

STATE OF MINNESOTA
OFFICE OF ADMINISTRATIVE HEARINGS

In the Matter of the Proposed Rules of
the Pollution Control Agency Amending
the Sulfate Water Quality Standard
Applicable to Wild Rice and Identification
of Wild Rice Rivers, Minnesota Rules
parts 7050.0130, 7050.0220, 7050.0224,
7050.0470, 7050.0471, 7053.0135,
7053.0205, and 7053.0406

**REPORT OF THE CHIEF
ADMINISTRATIVE LAW JUDGE**

This matter came before the Chief Administrative Law Judge pursuant to the provisions of Minn. Stat. § 14.15, subd. 3 (2016), and Minn. R. 1400.2240, subp. 4 (2017). These authorities require that the Chief Administrative Law Judge review an Administrative Law Judge's findings that a proposed agency rule should not be approved.

Based upon a review of the record in this proceeding, the Chief Administrative Law Judge agrees with and hereby **CONCURS** with all disapprovals contained in the Report of the Administrative Law Judge dated January 9, 2018.

1. The Chief Administrative Law Judge **CONCURS** that the following proposed rules are **DISAPPROVED**:

- a. Proposed **Minn. R. 7050.0220, subps. 3a, 4a, 5a, 6a**
- b. Proposed **Minn. R. 7050.0224, subp. 2**
- c. Proposed **Minn. R. 7050.0224, subp. 5, A**
- d. Proposed **Minn. R. 7050.0224, subp. 5, B (1)**
- e. Proposed **Minn. R. 7050.0224, subp. 5, C**
- f. Proposed **Minn. R. 7050.0224, subp. 6**
- g. Proposed **Minn. R. 7050.0471, subps. 3 through 9**

2. The following changes to rules as originally proposed are **DISAPPROVED**:

- a. Proposed changes to **Minn. R. 7050.0224, subp. 5, B (1)**
- b. Proposed changed to **Minn. R. 7050.0224, subps. 5, E, F**

c. Proposed changes to **Minn. R. 7050.0224, subp. 5, B (2)**

The changes or actions necessary for approval of the disapproved rules and repeals are as identified in the Administrative Law Judge's Report.

If the Department elects not to correct the defects associated with the repeal of the existing rules and the defects associated with the proposed rules, the Department must submit the proposed rules to the Legislative Coordinating Commission and the House of Representatives and Senate policy committees with primary jurisdiction over state governmental operations, for review under Minn. Stat. § 14.15, subd. 4 (2016).

Dated: January 11, 2018

A handwritten signature in black ink, appearing to read 'T. Pust', written over a horizontal line.

TAMMY L. PUST
Chief Administrative Law Judge

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**REPORT OF THE
ADMINISTRATIVE LAW JUDGE**

Administrative Law Judge LauraSue Schlatter conducted several public hearings on this rulemaking proceeding at various locations throughout the state. The hearings were held on the following dates at the following locations: the Harold Stassen Building in St. Paul, Minnesota, on October 23, 2017; the Mesabi Range College in Virginia, Minnesota, on October 24, 2017; Bemidji State University in Bemidji, Minnesota, on October 25, 2017; the Fond du Lac Tribal Community College in Cloquet, Minnesota, on October 26, 2017; and Central Lakes Community College in Brainerd, Minnesota, on October 30, 2017. Judge Schlatter held an additional hearing at the offices of the Minnesota Pollution Control Agency (MPCA or Agency) in St. Paul, Minnesota, on November 2, 2017. This hearing was also broadcast via interactive video conference to the MPCA's regional offices in Detroit Lakes, Duluth, Mankato, Marshall, and Rochester. All of the hearings continued until everyone present had an opportunity to be heard concerning the proposed rules.¹

The MPCA proposes to amend the rules governing Minnesota's water quality standard to protect wild rice from excess sulfate. The existing standard limits sulfate to 10 milligrams per liter in water used for the production of wild rice. The proposed amendments would establish an equation to determine the protective level of sulfate in each "wild rice water" based on the concentration of iron and organic carbon in the sediment. When sulfate in the water interacts with iron and organic carbon in the sediment, they can form sulfide, which the MPCA has determined is toxic to wild rice.² The proposed rules would limit sulfide in the sediment of a wild rice water to 120 micrograms per liter; identify approximately 1,300 lakes, rivers, and streams as wild rice waters; establish a process for the future identification of wild rice waters; and describe

¹ Throughout this Report, the terms "rule" and "rules," as well as the terms "standard" and "standards," are used interchangeably and in a manner intended to reflect typical usage while encompassing the fact that the rulemaking proceeding addresses a proposed rule made up of various identified parts.

² Ex. D (SONAR) at 12.

the sampling and analytical methods to characterize sediment and determine porewater sulfide.³

The public hearings and this Report are part of a rulemaking process governed by the Minnesota Administrative Procedure Act.⁴ The Minnesota Legislature designed the rulemaking process to ensure that state agencies meet all of the requirements that Minnesota law specifies for adopting rules.⁵ The rulemaking process also includes a hearing when 25 or more persons request one or when ordered by the agency.⁶

The hearings were conducted to allow the Agency representatives and the Administrative Law Judge reviewing the proposed rules to hear public comment regarding the impact of the proposed rules and what changes might be appropriate.⁷ Further, the hearing process provided the general public an opportunity to review, discuss, and critique the proposed rules.

The Agency must establish that the proposed rules are within the Agency's statutory authority; necessary and reasonable; follow from compliance with the required procedures; and that any modifications that the Agency made after the proposed rules were initially published in the *State Register* are within the scope of the matter that was originally announced.⁸

Adonis Neblett, General Counsel, represented the MPCA at the hearing. The members of the MPCA's hearing panel (Agency Panel) included Carol Nankivel, Rulemaking Coordinator; Shannon Lotthammer, Division Director for the Environmental Analysis and Outcomes Division; Ed Swain, Research Scientist with the Environmental Analysis and Outcomes Division; Catherine Neuschler, Water Assessment Section Manager; Gerald Blaha, Research Scientist with the Water Quality Standards Unit; Elizabeth Kaufenberg, Research Scientist with the Effluent Limits Unit; Phillip Monso, Research Scientist with the Water Quality Standards Unit; Scott Kyser, Engineer with the Effluent Limits Unit; and Debra Klooz, a Paralegal in the Legal Services unit.

The MPCA received thousands of written comments on the proposed rules between August 21, 2017 and November 2, 2017. Approximately 57 people attended the first public hearing on October 23rd in St. Paul, Minnesota and signed the hearing register. Fourteen members of the public provided oral comments regarding the proposed rules during the October 23rd hearing and one public exhibit was received during that hearing.⁹

Approximately 88 people attended the October 24th hearing in Virginia, Minnesota and signed the hearing register. Twenty-five members of the public provided oral

³ Porewater is the water present in saturated sediment between the solid particles of minerals and organic matter.

⁴ Minn. Stat. §§ 14.131-.20 (2016).

⁵ See Minn. Stat. §§ 14.05-.20 (2016); Minn. R. 1400.2000-.2240 (2017).

⁶ See Minn. Stat. § 14.25 (2016).

⁷ See Minn. Stat. § 14.14; Minn. R. 1400.2210-.2230.

⁸ Minn. Stat. §§ 14.05, 14.23, 14.25, 14.50 (2016).

⁹ Exhibit (Ex.) 1000.

comments regarding the proposed rules during the October 24th hearing. Twelve public exhibits¹⁰ and two Agency exhibits¹¹ were received during the October 24th hearing.

Approximately 44 people attended the October 25th hearing in Bemidji, Minnesota, and signed the hearing register. Fourteen members of the public provided oral comments regarding the proposed rules during the October 25th hearing and two public exhibits were received during that hearing.¹²

Approximately 89 people attended the October 26th hearing in Cloquet, Minnesota, and signed the hearing register. Twenty-seven members of the public provided oral comments regarding the proposed rules during the October 26th hearing and nine written public exhibits were received during that hearing.¹³

Approximately 53 people attended the October 30th hearing in Brainerd, Minnesota, and signed the hearing register. Twenty members of the public provided oral comments regarding the proposed rules during the October 30th hearing and nine public exhibits were received during that hearing.¹⁴

Approximately 26 people attended the November 2nd hearing in St. Paul, Minnesota, or watched via interactive video conference at one of the MPCA's regional offices in Detroit Lakes, Duluth, Mankato, Marshall, and Rochester. Eight members of the public provided oral comments regarding the proposed rules during the November 2nd hearing and three public exhibits were received during that hearing.¹⁵

In total, 38 exhibits were received during the public hearings.¹⁶

After the close of the last of the hearings, the Administrative Law Judge kept the rulemaking record open for an additional 20 calendar days, until November 22, 2017, to allow interested persons and the Agency to submit written comments. Thereafter, the record remained open for an additional five business days, until December 1, 2017, to allow interested persons and the Agency to file written responses to any comments received during the initial comment period.¹⁷

Approximately 1,500 written comments were received from members of the public after the hearings, along with two responses from the Agency.¹⁸ To aid the public in participating in this matter, all comments were posted at the Office of Administrative

¹⁰ Exs. 1001-1012.

