Exhibit L.6, Tables 5-13 transparently describe the rules for determining BCG levels. For example, to be considered a BCG Level 3, a fish sample in a Prairie River needs to have 11-16 species, 15-25% of the species need to be sensitive species (i.e., attribute 1, 2, and 3 species), individuals of the most numerous tolerant species (i.e., attribute 5a or 6a species) need to comprise less than 7-13% of the sample, etc. As described in the rule language, the biological criterion or threshold is based on the 75th percentile of IBI scores from a population of samples that score as BCG Level 3. As a result, Exceptional Use communities are represented by the 25% best sites in BCG Level 3 and most samples in BCG Levels 2 and 1. Although this can be somewhat confusing without a background in aquatic science and biological monitoring, the explicit details of what the Exceptional Use means and how it is measured is contained in the TALU reference documents.³⁸⁸

224. The use of the term “comparable” mirrors the language accepted and used to define biological integrity: “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.”³⁸⁹ It is also similar to the language used in Ohio’s rule for establishing TALUs.³⁹⁰

225. One commenter stated there should be an effort to determine TALUs for trout waters and waters adjacent to Exceptional Use waters.³⁹¹

226. The MPCA does not disagree that efforts are needed to identify additional Exceptional Uses and that the classes of waters indicated by the commenter are a good suggestion. However, the monitoring efforts of the Agency are not unlimited and fulfill many roles so efforts to identify Exceptional Use waters will need to be balanced with these other goals.³⁹²

³⁸⁵ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 40.

³⁸⁶ Ex. I.13.

³⁸⁷ See, e.g., Ex. L.6.

³⁸⁸ MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 40.

³⁸⁹ Ex. S-11.

³⁹⁰ Ex. S-87.

³⁹¹ Ex. I.9.

³⁹² MPCA Post-Hr’g Response to Comments Mem., Attachment 2 at 41.

K. Comments Regarding Economic Analysis, Cost of Compliance, and Cost of Implementation and MPCA Responses

227. One commenter expressed concern that the rules could hinder agricultural production.³⁹³

228. According to the MPCA, as discussed in Hearing Exhibit D (SONAR) sections 6 and 8, it determined that the proposed TALU rule amendments should not result in new costs to agricultural producers.³⁹⁴ The proposed amendments provides more certainty for agricultural producers by setting appropriate goals for some waters maintained for drainage.³⁹⁵

229. One commenter was concerned that considerable expense will be incurred to complete use attainability analyses.³⁹⁶

230. According to the MPCA, the cost of performing UAAs is largely borne by the MPCA, although the MPCA also encourages public input through stakeholder engagement (e.g., IWM planning meetings, PJG meetings) and rulemaking.³⁹⁷ The cost of conducting UAA's can be reasonably borne by the MPCA as evidenced by the 141 UAA's completed by the MPCA as part of this rulemaking effort.³⁹⁸

231. One commenter suggested that cost savings or efficiencies could be obtained by not sampling ditches that are 100% man-made for the purpose of assessments.³⁹⁹

232. Artificial or constructed ditches are waters of the state under Minn. Stat. § 115.01, subd. 22, and they are part of the framework of aquatic systems in Minnesota.⁴⁰⁰ According to the MPCA, it is important and reasonable to manage manmade ditches to protect the aquatic life that utilize these habitats, as well as the beneficial uses downstream. The analysis of costs to be incurred by the MPCA, included in Exhibit D on pages 63 through 64, assumes that sampling of waters of the state include both natural and man-made waters.⁴⁰¹

233. One commenter asked how might an Exceptional Use designation affect a city with an MS4 permit (concerning storm water management); and whether it is possible to develop and urbanize a land area and still maintain an Exceptional Use?⁴⁰²

³⁹³ Ex. I.2.

³⁹⁴ Ex. D. at 62-79, 82-90.

³⁹⁵ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 42.

³⁹⁶ Ex. I.4.