¹¹ Exs. 1013-1014.

¹² Exs. 1015-1016.

¹³ Exs. 1017-1024A.

¹⁴ Exs. 1025-1033.

¹⁵ Exs. 1033-1036.

¹⁶ Exs. 1000-1036, which includes Exs. 1024 and 1024A.

¹⁷ See Minn. Stat. § 14.15, subd. 1.

¹⁸ MPCA Response to Public Comments (Nov. 22, 2017) and MPCA Rebuttal Response to Public Comments (Dec. 1, 2017).

Hearings' Rulemaking eComments website. In total, the Administrative Law Judge received more than 4,500 written comments on the proposed rule amendments.¹⁹

The hearing record closed for all purposes on December 1, 2017.²⁰

NOTICE

The Agency must make this Report available for review by anyone who wishes to review it for at least five working days before the Agency takes any further action to adopt final rules or to modify or withdraw the proposed rules. If the Agency makes changes in the rules other than those recommended in this report, it must submit the rules, along with the complete hearing record, to the Chief Administrative Law Judge for a review of those changes before it may adopt the rules in final form.

Because the Administrative Law Judge has determined that the proposed rules are defective in certain respects, state law requires that this Report be submitted to the Chief Administrative Law Judge for her approval. If the Chief Administrative Law Judge approves the adverse findings contained in this Report, she will advise the Agency of actions that will correct the defects, and the Agency may not adopt the rules until the Chief Administrative Law Judge determines that the defects have been corrected. However, if the Chief Administrative Law Judge identifies defects that relate to the issues of need or reasonableness, the Agency may either adopt the actions suggested by the Chief Administrative Law Judge to cure the defects or, in the alternative, submit the proposed rules to the Legislative Coordinating Commission for the Commission's advice and comment. The Agency may not adopt the rules until it has received and considered the advice of the Commission. However, the Agency is not required to wait for the Commission's advice for more than 60 days after the Commission has received the Agency's submission.

If the Agency elects to adopt the actions suggested by the Chief Administrative Law Judge and make no other changes; and the Chief Administrative Law Judge determines that the defects have been corrected, it may proceed to adopt the rules. If the Agency makes changes in the rules other than those suggested by the Administrative Law Judge and the Chief Administrative Law Judge, it must submit copies of the rules showing its changes, the rules as initially proposed, and the proposed order adopting the rules to the Chief Administrative Law Judge for a review of those changes before it may adopt the rules in final form.

After adopting the final version of the rules, the Agency must submit them to the Revisor of Statutes for a review of their form. If the Revisor of Statutes approves the form of the rules, the Revisor will submit certified copies to the Administrative Law Judge, who will then review them and file them with the Secretary of State. When they are filed with

¹⁹ Of these comments, the vast majority were form letters, form postcards, or petitions. See <https://minnesotaoah.granicusideas.com/discussions/minnesota-pollution-control-agency-environmental-assessment-and-outcomes-division>.

²⁰ Pursuant to Minn. Stat. § 14.15, subd. 2, a one week extension was granted for the preparation of this Report. See Order Extending Deadline for Rule Report (Dec. 28, 2017).

the Secretary of State, the Administrative Law Judge will notify the Agency, and the Agency will notify those persons who requested to be informed of their filing.

SUMMARY OF CONCLUSIONS

The MPCA has established that it has the statutory authority to adopt the proposed rules and that it followed the legal requirements to promulgate the rules.

The Administrative Law Judge **DISAPPROVES** the proposed repeal of the 10 mg/L sulfate standard at **Minn. R. 7050.0220, subs. 3a, 4a, 5a, 6a** and **Minn. R. 7050.0224, subp. 2**, due to the Agency's failure to establish the reasonableness of the repeal, and because the repeal conflicts with the requirements 33 U.S.C. § 1313(c), 40 C.F.R. § 131.10(b) (2015) and Minn. R. 7050.0155 (2017).

The Administrative Law Judge **DISAPPROVES** the proposed equation-based sulfate standard at **Minn. R. 7050.0224, subp. 5, B (1)** because the proposed rule fails to meet the definition of a rule under Minn. Stat. § 14.38 (2016) and Minn. R. 1400.2100.G (2017). In addition, the proposed equation-based sulfate standard is not rationally related to the Agency's objective in this proceeding, and is unconstitutionally void for vagueness.

The Administrative Law Judge **DISAPPROVES** the proposed list of approximately 1,300 wild rice waters at **Minn. R. 7050.0471, subs. 3 through 9** because it violates 40 C.F.R. §§ 131.3 and .11(h)(1).

In addition, the Administrative Law Judge **DISAPPROVES** the following proposed rules because the Agency failed to demonstrate that the proposed rules meet the required legal standards:

- a. Proposed **Minn. R. 7050.0224, subp. 5, A** – to the extent the language incorporates the standard in items B(1) and (2) the language violates Minn. Stat. § 14.38 and Minn. R. 1400.2100.B and G (2017).
- b. Proposed **Minn. R. 7050.0224, subp. 5, A** – to the extent the language incorporates the standard in item C, the language violates Minn. R. 1400.2100.D (2017).
- c. Proposed **Minn. R. 7050.0224, subp. 5, C** – violates Minn. R. 1400.2100D.
- d. Proposed **Minn. R. 7050.0224, subp. 6** – fails to establish need or reasonableness for rule. No reason for distinguishing between [WR], which are provided additional protection of narrative standard, and other wild rice waters listed at Minn. R. 7050.0471 violates 1400.2100.B.

The Administrative Law Judge finds that the Agency failed to provide adequate regulatory analyses as required by Minn. Stat. § 14.131 (1), (5), (7), and (8). While the Agency made the cost determination required by Minn. Stat. § 14.127, the Administrative

Law Judge concludes that this determination is not adequately supported in the rulemaking record.²¹

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

FINDINGS OF FACT

I. Background to the Proposed Rules

1. This rulemaking concerns amendments to Minnesota's water quality standard to protect wild rice from adverse impacts due to sulfate pollution. Wild rice is an important natural resource in Minnesota. In addition to providing food to people and waterfowl generally, it has spiritual, cultural, and nutritional significance to the Dakota and Ojibwe people.

2. Under the federal regulations implementing the Clean Water Act (CWA), the MPCA is responsible for establishing, reviewing, and revising water quality standards.²²

3. Federal law defines "water quality standards" to "consist of a designated use or uses for the waters of the United States and water quality criteria for such waters based upon such uses. Water quality standards are intended to protect the public health or welfare, enhance the quality of water and serve the purposes of the Act."²³

4. Water quality standards "must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use."²⁴

5. Minnesota Rules, chapter 7050 (2017) establishes water quality standards for "all waters of the state, both surface and underground."²⁵ This chapter sets out a classification system for the beneficial uses of waters, establishes numeric and narrative water quality standards, and provides nondegradation provisions, and other provisions to protect the physical, chemical, and biological integrity of waters of the state.²⁶ Water use classifications, and their accompanying narrative and numeric standards and antidegradation provisions, make up the state's set of water quality standards.

6. In Minnesota, the wild rice resource is protected with a unique water quality standard. The existing wild rice standards, found at Minn. R. 7050.0224, consist of a narrative standard in subpart 1 applicable to selected wild rice waters specifically identified in rule, and a numeric standard in subpart 2 that establishes a sulfate standard

²¹ See *Builders Ass'n. of Twin Cities v. Minnesota Dept. of Labor and Industry*, 872 N.W. 2d 263 (Minn. Ct. App. 2015).

²² 40 C.F.R. § 131.4(a) (2017). Under state and federal law, the MPCA is charged with the administration and enforcement of the CWA. See 33 U.S.C. §§ 1251-1387 (2016); 40 C.F.R. § 123.25(a) (2017); Minn. Stat. § 115.03, subs. 1, 5 (2016).

²³ 40 C.F.R. § 131.3(i) (2017).

²⁴ 40 C.F.R. § 131.11(a)(1) (2017); see also 40 C.F.R. § 131.5(a)(2) (2017).

²⁵ Minn. R. 7050.0110.