³⁹⁷ Ex. D at 64.

³⁹⁸ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 42.

³⁹⁹ Ex. I.17.

⁴⁰⁰ Minn. Stat. § 115.01, subd. 22 (2015); See also Exs. D and S-27.

⁴⁰¹ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 42.

⁴⁰² Tr. 54; Ex. M.3.

234. In preparing its response to this comment, the MPCA discovered an error in the economic analyses provided in Hearing Exhibit D at 85. The analysis is characterized as being for MS4 cities. The analysis inadvertently pulled database information on individual stormwater NPDES permits, and did not pull information on MS4 cities. The analysis was accurate for individual stormwater NPDES permits (i.e., no expected impact because most permittees do not have offsite discharge under normal runoff events; and any current discharge is supporting the Exceptional Use) and will be corrected in the SONAR. (See MPCA Response to Comments Memorandum, Attachment 10.) During the post-hearing comment period, the MPCA conducted additional analysis using the MS4 city database. The additional analysis did not identify any MS4 permits within a mile of any waters being proposed as Exceptional Uses as part of this rule. The additional analysis did identify four MS4 permits that are within a mile of waters that have the potential to be designated as Exceptional Uses in future rulemakings, but which are not being proposed for designation in the current rulemaking. The intent of both analyses was to use all available data to identify potential long-term economic effects of the TALU framework. The result of both analyses is consistent with the conclusion noted in Exhibit D at 85; that no permits are expected to be impacted by the reaches being designated as Exceptional Use as part of this rule amendment.⁴⁰³

235. Because the MPCA has not identified any MS4s that would be impacted by proposed Exceptional Use designation in the current rulemaking, the commenter's question is only forward looking and the answer, by necessity, is speculative. According to the MPCA, the question becomes how might a city with an MS4 permit be affected if a stream reach within one mile of an MS4 permit is designated through a future rulemaking as Exceptional Use? The process to protect an Exceptional Use in a situation where an MS4 city may impact the use would be similar to that described for NPDES permits.⁴⁰⁴ This involves determining if the activity will increase pollution to the Exceptional Use and determine if those levels would result in the loss of the use. If there is a risk to the beneficial use based on this analysis, the result would be to develop plans to avoid impact or to implement BMPs that prevent the loss of the Exceptional Use. In cases where the loss of the Exceptional Use occurs, restoration of the stream would be the first option, although stream mitigation could also be considered as an option. It is very important to note that the four potential Exceptional Use streams that are within one mile of an MS4 city are all Class 1B (i.e., drinking water) and Class 2A (i.e., cold-water) streams. That means the potential future Exceptional Use streams already receive increased protection under these classifications, regardless of a future potential TALU classification. So, the nearby cities should already be aware of these classifications and be planning for protection of these streams if urban expansion is anticipated.⁴⁰⁵

236. One commenter expressed concern about the sufficiency and accuracy of the MPCA's economic and cost analysis related to municipal separate storm sewer

⁴⁰³ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 42-43.

⁴⁰⁴ Ex. D at 87-88.

⁴⁰⁵ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 43.

systems (MS4). It also sought identification of MS4s related to potential Exceptional Use streams.⁴⁰⁶

237. There will not be the need for MS4 cities to adopt additional ordinances or regulations. Therefore, there is no inaccuracy related to this topic on page 73 of the SONAR.⁴⁰⁷

238. The four MS4s and the three related potential Exceptional Use streams are:

- Duluth Township MS4 - Captain Jacobson Creek (04010102-584)
- Duluth City MS4 - Amity Creek (04010102-541)
- St Louis County MS4 - Amity Creek (04010102-541)
- Rice Lake Township MS4 - Unnamed creek (Lester River Tributary) (04010102-539)

The three potential Exceptional Use streams are all Class 2A (i.e., cold-water/trout water) streams. This means that they already have existing additional protections that are likely to be sufficient to protect an Exceptional Use. Although a future proposal to designate these three streams as Exceptional Use is unlikely to impact MS4s, the MPCA provided an overview of the process for determining and preventing the loss of a threatened Exceptional Use within the boundaries of a hypothetical MS4 municipality in Attachment 2 of the March 17, 2017, MPCA Responses to Public Comments on pages 42 through 43.⁴⁰⁸

L. Comments Regarding Public Participation and MPCA Responses

239. Several commenters felt that stakeholders did not have sufficient time or access to review the technical support documents, the proposed rule, or the proposed use designations. Several commenters suggested improvement to the process for reviewing and changing classifications, asking that stakeholders be included before the formal rulemaking, and that proposals for Modified Uses be noticed more widely.⁴⁰⁹

240. The MPCA provided information throughout an extended public outreach period with stakeholders starting back in 2009.⁴¹⁰ The goal of these interactions was to not only make stakeholders aware of the TALU framework and to receive feedback on the rule as it was being developed, but also to receive feedback on technical support documents. As a result, these supporting documents were available years (1-3 years depending on the document) before the rules were proposed. During stakeholder meetings, the MPCA routinely directed stakeholders to the TALU webpage, and the documentation contained on that page in addition to requesting feedback from

⁴⁰⁶ Ex. M.3.

⁴⁰⁷ MPCA Rebuttal Response to Comments at 5 (Mar. 27, 2017).

⁴⁰⁸ *Id.* at 6.

⁴⁰⁹ Exs. I.8, I.13, I.16, L.12.

⁴¹⁰ Ex. D at 31-37; Tr. 39-40.

stakeholders on these materials. The public participation process met and exceeded the APA requirements.⁴¹¹

241. Some commenters suggested ways to improve the documentation for the UAAs (e.g., providing raw IBI scores and biological criteria in tables) and the MPCA will consider these to improve communication with stakeholders.⁴¹²

242. Use designations are required to be listed in rule by Minn. R. 7050.0470, and any use designation requires a rulemaking to change the classification in Minn. R. 7050.0470. The MPCA followed all required steps under the APA for designating uses and exceeded them in some cases. The MPCA made the draft list of proposed use designations contained in this rule amendment available to the public on the Agency's website in June 2016 and actively encouraged review and comment. Future use designation proposals will also undergo formal rulemaking along with the required public participation.⁴¹³

243. One commenter suggested that the MPCA consider how the TALU classifications will be used by other entities in their planning efforts. For example, other entities may develop more and improved best management practices (BMPs) to address non-point source pollutants. The commenter also expressed concern that resources from these other entities are likely to be focused on areas that are not categorized as Modified Use.⁴¹⁴

244. The MPCA expects the TALU framework will provide benefits and prove to be useful for entities beyond the MPCA. The outcome of the TALU framework and biological monitoring in Minnesota will result in better BMPs. However, the Agency does not agree that the Modified Use designation necessarily means that these systems will be ignored, nor that resources will be directed elsewhere. By setting appropriate and attainable goals, the work that is needed to restore or protect Modified Use waters can be better targeted and is more likely to succeed. Over time as protection and restoration methods improve, the goals for Modified Use waters can shift to match available technologies.⁴¹⁵

245. One commenter felt the process used to assess waters and designate their use does not involve sufficient public input, especially from local partners.⁴¹⁶

246. According to the MPCA, one of the first steps in the monitoring of watersheds involves engagement with local partners in IWM planning meetings to determine the sampling framework (i.e., where will sampling station be located and what parameters will be sampled). Local partners are also involved in the use designation and

⁴¹¹ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 44.

⁴¹² *Id.*

⁴¹³ *Id.*

⁴¹⁴ Ex. I.16.

⁴¹⁵ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 45.