²⁶ *Id.*

applicable to “water used for production of wild rice.” The purpose of a designated use of a water body to protect wild rice is described as “the harvest and use of grains from this plant serve as a food source for wildlife and humans.”²⁷

7. Minnesota first adopted a sulfate standard to protect wild rice in 1973.²⁸ The sulfate standard was based on research conducted in the 1930s and 1940s that found that higher levels of sulfate in water correlated with reduced presence of wild rice.²⁹ Based on this research, the MPCA set the numeric standard at 10 mg/L of sulfate applicable to “water used for production of wild rice during periods when the rice may be susceptible to damage by high sulfate levels.”³⁰

8. Over the years, the MPCA has received comments and questions about the appropriateness of the sulfate standard and the meaning of the phrase “waters used for production of wild rice.”³¹ In 2011, the Minnesota Legislature directed the MPCA to undertake further study of the wild rice sulfate water quality standard and to revise the standard as necessary.³² This rulemaking proceeding is the result of that legislative directive.³³

9. In 2011, the Minnesota Legislature provided the MPCA with a \$1.5 million appropriation from the Clean Water Fund to conduct a Wild Rice Sulfate Study to gather additional information about the effects of sulfate and other substances on the growth of wild rice.³⁴ The Legislature also directed the MPCA to undertake rulemaking to identify wild rice waters and to make any other needed changes to the standards following completion of the study.³⁵ The rulemaking was to be completed by January 15, 2018.³⁶

10. The Minnesota Legislature also directed the MPCA to create an advisory group comprised of tribal government representatives and a variety of other stakeholders to provide input on the research and the development of future rule amendments.³⁷ The legislation further directed the MPCA to establish criteria for waters containing natural beds of wild rice after consulting Minnesota tribes, the Minnesota Department of Natural Resources (DNR), and stakeholders.³⁸

11. In 2017, the MPCA received \$180,000 from the Legislative Citizens Commission on Minnesota Resources to analyze wastewater treatment alternatives to

²⁷ Minn. R. 7050.0224, subp. 1.

²⁸ Ex. D SONAR at 11-12, 33-34.

²⁹ Ex. D at 11.

³⁰ Minn. R. 7050.0224, subp. 2.

³¹ Ex. D at 11-12.

³² 2011 Minn. Laws 1st Spec. Sess. ch. 2, art. 4, § 32.

³³ Ex. D. at 13.

³⁴ Ex. D at 13; 2015 Minn. Laws 1st Spec. Sess. ch. 4, art. 4, § 136.

³⁵ Ex. D at 13.

³⁶ 2015 Minn. Laws 1st Spec. Sess. ch. 4, art. 4, § 136.

³⁷ 2011 Minn. Laws 1st Spec. Sess. ch. 2, art. 4, § 32.

³⁸ *Id.*

inform the development of the proposed rules. The analysis is expected to be completed by May of 2018.³⁹

12. In 2017, the Minnesota Legislature extended the deadline for completing this rulemaking by one year to January 15, 2019.⁴⁰

II. Rulemaking Authority

13. The MPCA relies upon its general rulemaking authority under Minn. Stat. § 115.03, subd. 1 (2016), as its statutory authority to adopt these proposed rules. This statute provides that the Agency is given and charged with the following powers and duties:

(a) to administer and enforce all laws relating to the pollution of any of the waters of the state;

(b) to investigate the extent, character, and effect of the pollution of the waters of this state and to gather data and information necessary or desirable in the administration or enforcement of pollution laws, and to make such classification of the waters of the state as it may deem necessary;

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

(d) to encourage waste treatment, including advanced waste treatment, instead of stream low-flow augmentation for dilution purposes to control and prevent pollution; and

(e) to adopt, issue, reissue, modify, deny, or revoke, enter into, or enforce reasonable orders, permits, variances, standards, rules, schedules of compliance, and stipulation agreements, under such conditions as it may prescribe, in order to prevent, control, or abate water pollution, or for the installation or operation of disposal systems or parts thereof, or for other equipment and facilities.⁴¹

14. The MPCA also relies upon its general authority to “group the designated waters of the state into classes, and adopt classifications and standards of purity and quality” under Minn. Stat. § 115.44, subd. 2 (2016), as a source of statutory authority to adopt the proposed rules. Minn. Stat. § 115.44, subd. 2, provides in part:

³⁹ Ex. 1015; Letter from Iron Range Legislative Delegation (Nov. 2, 2017); Testimony (Test.) of Rep. Matt Bliss at Tr. 85 (Oct. 25, 2017); Test. of Rep. Rob Ecklund at 69-72 (Oct. 30, 2017).

⁴⁰ 2017 Minn. Laws, ch. 93, art. 2, § 149.

⁴¹ Minn. Stat. § 115.03, subd. 1.

In order to attain the objectives of sections 115.41 to 115.53, the agency after proper study, and after conducting public hearing upon due notice, shall, as soon as practicable, group the designated waters of the state into classes, and adopt classifications and standards of purity and quality therefor.

15. Additionally, the MPCA cites the specific legislative authorities that require it to initiate a process to amend the state water quality standards in Minn. R. ch. 7050,⁴² and that extended the deadline for completing the mandated rule revisions.⁴³

16. The Administrative Law Judge concludes that the Agency has the statutory authority to adopt the proposed rules.

III. Procedural Requirements of Chapter 14 (2016)

A. Publications

17. On October 26, 2015, the Agency published a Request for Comments in the *State Register* seeking comments on “its planned changes to rules governing water quality standards, Minnesota Rules chapter 7050 (Waters of the State).”⁴⁴

18. On August 3, 2017, the Agency requested review and approval of its Notice of Hearing and Additional Notice Plan.

19. On August 8, 2017, Administrative Law Judge Eric Lipman issued an Order on behalf of Administrative Law Judge LauraSue Schlatter approving the Additional Notice Plan and Hearing Notice.

20. On August 21, 2017, the Agency published a Notice of Hearing in the *State Register* stating its intention to adopt rules following the receipt of input from the public.⁴⁵ In the Notice, the Agency announced a series public hearings scheduled for October 23, 24, 25, 30, and November 2, 2017.⁴⁶

21. On August 21, 2017, the Agency sent via electronic mail the Notice of Hearing to all persons and associations who had registered their names with the Agency for the purpose of receiving such notice.⁴⁷ The Agency also provided a copy of the Notice of Hearing to all persons and associations identified in the Agency’s Additional Notice Plan.⁴⁸

⁴² 2011 Minn. Laws 1st Spec. Sess, ch. 2, art. 4, § 32.

⁴³ 2017 Minn. Laws ch. 93, art. 2, § 149.

⁴⁴ Ex. A; 40 *State Register* 477-78 (Oct. 26, 2015).

⁴⁵ Ex. F; 42 *State Register* 171-172 (Aug. 21, 2017).

⁴⁶ *Id.*

⁴⁷ Ex. G.

⁴⁸ Ex. H1.

22. On September 18, 2017, the Agency sent via electronic mail the Notice of Additional Hearing to all persons and associations who had registered their names with the Agency for the purpose of receiving such notice and to all persons and associations identified in the Agency's Additional Notice Plan.⁴⁹ In the Notice, the Agency announced an additional public hearing to take place in Cloquet, Minnesota, on October 26, 2017.⁵⁰

23. The Agency published the Notice of Additional Hearing in the *State Register* on September 18, 2017.⁵¹

24. At the hearing on October 23, 2017, the MPCA filed copies of the following documents as required by Minn. R. 1400.2220 (2017):

a. MPCA's Request for Comments as published in the *State Register* on October 26, 2015;⁵²

b. A Petition for Rulemaking submitted by the Minnesota Chamber of Commerce on December 17, 2010, and a Memorandum in Support of the Minnesota Chamber of Commerce's Petition for Rulemaking dated December 6, 2010;⁵³

c. Proposed rules dated July 24, 2017, including the Revisor's approval;⁵⁴

d. The MPCA's Statement of Need and Reasonableness (SONAR);⁵⁵

e. The Certificate of Mailing the SONAR to the Legislative Reference Library on August 21, 2017;⁵⁶

f. The Notice of Hearing as mailed and as published in the *State Register* on August 21, 2017; and the Notice of Additional Hearing as mailed and as published in the *State Register* on September 18, 2017;⁵⁷

g. Certificate of Mailing the Notice of Hearing to the rulemaking mailing list and Certificate of Accuracy of the Mailing List dated August 21, 2017, and Certificate of Mailing the Notice of Additional Hearing to the rulemaking list and Certificate of Accuracy of the Mailing List dated September 18, 2017;⁵⁸

⁴⁹ Ex. H2.

⁵⁰ *Id.*

⁵¹ Ex. F; 42 *State Register* 369-370 (Sept. 18, 2017).

⁵² Ex. A; 40 *State Register* 477-478 (Oct. 26, 2015).

⁵³ Ex. B.

⁵⁴ Ex. C.

⁵⁵ Ex. D.

⁵⁶ Ex. E.

⁵⁷ Ex. F.

⁵⁸ Ex. G.

h. Certificate of Providing Additional Notice of the August 21, 2017, Notice of Hearing⁵⁹ and Certificate of Providing Additional Notice of the September 18, 2017, Notice of Additional Hearings;⁶⁰

i. Written comments received during the prehearing comment period and a link to the Minnesota Office of Administrative Hearings' rulemaking eComments website, where written comments on the proposed rules received by the Agency prior to the hearing were posted;⁶¹

j. Chief Judge's authorization to omit from the notice of hearing published in the *State Register* the text of the proposed rules (not applicable);

k. Other documents or evidence to show compliance with any other law or rule which the agency is required to follow in adopting this rule:

K1 – Certificate of Sending the Notice of Hearing and SONAR to legislators and the Legislative Coordinating Commission on August 21, 2017;⁶²

K2 – Notice to Department of Agriculture of Agency's intent to adopt rules as required by Minn. Stat. § 14.111, dated July 19, 2017;⁶³

K3 – Notice to the Minnesota Department of Management and Budget and a September 17, 2017, memorandum from the Minnesota Department of Management and Budget;⁶⁴

K4 – Notices sent to affected municipalities as required by Minn. Stat. § 115.44, subd. 7 (2016).⁶⁵

l. Additional documents submitted at the hearing:

Peer-reviewed articles on sulfur processes and sulfate treatment;⁶⁶ the MPCA's rule hearing presentation; errata correcting minor errors in the SONAR; and MPCA Changes to Specific Water Identification Numbers (WID).⁶⁷

⁵⁹ Ex. H1.