⁴¹⁶ Ex. I.17.

assessment of waters (e.g., PJG meetings, impaired water list comment period, and use designation rulemaking). The Agency is also interested in receiving feedback from stakeholders on rulemakings, including use designation rulemakings, and reasonably involves public stakeholders in these efforts.⁴¹⁷

247. One commenter asserted that the TALU rulemaking process may violate the public participation requirements of the CWA.⁴¹⁸

248. Revised regulations governing state adoption of water quality standards (WQS) took effect on October 20, 2015, including changes to 40 C.F.R. § 131.20 defining the state process for adoption of WQS. Many of the federal requirements are similar to requirements of the APA. The federal law includes requirements that exceed the APA hearing process in several ways, including: a 45-day public notice in advance of a hearing; and a record of the hearing made available to requesters at cost. The MPCA was aware of, and has satisfied, these additional federal requirements. The notice of hearing for this rulemaking included a 45-day notice period and all documents and data were made available throughout the notice period. A public hearing was held on February 16, 2017, and a transcript was made of the hearing and posted for free download by any person on the Agency's website within 10 days after the hearing. Paper copies of the transcript will be made available to any requester at cost.⁴¹⁹

249. Multiple commenters made the identical claim that the proposed use designations were not properly noticed because the public notice for the proposed TALU rules did not say that any water bodies would be downgraded if the rules were approved, let alone more than 100 waters.⁴²⁰

250. The proposed use designations were properly noticed and met all APA requirements for rulemaking. The dual notice published in the *State Register* on December 19, 2016, contained the following information on page 662 (the third full page of the notice):

1. 141 stream reaches will be reclassified based on 2012 and 2013 Intensive Watershed Monitoring (IWM) efforts in 14 watersheds. The MPCA is proposing to reclassify specific streams using the TALU framework, where existing intensive monitoring data have demonstrated the need for a more accurate use designation. Based on monitoring data from fourteen (8-digit Hydrological Unit Code) 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

⁴¹⁷ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 45.

⁴¹⁸ Ex. I.12.

⁴¹⁹ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 45.

⁴²⁰ Exs. I.9, I.13, I.19.

MPCA anticipates that future TALU reclassifications will occur annually following the IWM schedule.⁴²¹

In support of the published notice, the SONAR was made available on the same date and the published notice directed interested persons to the SONAR for more comprehensive information. The SONAR contains detailed information on the reclassifications.⁴²²

251. One commenter suggested that while the SONAR described the MPCA's efforts to address environmental justice issues, it did not seek the advice of the MPCA's Environmental Justice Advisory Committee, which was formed in mid-2016.⁴²³

252. According to the MPCA, the Environmental Justice Advisory Committee did not meet for the first time until October 28, 2016. By this point, the analyses in the SONAR were significantly complete so there was no opportunity to involve the Environmental Justice Advisory Committee in these analyses.⁴²⁴

VII. Summary

253. The Administrative Law Judge finds the MPCA gave notice to interested persons in this matter. The Dual Notice, the proposed rules, and the SONAR complied with Minn. R. 1400.2080, subp. 5 (2015).

254. The Administrative Law Judge finds that the MPCA has provided a rational explanation for the proposed rules and the grounds on which it is relying. While some groups and individuals disagree with some of the MPCA's proposals, the MPCA is allowed to make rational choices between possible approaches and the Administrative Law Judge cannot properly interfere with its policy-making discretion.

255. The Administrative Law Judge finds that the MPCA has demonstrated, by an affirmative presentation of facts, the need for and reasonableness of the proposed amendments and modifications to the rules under consideration.⁴²⁵

256. The Administrative Law Judge finds that all the MPCA's proposed rule changes addressed in this Report are authorized by statute and that there are no other defects that would bar the adoption of those rules.⁴²⁶

⁴²¹ Ex. F.2 at 662.

⁴²² MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 46.

⁴²³ Tr. 105.

⁴²⁴ MPCA Post-Hr'g Response to Comments Mem., Attachment 2 at 46.

⁴²⁵ See Minn. Stat. § 14.50.