⁶⁰ Ex. H2.

⁶¹ Ex. I.

⁶² Ex. K1.

⁶³ Ex. K2.

⁶⁴ Ex. K3.

⁶⁵ Ex. K4.

⁶⁶ Exs. L1–L5 and L8.

⁶⁷ Exs. L6, L7, and L9.

B. Additional Notice Requirements

25. Minn. Stat. §§ 14.131 and 14.23 require that an agency include in its SONAR a description of its efforts to provide additional notification to persons or classes of persons who may be affected by the proposed rule or, alternatively, the agency must detail why these notification efforts were not made.

26. The MPCA states that the proposed revisions have been in development for many years and that it has made extensive efforts to inform and engage specific stakeholders and the general public. In April of 2011, the MPCA created a webpage to provide background about the existing wild rice sulfate standard and its plan to evaluate the standard. Since 2011, the MPCA has also used the GovDelivery system to share information about the wild rice standard with subscribers. In addition, pursuant to a 2011 legislative directive, the MPCA established an advisory committee to provide input to the Commissioner on various topics related to the wild rice scientific study and proposed rulemaking. The MPCA also made a special effort to communicate and consult with Minnesota tribes, given their sovereign status and the great importance of wild rice to the Ojibwe and Dakota people.⁶⁸

27. The MPCA also held numerous meetings over the course of developing the proposed revisions to engage interested persons and obtain feedback.⁶⁹ The MPCA released a draft proposal of the proposed wild rice water quality standard in March 2015, along with a draft list of waters where the standard would apply. The MPCA sent notice of the availability of the draft proposal to the MPCA's GovDelivery mailing list of people who had registered their interest in this topic and posted the draft proposal on its rulemaking webpage.⁷⁰ Before officially proposing the rules, the MPCA held a series of three open house meetings to provide an informal opportunity for the public to review the proposal and ask questions.⁷¹

28. Pursuant to the Additional Notice Plan approved by the Office of Administrative Hearings, on August 8, 2017, the Agency:

- a. posted the Notice of Hearing, SONAR, SONAR attachments, proposed rule language, documents incorporated by reference, information about how to file comments, and the times and locations of hearings on an Agency webpage established to provide information about the proposed rule amendments;
- b. Published the Notice of Hearing on the MPCA's Public Notice webpage;
- c. issued a press release via the GovDelivery system to 534 news media contacts and more than 3,400 media contacts and persons

⁶⁸ Ex. D at 126-128.

⁶⁹ *Id.* at 128.

⁷⁰ *Id.* at 129.

⁷¹ *Id.*

- registered to be notified of news releases to provide information about the proposed rule amendments and how to comment;
- d. provided an extended comment period to allow additional time for review of the proposed rule amendments;
 - e. held multiple public hearings in various locations throughout the state and provided daytime and evening opportunities for people to attend and comment;
 - f. provided notice to a series of nonprofit organizations that represent and serve Native American communities in Minnesota; trade associations that serve mining communities and mining companies; and municipalities that operate wastewater treatment facilities and associations that represent them;
 - g. provided an electronic copy of the Notice of Hearing to more than 2,600 interested parties as certified in the MPCA's Certificate of Mailing Notice;
 - h. provided an electronic copy of the Notice of Hearing to municipalities as required by Minn. Stat. § 115.44, subd. 7;
 - i. posted the Notice of Hearing with links to the SONAR and proposed rule language on the Agency's public notice website for the term of the public notice comment period; and
 - j. posted the Notice of Hearing, SONAR, and proposed rule language on an Agency webpage established to provide information about the proposed amendments.⁷²

29. The Administrative Law Judge finds that the Agency has fulfilled its additional notice requirements.

C. Notice Practice

1. Notice to Stakeholders

30. On August 21, 2017, the Agency provided a copy of the Notice of Hearing to its official rulemaking list (maintained under Minn. Stat. § 14.14) and to stakeholders identified in its Additional Notice Plan.⁷³

31. On September 18, 2017, the Agency provided a copy of the Notice of Additional Hearing to its official rulemaking list (maintained under Minn. Stat. § 14.14) and to stakeholders identified in its Additional Notice Plan.⁷⁴

⁷² Exs. H1 and G. *See also* Ex. D at 131-132.

⁷³ Exs. G and H1.

⁷⁴ Exs. G and H1.

32. Hearings on the proposed rules were held on October 23, 24, 25, 26, 30, and November 2, 2017.⁷⁵

33. There are 62 days between August 21, 2017 and October 23, 2017, the date of the first hearing in this matter. There are 37 days between September 18, 2017 and October 26, 2017, which was the date of the additional hearing.

34. The Administrative Law Judge concludes that the Agency fulfilled its responsibility to mail the Notice of Hearing and Notice of Additional Hearing "at least 33 days before the . . . start of the hearing."⁷⁶

2. Notice to Legislators

35. On August 21, 2017, the Agency sent a copy of the Notice of Hearing and the SONAR to legislators and the Legislative Coordinating Commission as required by Minn. Stat. § 14.116.⁷⁷

36. Minn. Stat. § 14.116(b) requires the agency to send a copy of the Notice of Hearing and the SONAR to certain legislators on the same date that it mails its Notice of Hearing to persons on its rulemaking list and pursuant to its additional notice plan.

37. The Administrative Law Judge concludes that the MPCA fulfilled the requirements of Minn. Stat. § 14.116(b).⁷⁸

3. Notice to the Legislative Reference Library

38. On August 21, 2017, the MPCA mailed a copy of the SONAR to the Legislative Reference Library.⁷⁹

39. Minn. Stat. § 14.23 requires the agency to send a copy of the SONAR to the Legislative Reference Library when the Notice of Intent to Adopt is mailed.

40. The Administrative Law Judge concludes that the Agency met the requirement of Minn. Stat. § 14.23 that it send a copy of the SONAR to the Legislative Reference Library when the Notice of Intent is mailed.

D. Impact on Farming Operations

41. Minn. Stat. § 14.111 imposes additional notice requirements when the proposed rules affect farming operations. The statute requires that an agency provide a copy of any such changes to the Commissioner of Agriculture at least 30 days prior to publishing the proposed rules in the *State Register*.

⁷⁵ Ex. G.

⁷⁶ Minn. R. 1400.2080, subp. 6.

⁷⁷ Ex. K1.

⁷⁸ Minn. R. 1400.2080, subp. 6.

⁷⁹ Ex. E.

42. The MPCA provided the Commissioner of Agriculture with a copy of the proposed rules and notice of its intent to adopt the rules. This notice was provided on July 19, 2017, 32 days prior to the publication of the Notice of Hearing in the State Register.⁸⁰

43. The Administrative Law Judge concludes that the MPCA fulfilled its responsibilities under Minn. Stat. § 14.111.

E. Statutory Requirements for the SONAR

44. The Administrative Procedure Act obliges an agency adopting rules to address certain factors in its SONAR.⁸¹ Those factors are:

(1) a description of the classes of persons who probably will be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule;

(2) the probable costs to the agency and to any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenues;

(3) a determination of whether there are less costly methods or less intrusive methods for achieving the purpose of the proposed rule;

(4) a description of any alternative methods for achieving the purpose of the proposed rule that were seriously considered by the agency and the reasons why they were rejected in favor of the proposed rule;

(5) the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals;

(6) the probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals;

(7) an assessment of any differences between the proposed rule and existing federal regulations and a specific analysis of the need for and reasonableness of each difference; and

⁸⁰ Ex. K2.

⁸¹ Minn. Stat. § 14.131.

(8) an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

1. The Agency's Regulatory Analysis

(1) A description of the classes of persons who probably will be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule.

45. The MPCA's analysis focuses on regulated facilities that discharge wastewater to certain waters containing beds of natural wild rice, and on people interested in enjoying the beneficial uses that the water quality standards protect. The Agency states that the beneficial uses includes fishing, swimming, boating, and harvesting wild rice.

a. Classes that will bear costs.