⁴²⁶ *Id.*

Based on the foregoing Findings of Fact, the Administrative Law Judge makes the following:

CONCLUSIONS OF LAW

1. The Administrative Law Judge must make the following inquiries: Did the agency have statutory authority to adopt the rule; is the rule unconstitutional or otherwise illegal; has the agency complied with the rule adoption procedures; is the rule rationally related to the agency's objective and does the record demonstrate the need for the rule; is the rule substantially different than the proposed rule; is the rule unconstitutional or illegal; does the proposed rule grant undue discretion to government officials; does the rule improperly delegate the agency's powers to another agency, person, or group; and does the proposed language meet the definition of a rule?⁴²⁷

2. Under Minn. Stat. § 14.14, subd. 2, and Minn. R. 1400.2100 (2015), the MPCA must establish the need for, and reasonableness of, the proposed rule amendments by an affirmative presentation of facts. In support of the rules, the MPCA may rely upon materials developed for the hearing record. The MPCA may also rely on "legislative facts" (namely, general and well-established principles that are not related to the specifics of a particular case, but which guide the development of law and policy) and the MPCA's interpretation of related statutes.⁴²⁸

3. A proposed rule is reasonable if the agency can "explain on what evidence it is relying and how the evidence connects rationally with the agency's choice of action to be taken."⁴²⁹ By contrast, a proposed rule will be deemed arbitrary and capricious where the agency's choice is based upon whim, is devoid of articulated reasons or, "represents its will and not its judgment."⁴³⁰ Consequently, the Administrative Law Judge does not "vote" for a particular policy, or select a policy the Judge considers to be in the best interest of the public or the regulated parties.⁴³¹

4. An important corollary to these standards is that when proposing new rules, an agency is entitled to make choices between different possible regulatory approaches, so long as the alternative that is selected by the agency is a rational one. Thus, while reasonable minds might differ as to whether one or another particular approach represents "the best alternative," the agency's selection will be approved if it is one that a rational person could have made.⁴³²

⁴²⁷ See Minn. R. 1400.2100.

⁴²⁸ See *Mammenga v. Agency of Human Services*, 442 N.W.2d 786, 789-92 (Minn. 1989); *Manufactured Housing Institute v. Pettersen*, 347 N.W.2d 238, 240-44 (Minn. 1984); *Minnesota Chamber of Commerce v. Minnesota Pollution Control Agency*, 469 N.W.2d 100, 103 (Minn. Ct. App. 1991); see also, *United States v. Gould*, 536 F.2d 216, 220 (8th Cir. 1976).

⁴²⁹ *Manufactured Hous. Inst.*, 347 N.W.2d at 244.

⁴³⁰ See *Mammenga*, 442 N.W.2d at 789; *St. Paul Area Chamber of Commerce v. Minn. Pub. Serv. Comm'n*, 251 N.W.2d 350, 357-58 (Minn. 1977).

⁴³¹ *Manufactured Hous. Inst.*, *supra*, at 244-45 ("the agency must explain on what evidence it is relying and how that evidence connects with the agency's choice of action to be taken ... We do not substitute our judgment for that of the Department of Health").

⁴³² *Peterson v. Minn. Dep't of Labor & Indus.*, 591 N.W.2d 76, 79 (Minn. Ct. App. 1999); *Minnesota Chamber of Commerce*, 469 N.W.2d at 103.

5. The MPCA has demonstrated the need for and reasonableness of the proposed rules by an affirmative presentation of facts in the record within the meaning of Minn. Stat. §§ 14.14 and 14.50. Differences in opinion about the rules demonstrated by multiple commenters have resulted in permissible changes to the proposed rules which do not significantly alter them. Further, any comments about the reasonableness of the rules that did not result in modifications to the proposal did not demonstrate the proposed rules are not needed and reasonable. Further, there is no evidence or indication in the record that the rules are unconstitutional or otherwise illegal.