46. The Agency points out that effluent limits imposed on regulated facilities as a result of the proposed rules will be applied through National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) permits. These permits are reviewed and re-issued every five years. Any facility that discharges sulfate directly to, or is located upstream of, a wild rice water governed by the rules has the potential to be affected by the proposed rules. These facilities are generally either industrial facilities, or municipal water or wastewater treatment plants.⁸²

47. The MPCA describes the process for adopting the proposed equation-based water quality standards as follows:

In the case of this wild rice sulfate standard, this implementation process will begin with data collection. As noted . . . , the data required will be sediment data to calculate the sulfate standard (or porewater sulfide data to establish an alternate standard), surface water sulfate data, and effluent sulfate data. The MPCA plans to collect the sediment data over time, largely in conjunction with its regular ten-year cycle of intensive watershed monitoring, focusing first on wild rice waters that are most likely to be impacted by high levels of sulfate. The exception would be that where a new or expanded discharge is proposed, the proposer may be required to collect the sediment data following the procedures proposed to be incorporated into the rule.⁸³

48. The Agency notes that regulated facilities that are not already monitoring their sulfate effluent data will probably have to do so for their first five-year permit due to the fact that the permit will be reissued following adoption of the rule. Facilities will also be impacted by an effluent limit review, which involves analysis of site-specific variables

⁸² Ex. D (SONAR) at 145-146.

⁸³ *Id.*

to determine whether the facility's permit must include a limit to ensure that the sulfate standard is not exceeded.⁸⁴

49. The variables include specifics of the facility as well as the receiving water, including the level of the receiving water's sulfate pollutant. The MPCA estimates that, for facilities that already monitor their effluent's sulfate discharge, the effluent limit review will likely occur in the first five-year permit reissuance after the rule is adopted. For facilities that do not, the effluent review will likely not occur until the second five-year permit reissuance after the rule is adopted.⁸⁵

50. Another necessary variable for this analysis is a numeric sulfate standard for at least one wild rice water which is affected by the facility's discharge. To calculate the numeric sulfate standard in accordance with the proposed rule, certain data must be obtained, including the amount of organic carbon and extractable iron in the wild rice water sediment.⁸⁶

51. By identifying the industrial and municipal waste water treatment plants (WWTPs) within a specified distance of a regulated wild rice water, the MPCA was able to estimate "the universe of affected dischargers."⁸⁷

52. Based on an analysis of 2015 NPDES/SDS permit information, the Agency estimated that there are approximately 745 discharge stations upstream of at least one wild rice water to be regulated pursuant to the proposed rules, ranging in distance between one mile to 413 river miles from the nearest regulated wild rice water. About 319 of the stations are within 60 miles of a proposed regulated wild rice water, and about 135 are within 25 miles of a proposed regulated wild rice water. While noting that "25 miles is not a definite predictor for impact . . .,"⁸⁸ the MPCA focuses on the 135 WWTPs as those most likely to be affected by the proposed rule. These facilities are most likely to require an effluent limit review and possibly to incur the treatment costs needed to meet an applicable water quality standard. But, the Agency notes, "[s]everal factors will affect a facility's potential to impact a wild rice water and those factors cannot be determined in advance of establishing the numeric sulfate standard and evaluating the specific circumstances associated with each discharge and each wild rice water."⁸⁹ The new standards could result in costs, if more treatment is needed to meet a standard that is more stringent than the current 10 mg/L standard, or in cost savings, if the standard is more relaxed than the current standard.⁹⁰

53. The Agency states that industrial WWTPs are likely to pass along the costs of new treatment equipment or technologies to their customers and municipal WWTPs are likely to pass along similar costs to their residential, commercial, and industrial system

⁸⁴ Ex. D at 146.

⁸⁵ *Id.*

⁸⁶ Ex. C (proposed rule 7050.0224, subp. 5, B) at li. 7.25-8.12.

⁸⁷ *Id.* at 147.

⁸⁸ *Id.*

⁸⁹ *Id.*

⁹⁰ *Id.* at 148.

users. The Agency speculates that, to the extent the market will not support increased industrial costs, such costs may have to be absorbed, and will thus reduce profits, making the industry less competitive in the marketplace, negatively impacting shareholders and employees, and possibly resulting in a company ceasing operations rather than investing in the expensive technology needed to meet a new standard. The Agency acknowledges that employment is a particularly key issue for the mining economy of Minnesota's Iron Range, but it is unable to predict whether the consequences of adopting the proposed rule will be "as minor as a small increase in the price of the product, or may be as extensive as the consequences to an entire community when a company ceases operations."⁹¹

54. Adopting the standards through the MPCA's water assessment cycle will, in itself, take up to ten years:

The MPCA's current Intensive Watershed Monitoring plan includes intensive data collection across the state following a 10-year cycle. The MPCA is working with field staff to incorporate data collection needs for the proposed sulfate wild rice standard into that effort. In most cases, the MPCA will integrate the collection of sediment data in wild rice waters into our regular monitoring work around the state. The agency will prioritize data collection for wild rice waters most likely to be affected by discharges, and some work may be prioritized outside the regular monitoring schedule.⁹²

55. In its Rebuttal to Comments following the rule hearings, the Agency explains:

[E]valuating the need for and (as needed) determining a water quality based effluent limit requires data specific to the discharge being evaluated and the receiving water(s) being discharged to. Data needs unique to the proposed rule revisions are the sediment iron and carbon (or porewater sulfide) data. Collecting all the data necessary to calculate all effluent limits statewide would take at least ten to fifteen years, even if the sediment data were not needed. Necessary steps such as gathering five years of effluent data to evaluate and set effluent limits combined with the 10-year surface water monitoring schedule to gather surface water data cumulatively add up to the necessary data not being available for some permitted discharges until at least ten to fifteen years after rule promulgation. The MPCA does plan to prioritize data collection based on factors such as those mentioned in the EPA comments, Appendix 2 – the likelihood of sulfate impacts (because of type and location of dischargers) and permitting schedules. It is unreasonable to delay this rulemaking for ten to fifteen years to provide total certainty regarding future effluent limits for specific facility discharges and the exact future costs. In addition, every facility is unique and detailed engineering is needed to estimate the costs of installing any treatment

⁹¹ Ex. D. at 148.

⁹² MPCA Response to Comments, Cover Memorandum at 10 (Nov. 22, 2017) (Response Cover Memo).

system. This is why the MPCA provided general effluent limit considerations and the range of costs detailed in the SONAR. A delay such as would be necessary to gather data and estimate the cost for all potentially affected facilities is particularly unreasonable given that while the rulemaking would be delayed the existing sulfate standard would remain in place and need to be addressed as required by the Clean Water Act and federal regulations.⁹³

56. The Administrative Law Judge concludes that the Agency has correctly described the various types of WWTPs that discharge sulfate directly to, or that are located upstream of, wild rice waters governed by the proposed rules as classes that will bear the cost of the proposed rules. However, the Administrative Law Judge further concludes that the Agency omitted to include, in its discussion of the WWTPs' possible costs, the Agency's SONAR-based expectation, which is not set forth in the rule, that regulated parties will bear the cost of conducting sediment sampling for a new or expanded discharge.⁹⁴

57. The Agency's predictions about the number of dischargers likely to be affected is unreliable because "[s]everal factors will affect a facility's potential to impact a wild rice water and those factors cannot be determined in advance of establishing the numeric sulfate standard and evaluating the specific circumstances associated with each discharge and each wild rice water."⁹⁵

58. The Agency did not identify Minnesota Indian tribes or individual Native Americans as classes of persons who would bear a burden under the proposed rules because the Agency believes that the proposed new sulfate standards will be protective of wild rice.⁹⁶

59. Wild rice is not only a food source for Native American communities, but a source of deep spiritual importance and, for some, a life-giving being.⁹⁷ Many in the Native American communities who submitted comments, testified at the public hearings, and worked with the MPCA during the development of this rule do not believe that the rule will be protective of wild rice. Among the reasons that some of the representatives of Native American communities presented as their concerns about the rule are:

a. A higher sulfate standard will be harmful to the rice because the higher levels of iron underlying the higher sulfate standard cause plaque to form on the roots of the wild rice plants, interfering with the ability of the plant to absorb nutrients and ultimately leading to barren seeds;⁹⁸

⁹³ MPCA Rebuttal Memo at 40-41.

⁹⁴ Ex. D at 146.

⁹⁵ *Id.* at 147.

⁹⁶ *Id.* at 145.

⁹⁷ Exs. 1000 and 1020; Tr. at 142-145 (Oct. 24, 2017); Comments from Fond du Lac Band of Lake Superior Chippewa (filed Nov. 22, 2017).

⁹⁸ Comments from 1854 Treaty Authority (filed Nov. 21, 2017); Comments from Fond du Lac Band of Lake Superior Chippewa (filed Nov. 22, 2017).

b. A higher sulfate standard will lead to higher levels of methylmercury in fish, which in turn leads to serious health concerns for Native American and other populations who rely heavily on fish for food;⁹⁹

c. The list of wild rice waters excludes a number of waters identified by the 1854 Exclusionary Act Treaty as well as the Minnesota DNR's 2008 wild rice waters list;¹⁰⁰ and

d. The MPCA's inclusion, in the wild rice waters listed in the proposed rule, of waters that are within the boundaries of the Fond du Lac and Grand Portage reservations despite requests that those waters be excluded.¹⁰¹

60. While the MPCA had responses to each of these concerns, the volume and nature of the comments from the Native American community demonstrated that the Agency has not succeeded in building an atmosphere of trust regarding this proposed rule, or in making the Minnesota Native American community feel that it has been heard.