6. The MPCA has demonstrated its statutory authority to adopt the proposed rules, and has fulfilled all other substantive requirements of law or rule within the meaning of Minn. Stat. §§ 14.05, subd. 1; 14.15, subd. 3; and 14.50 (i) and (ii). The rules meet the definition on “rule” under Minn. Stat. § 14.02, subd. 4.

7. The MPCA has fulfilled the procedural requirements of Minn. Stat. § 14.14 and all other procedural requirements of law or rule. The failure of MMB to substantively respond to the MPCA’s request for consultation does not result in a fatal defect in the procedural requirements because there is no resulting prejudice to any party or a demonstrated error.⁴³³ The Administrative Law Judge concludes that the MPCA has fulfilled its additional notice requirements.

8. An agency may incorporate by reference into its rules the text from publications and documents which are determined by the Revisor of Statutes to be conveniently available to the public.⁴³⁴ “The statement of incorporation by reference must include the words ‘incorporated by reference’; must identify by title, author, publisher, and date of publication the standard or material to be incorporated.”⁴³⁵ It must also “state whether the material is subject to frequent change” and include a statement of availability.⁴³⁶

9. The MPCA has properly incorporated by reference into the rules: 1) *Calibration of the Biological Condition Gradient for Streams of Minnesota*, Gerritsen et al. (2012); 2) *Fish data collection protocols for lotic waters in Minnesota*, MPCA (2017); 3) *Macroinvertebrate data collection protocols for lotic waters in Minnesota*, MPCA (2017); and 4) *Development of Biological Criteria for Tiered Aquatic Life Uses*, MPCA (2016).

10. Changes to the referenced materials will not necessarily result in changes to the rule or standard, unless the title, author, publisher, or date of the referenced document does not change or the reference in the rule changes accordingly through proper rulemaking.

⁴³³ Minn. Stat. § 14.15, subd. 5 (2016).

⁴³⁴ Minn. Stat. § 14.07, subd. 4 (2016).

⁴³⁵ *Id.*

⁴³⁶ *Id.*

11. Minn. Stat. § 14.127 requires 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: (1) any one business that has less than 50 full-time employees; or (2) any one statutory or home rule charter city that has less than ten full-time employees.” The agency must make this determination before the close of the hearing record, and the Administrative Law Judge must review the determination and approve or disapprove it.⁴³⁷

12. The MPCA has made the determinations required by Minn. Stat. § 14.127 and the Administrative Law Judge approves those determinations.

13. Under Minn. Stat. § 14.128, an agency must determine if a local government will be required to adopt or amend an ordinance or other regulation to comply with a proposed agency rule. The agency must make this determination before the close of the hearing record, and the Administrative Law Judge must review the determination and approve or disapprove it.⁴³⁸

14. The MPCA has made the determination required by Minn. Stat. § 14.128 and that determination is hereby approved.

Based upon the foregoing Conclusions of Law, the Administrative Law Judge makes the following:

RECOMMENDATION

IT IS HEREBY RECOMMENDED that the proposed amended rules be adopted.

Dated: April 24, 2017



JIM MORTENSON
Administrative Law Judge

Reported: Transcript Prepared by
Kirby A. Kennedy & Associates (one volume).

⁴³⁷ Minn. Stat. § 14.127 (2016).

⁴³⁸ Minn. Stat. § 14.128, subd. 1 (2016).

NOTICE

This Report must be available for review to all affected individuals upon request for at least five working days before the agency takes any further action on the rules. The agency may then adopt the final rules or modify or withdraw its proposed rules. If the agency makes any changes in the rules, it must submit the rules to the Chief Administrative Law Judge for a review of the changes prior to final adoption. Upon adoption of a final rule, the agency must submit a copy of the Order Adopting Rules to the Chief Administrative Law Judge. After the rule's adoption, the Office of Administrative Hearings will file certified copies of the rules with the Secretary of State. At that time, the agency must give notice to all persons who requested to be informed when the rule is adopted and filed with the Secretary of State.