61. Implementation of the rule as proposed is a burden to the Minnesota Indian tribes, and many Native American individuals, whose testimony and written comments during the rulemaking process demonstrate that they are compelled to continue to challenge the rule because they believe that the long-term survival of wild rice is in peril and do not believe that the Agency understands the importance of wild rice in Native American culture and life.¹⁰²

62. The Administrative Law Judge concludes that the Agency failed to recognize the proposed rule's burden on the Native American community in its discussion of classes of people who will be burdened by adoption of the proposed rule.

b. Classes that will benefit from the new standard.

63. The MPCA states generally that any person who uses Minnesota waters for drinking, swimming, boating, fishing, commerce, scientific, educational, or cultural purposes, or general aesthetic enjoyment will benefit from the proposed rules. Specifically, the Agency states that any person who harvests wild rice for food or who eats wild rice will benefit. The Agency emphasizes that many Native Americans, especially members of the Ojibwe and Dakota tribes, will benefit from the proposed rule. The Agency states that tribal rights to harvest wild rice are protected in treaties and that harvesting, preparing, sharing, and selling wild rice is important culturally, spiritually, and socially to Native American Minnesotans.¹⁰³

⁹⁹ Tr. at 65-68 (Oct. 25, 2017).

¹⁰⁰ Exs. 1000 and 1020; Comments from 1854 Treaty Authority (filed Nov. 21, 2017); Comments from Fond du Lac Band of Lake Superior Chippewa (filed Nov. 22, 2017).

¹⁰¹ Ex. 1020; Comments from 1854 Treaty Authority (filed Nov. 21, 2017); Comments from Fond du Lac Band of Lake Superior Chippewa (filed Nov. 22, 2017).

¹⁰² Exs. 1000 and 1020; Comments from Fond du Lac Band of Lake Superior Chippewa (filed Nov. 22, 2017); eComments Nicolette Slagle on behalf of Honor the Earth (Nov. 22, 2017); eComments from George Crocker on behalf of North American Water Office (Nov. 22, 2017).

¹⁰³ Ex. D at 149.

64. The Agency asserts that the varied benefits of wild rice include the following:

Transactions and activities associated with the wild rice harvest benefit individuals and local economies. Some tribal members have shared stories about how money from ricing paid for each year's school supplies. Many people place a high value on wild rice as food, especially for its availability, flavor, and health benefits. For persons who have limited incomes or a cultural connection, wild rice can be an important subsistence food.¹⁰⁴

65. In addition, the MPCA states that wildlife, especially the migratory waterfowl that depend on wild rice as a food source, along with the people who hunt waterfowl, engage in bird watching and other wildlife-related activities, plus businesses that support those activities, will benefit from the proposed rules. The Agency adds that businesses that benefit from tourism and people who derive a value from ecosystem services generally will also benefit from the proposed rules.¹⁰⁵

66. The Agency explains that, where the proposed rule will require ambient sulfate levels to be less than 10 mg/L, the equation-based standard will be more protective of the wild rice than the current standard and thus provide a benefit to those who use and value wild rice.¹⁰⁶

67. To the contrary according to the MPCA, where the proposed rule will permit ambient sulfate levels to be higher than 10 mg/L while still maintaining a protective level of sulfide to the wild rice, the equation-based standard will potentially reduce treatment costs. In addition, the proposed alternate standard, which can be used in certain cases where the equation is not appropriate, could also allow sulfate levels to be higher than that calculated by the equation-based standard.¹⁰⁷

68. The proposed rules may thus allow some municipal or industrial dischargers to reduce or eliminate sulfate treatment, or the need for a variance, to operate at a lower level of sulfate treatment. This could permit dischargers to avoid paying for a higher level of wastewater treatment, or applying for, and justifying, a variance request. In addition to the monetary costs of wastewater treatment, the MPCA notes that wastewater treatment for sulfate involves energy use and the generation of by-products, both of which could be lessened or avoided through application of the proposed rules.¹⁰⁸

69. The Agency does not analyze how less-protective standards of wild rice waters that neighbor wild rice waters on tribal lands will affect waters on tribal lands. Nor does the Agency explain how it will insure that increased sulfate levels will not add to mercury methylation.

¹⁰⁴ *Id.* at 150.

¹⁰⁵ *Id.*

¹⁰⁶ *Id.* at 151.

¹⁰⁷ *Id.* In its Rebuttal, the Agency proposes to change the way in which the Alternate Standard is established from the rule as originally proposed. MPCA Rebuttal Response to Public Comments (MPCA Rebuttal) at 6-7 (Dec. 1, 2017). See Ex. C. (proposed rule 7050.0224, subp. 5, B (2)) at li. 8.18-8.25.

¹⁰⁸ Ex. D at 151.

70. The Administrative Law Judge concludes that, to the extent the proposed rule fails to maintain a level of water quality that provides for the attainment and maintenance of the water quality standards of downstream waters, including waters on tribal lands, the proposed rule will not benefit wildlife, or the Objibwe, Dakota or other people who harvest or depend on wild rice for food, spiritual or cultural nourishment, or as a means of earning money.

c. Classes that will benefit from clarity regarding how and where the standard applies.

71. The MPCA states that the proposed rule may benefit dischargers “in the form of the benefit of regulatory certainty, prompt permit renewal, and protection from litigation.”¹⁰⁹ By “regulatory certainty,” the MPCA means “the general ability of permittees to know and anticipate environmental regulations and reasonably plan for compliance. . . .”¹¹⁰

72. The MPCA identifies two areas of difficulty for dischargers of sulfate: (1) a lack of duration or averaging time in the current sulfate rule, leading to uncertainty regarding whether the standard applies at all times or is to be averaged over some period of time; and (2) a lack of clear criteria for determining whether a given water is used for production for wild rice, resulting in case-by-case decisions regarding the applicability of the sulfate standards.¹¹¹

73. According to the MPCA, it is this lack of clarity concerning waters used for the production of wild rice that has resulted in delayed issuance of new or renewed NPDES/SDS permits. Because the proposed rule specifically identifies wild rice waters and provides more details about the standard, the proposed rule provides dischargers with more certainty regarding “whether their effluent may impact a wild rice water and whether they will need to take actions because of the standard – from monitoring their effluent to undergoing an effluent limit review to installing treatment.”¹¹²

74. The MPCA predicts that the proposed rule will speed permitting, reduce permitting backlogs, and reduce the risk of litigation. In addition, the Agency states that the proposed rule will “allow existing facilities to implement improvements and innovations that are currently stalled.”¹¹³ According to the Agency, industries and taxpayers will benefit because dischargers will be able to obtain and update their permits more effectively under the proposed rule.¹¹⁴

75. Finally, the MPCA envisages that greater clarity about how and where the wild rice sulfate standard applies will also allow the development of a clear process of

¹⁰⁹ *Id.*

¹¹⁰ *Id.* at 151, n.24.

¹¹¹ *Id.* at 151-152.

¹¹² Ex. D at 152.

¹¹³ *Id.*

¹¹⁴ *Id.*

assessing wild rice waters to determine attainment of the standard. This is important both for assessment and identifying impaired waters and for developing point source permit limits to ensure compliance with the standard. In this way, a clearer, more effective standard will also benefit those concerned about the effective protection of wild rice waters.¹¹⁵

76. The tribal representatives and the WaterLegacy and other environmental organizations disagreed strongly with the exclusion of water bodies where wild rice is an existing use under the CWA as demonstrated by their inclusion on the 1854 Treaty list and the Minnesota Department of Natural Resources' (MDNR) 2008 list of Minnesota wild rice waters.¹¹⁶ While not identifying specific reasons for excluding individual water bodies, the Agency acknowledges that it excluded from the proposed rule some water bodies where wild rice has been an existing use.¹¹⁷

77. The Administrative Law Judge concludes that because the proposed rule listing wild rice waters is not in compliance with the CWA it will not improve the permitting process by providing certainty as to the water bodies which are identified. Therefore, the proposed rule will not provide the benefit of clarity regarding identification of wild rice waters to WTP owners and operators.

78. Because the Agency has not sampled the affected waters before proposing the rules, it cannot state what the standard will be for any given discharger, or whether that discharger's effluent will exceed a new standard, and what treatment may be needed to meet the standard, once it is ascertained.¹¹⁸

79. Regulated parties predict extremely large costs for wastewater sulfate treatment and express frustration at the lack of specific information which would allow them to accurately predict and plan for water treatment requirements or variance requests.¹¹⁹

80. The Administrative Law Judge concludes that the Agency's decision to promulgate this rule without defining a standard applicable to each regulated wild rice water undermines many of the potential benefits the rule could provide to WTP owners and operators, including improvements in their ability to plan, certainty about regulated waters, and efficiency in the regulated environment.

81. The Administrative Law Judge concludes that the proposed rule may continue to give rise to litigation regarding the identification of wild rice waters subject to the sulfate standard. In addition, the rule as proposed is more likely to give rise to litigation

¹¹⁵ *Id.*

¹¹⁶ Comments from 1854 Treaty Authority (filed Nov. 21, 2017); Comments from WaterLegacy (filed Nov. 22, 2017).

¹¹⁷ Ex D at 58.

¹¹⁸ *Id.* at 145-149, 165, 182-186.

¹¹⁹ See, e.g., Exs. 1009, 1029, U.S. Steel Corporation comments (filed Nov. 22, 2017); Comments from Hibbing Chamber of Commerce (filed Nov. 2, 2017); Comments from Alexandria Lake Area Sanitary District (filed Nov. 20, 2017).

regarding the standard itself.¹²⁰ Therefore, the Administrative Law Judge concludes that the Agency incorrectly determined that the proposed rule will lead to less litigation concerning the water quality standards for wild rice waters.

82. The Administrative Law Judge finds that the Agency performed an analysis of classes of persons who probably will be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule as required by Minn. Stat. § 14.131(1). However, the Administrative Law Judge finds that the Agency's determinations as a result of that analysis are not supported by the record.

(2) The probable costs to the Agency and to any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenues.

83. The MPCA implements water quality standards primarily through permitting and assessment. The Agency states that it will continue its activities related to permit applications, variance requests, assessments, impaired water identification, and compliance enforcement using the revised standard instead of the previous standard.¹²¹

84. The MPCA predicts that it will incur the following additional costs if the proposed rules are adopted:

- a. Updating the list of wild rice waters (data gathering and rulemaking);
- b. Conducting sediment and surface water sampling and analysis;
- c. Processing permit applications;
- d. Reviewing variance requests; and
- e. Responding to possible litigation.¹²²

85. In this rulemaking, the Agency is proposing to identify approximately 1,300 waters as wild rice waters. While the Agency expects that these waters make up most of the wild rice waters in Minnesota, it expects it will be need to amend the rule within three years to add newly identified wild rice waters.¹²³

86. The MPCA presumes that it will be able to gather information leading to the identification of additional wild rice waters through its existing triennial standards review process and its routine water assessment activities. Therefore, the MPCA does not expect to incur additional costs to obtain wild rice information.¹²⁴

¹²⁰ See discussion in this Report at 55-58.

¹²¹ Ex. D SONAR at 152.

¹²² Ex. D at 152-153.

¹²³ Ex. D at 153.

¹²⁴ *Id.*

87. The MPCA estimates the cost of a rulemaking including a hearing in three years will be approximately \$129,000. The Agency projects that future amendments may not be controversial and may either be adopted without the need for a hearing, making them less costly, or may be combined with other rulemaking projects at no additional cost.¹²⁵

88. Another cost of implementing the proposed rule will be calculating the new sulfate standard pursuant to the proposed equation-based standard or the alternative standard at each of the approximately 1,300 identified regulated wild rice waters. The MPCA plans to conduct analyses of the sediment of wild rice waters as part of its permitting process for new or expanding discharge sources, and its regular 10-year cycle of intensive watershed monitoring. The MPCA plans to initially focus its efforts to calculate the sulfate standard on wild rice waters associated with existing permitted dischargers.¹²⁶

89. According to the MPCA, between 1,050 and 1,100 of the wild rice waters identified in the proposed rule are not currently impacted by a discharge, leaving approximately 200-250 waters for the MPCA to prioritize. The MPCA's plan to collect and sample the sediment, in order to calculate the standard under the proposed rule, is spelled out in the SONAR but not in the rule:

[D]uring the existing process of preparation for each year's lake and stream monitoring, the MPCA will review how many wild rice waters are in the watershed, and the resources to collect and sample sediment. Waters to be sampled, if there are more than resources allow, will be prioritized based on factors such as the distance from dischargers, type of discharger, and timeline for permit reissuance.¹²⁷

90. Using procedures for collection and analysis of the sediment according to the methods prescribed in its document entitled "Sampling and Analytical Methods for Wild Rice Waters,"¹²⁸ the MPCA determined that an average cost to conduct the necessary sampling analysis of a wild rice water in order to calculate the numeric sulfate standard will be approximately \$1,200 per regulated wild rice water, including laboratory services.¹²⁹

91. The MPCA separately calculated that the costs for porewater sampling and analysis to establish an alternate sulfate standard will be approximately \$1,050 per

¹²⁵ *Id.*

¹²⁶ As stated above, the MPCA expects that, for new or expanded discharge sites, the permittee will be responsible for the cost of characterizing sediment total extractable iron and sediment total organic carbon. Ex. D at 154. This expectation is not stated in the rule.

¹²⁷ Ex. D at 154.

¹²⁸ The MPCA incorporated the Sampling and Analytical Methods for Wild Rice Waters by reference into the proposed rule. Ex. C. at lines 9.8-9.12 (part 7050.0224, subp. 5, E). However, as discussed later in this Report, the MPCA's December 1, 2017 Rebuttal comments include a proposal to allow people to use methods consistent with its methods, rather than strictly conforming to the methods as written. In addition, the MPCA mentions that it may make changes to the Sampling and Analytical Methods document. MPCA Rebuttal at 6-7.

¹²⁹ Ex. D at 154.

regulated wild rice water, including laboratory analysis of 10 porewater samples. For the alternate standard, the \$1,050 is in addition to the initial \$1,200 for calculating the numeric sulfate standard, resulting in a total of \$2,250.¹³⁰

92. The MPCA was unable to estimate the costs for establishing a site-specific standard, except to state that they will be highly variable:

In addition to the cost of sediment sampling, and possibly porewater sampling, there will be other costs unique to the situation. It is likely that more extensive sampling and analysis will be needed and additional costs will be incurred to determine the factors affecting the wild rice beneficial use in that water body.¹³¹

93. The MPCA predicts that, while the complexity of the proposed wild rice sulfate standard will require increased staff time and costs to review permit applications, that increase will be balanced by a decrease in time required to resolve questions about whether the sulfate standard applies to a particular receiving water. Only those waters listed as wild rice waters in the proposed rule will be subject to the rule's sulfate standard. The MPCA states that the determination of "whether a water is a 'water used for production of wild rice' has been a significant obstacle to efficiently applying the existing sulfate standard, requiring time from multiple staff to make a determination."¹³²

94. Because such determinations will no longer be required under the proposed rule, the MPCA anticipates that the proposed rule will not result in significant changes to the Agency's current administrative costs to review permit applications.¹³³

95. Similarly, the Agency states it does not believe that it will incur significant increases in costs to process variance requests as a result of the proposed rule. The Agency acknowledges that a revised standard will likely result in requests for variances from the new standard, but states "it is difficult to predict how many, when they will be received, and the degree of complexity of those requests."¹³⁴ Nonetheless, the MPCA concludes that, as with permitting costs, it "does not expect that the costs associated with increased variance reviews will exceed the costs associated with the complicated and time consuming process required to implement the current rules."¹³⁵

96. The MPCA recognizes that the portion of the proposed rule allowing for an exemption from the fees for municipal WWTPs seeking a variance from a wild rice standard or effluent limit will entail a cost to the MPCA.¹³⁶ The MPCA forecasts that the fee waiver will not have a significant impact on its resources because it is developing a streamlined variance application and review process specifically for the sulfate standard.

¹³⁰ *Id.* at 154-155.

¹³¹ *Id.* at 154.

¹³² *Id.* at 155.

¹³³ *Id.*

¹³⁴ Ex. D at 156.

¹³⁵ *Id.*

¹³⁶ *Id.* Ex. C. at 67.20-67.21 (proposed rule 7053.0406, subp. 2, C).

The Agency expects that the streamlined process will result in a reduced level of staff effort required to review applications for variances from the proposed sulfate standards.¹³⁷

97. The Agency stated frequently during public hearings that it expects WWTPs that are required to meet higher sulfate standards to apply for variances from those standards.¹³⁸ The cost analysis does not reflect an anticipated increase in variance requests, or a discussion of whether the Agency expects variance requests to increase as a result of expected higher standards for some dischargers under the proposed rules.

98. The MPCA anticipates litigation costs regardless of whether the proposed rules are adopted. It is not able to estimate what the costs will be, but surmises that the costs will be higher if the new standard is not adopted than if it is adopted. This is based on the MPCA's assumption that legal challenges under the existing standard will have to do with the identification of waters used for the production of wild rice, and that legal challenges under the proposed standard will be to permits issued under the revised standard.¹³⁹

99. The MPCA does not include in its litigation estimate any possible challenges from one or more of the many groups that have vigorously opposed this rule. Those groups include Native American communities, environmental groups, mining companies, power companies, municipal WWTPs, and a variety of governmental entities. The Administrative Law Judge concludes the MPCA may have underestimated litigation costs that could follow if the rule is adopted.

100. Explaining that other state agencies incur costs if they have permitted projects or operations required to comply with water quality standards, the MPCA states that other agencies, especially the Minnesota Department of Transportation (MnDOT), and the Minnesota Department of Natural Resources (MDNR) may incur additional costs under the proposed rules. MnDOT operates highway rest areas and MDNR operates campgrounds and fish hatcheries, all of which generate wastewater. The wastewater treatment systems associated with these activities are often subsurface sewage treatment systems that do not discharge. However, the MPCA has determined that eight MnDOT or MDNR facilities operate WWTPs that discharge to proposed wild rice waters.¹⁴⁰

101. Another situation that could result in costs to MnDOT will arise if MnDOT conducts road construction in an area of high sulfate rock, resulting in increased sulfate storm water runoff to nearby regulated wild rice waters. The MPCA explains that state agency costs "in these situations will vary based on the treatment facility and receiving water characteristics and may be incurred regardless of the adoption of the proposed

¹³⁷ Ex. D at 109, 156.

¹³⁸ See Tr. at 51-54 (Oct. 23, 2017); Tr. at 47-48 (Oct. 24, 2017); Tr. at 59-60 (Oct. 30, 2017).

¹³⁹ Ex. D at 156.

¹⁴⁰ Ex. D at 157.

rules.”¹⁴¹ The MPCA concludes that it is unable to provide a reasonable estimate of possible costs without considering the site-specific factors.¹⁴²

102. The MPCA predicts that the proposed sulfate rule’s greater protection for regulated wild rice will increase the value provided by the wild rice, including tourism dollars related to increased wild rice harvesting and related activities, and sales tax on more abundant marketed wild rice. The MPCA predicts that if the proposed rules are not adopted these benefits to state revenue will be lost.¹⁴³

103. The MPCA theorizes that the proposed rule, if adopted, may inhibit industrial growth or expansion due to the added costs of complying with more stringent sulfate standards. This could result in lost jobs and reduced state tax revenue. Conversely, the MPCA posits that, to the extent that the new standard requires less treatment of wastewater, there could be additional investment in new and existing industrial facilities, with added jobs and financial benefits to the state. The MPCA also points out that where additional treatment is required at existing facilities, the costs of new treatment systems, and the installation and operation of those systems, could provide additional employment, increased income, and equipment purchases with resulting increases in income and sales tax revenue for the state.¹⁴⁴

104. Ultimately, the Agency concludes that, while the proposed rule change will likely affect state revenues, it cannot predict the direction or magnitude of the impact on revenues.¹⁴⁵

105. The Administrative Law Judge concludes that the Agency performed the analysis required regarding probable costs to itself, and to any other agency, of the implementation and enforcement of the proposed rule and any anticipated effect on state revenues to the extent that it was able to do so with incomplete information.

(3) The determination of whether there are less costly methods or less intrusive methods for achieving the purpose of the proposed rule.

106. The Agency combined its response to this statutory requirement with its response to statutory requirement (4) below.

¹⁴¹ *Id.*

¹⁴² *Id.*

¹⁴³ *Id.*

¹⁴⁴ Ex. D at 157-158.

¹⁴⁵ *Id.* at 158.

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

107. The MPCA notes that the determination of whether there are less costly or less intrusive methods to protect wild rice waters depends on what level of protection is desired. A less protective sulfate standard may result in lower treatment costs for some dischargers, but may be less beneficial for the groups who value wild rice. Similarly, a more narrow definition of what constitutes a wild rice water may be deemed a benefit to some, but overly restrictive to others.¹⁴⁶

108. The MPCA considered a number of possible alternatives to the proposed rule including: (1) adopting a narrative standard; (2) adopting a higher protective sulfide value; (3) maintaining the existing 10 mg/L sulfate standard or adopting a different fixed numeric standard instead of the proposed equation; and (4) adopting an alternative equation standard other than the proposed equation.¹⁴⁷

109. After reviewing the possible alternatives, the MPCA concluded that its proposed equation standard, which tailors the sulfate standard to the naturally variable environmental conditions, represents the best current scientific understanding of the effect of sulfate and sulfide on wild rice and provides the most precise protection of wild rice water's beneficial use.¹⁴⁸ The MPCA concluded that a narrative standard would not represent a significant improvement over the current fixed standard and could not be effectively implemented through permitting or assessment.¹⁴⁹ The MPCA also maintains that fixed numeric standards ignore current scientific information correlating wild rice viability with sulfide resulting from the interaction of sulfate with other compounds in the sediment.¹⁵⁰ According to the MPCA, the most accurate fixed standard is still much less accurate than the proposed equation-based standard.¹⁵¹ The MPCA states that it considered other equation standards but ultimately concluded that its proposed equation standard is appreciably more accurate (misclassification rate of 16 to 19 percent) than the other modeling it analyzed.¹⁵²

110. The MPCA also considered applying the current 10 mg/L standard or adopting an interim standard for all wild rice waters where no equation-based sulfate value has been calculated. Commenters expressed concern that it will take the MPCA many years to calculate a standard for the 1,300 wild rice waters identified in this rulemaking.¹⁵³ The MPCA acknowledges the validity of the concern about the length of time it will take to characterize 1,300 wild rice waters it proposes to list in the rule.

¹⁴⁶ Ex. D at 159.

¹⁴⁷ *Id.* at 160-161.

¹⁴⁸ Ex. D at 159-163; MPCA's Response to Public Comments Attachment 1 at 3 (Nov. 22, 2017).

¹⁴⁹ Ex. D at 160.

¹⁵⁰ *Id.* at 161.

¹⁵¹ *Id.*

¹⁵² *Id.*

¹⁵³ Ex. D at 162.

However, it maintains it plans to prioritize those wild rice waters that receive or may receive a discharge from a permitted facility.¹⁵⁴ According to the MPCA, approximately 250-350 of the identified wild rice waters receive a discharge and it has developed an implementation plan to prioritize the sampling needed to calculate a numeric sulfate standard for those waters.¹⁵⁵

111. The MPCA considered applying a “no net increase” in sulfate discharges to wild rice waters until a numeric standard is determined. But this proved to be difficult to create in rule and the Agency concluded it was unnecessary as no new discharges will be permitted without a sulfate standard being first calculated.¹⁵⁶

112. The Agency also considered a number of alternatives to its criteria for identifying wild rice waters. The MPCA proposes to identify a wild rice water using the unique numeric identification it assigns to streams, rivers, and lakes.¹⁵⁷ This numeric identification is referred to as a water ID or WID.¹⁵⁸ Commenters expressed concern that identifying an entire large body of water as a wild rice water would not be reasonable if wild rice was only located in a small portion of the water body.¹⁵⁹ In response to these concerns, the MPCA considered identifying as a wild rice water only the specific area within a water where wild rice beds are found.¹⁶⁰ The MPCA concluded, however, that such an approach would be unreasonable because: (1) it would create a completely new system to identify a water, and (2) wild rice beds are known to move within a stream reach from one year to the next depending on hydrology and other factors.¹⁶¹ According to the MPCA, a new form of identification would be inconsistent with the MPCA’s many other data collection uses and would result in information that could not be effectively or efficiently compared and shared.¹⁶²

113. The MPCA also received comments that its process of identifying wild rice waters was based on consideration of either too little or too much wild rice.¹⁶³ The MPCA maintains that the process it uses to identify wild rice waters reasonably characterizes them in regard to both the beneficial use of a Class 4D water (use of the grain as a food source by wildlife and humans) and the statutory mandate to consider the acreage and density of wild rice.¹⁶⁴ Under the proposed rules, the Commissioner is required to consider information about wild rice waters in the regular triennial water quality standards review process, which includes a public notice and comment period.¹⁶⁵

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

¹⁵⁷ Ex. D at 40.

¹⁵⁸ *Id.* at 39.

¹⁵⁹ *Id.* at 162.

¹⁶⁰ *Id.* at 40.

¹⁶¹ *Id.* at 40,162.

¹⁶² *Id.* at 40-41.

¹⁶³ *Id.* at 162.

¹⁶⁴ *Id.*

¹⁶⁵ Ex. D at 163.

114. The MPCA considered alternatives for future identification of wild rice waters based on water bodies meeting specific stem densities or observation of wild rice over several growing seasons.¹⁶⁶ Ultimately, the MPCA decided that a specific threshold for determining wild rice waters was too limiting.¹⁶⁷ The MPCA maintains it is better to evaluate adding water bodies based on their unique factors as they relate to the beneficial use, which is the process the MPCA employed to identify the 1,300 wild rice waters being proposed.¹⁶⁸ The MPCA notes that, because each addition to the list of wild rice waters will be required to go through rulemaking, the specific factors demonstrating the beneficial use necessary to establish the water as a wild rice water will be considered in the SONAR and can be evaluated in that rulemaking.¹⁶⁹

115. The MPCA also considered alternatives to the application of the proposed equation-based sulfate standard.¹⁷⁰ The MPCA contemplated applying averaging periods other than the annual average proposed. Some commenters suggested that a monthly average would be more protective of wild rice during critical growth periods.¹⁷¹ Ultimately, the MPCA rejected shorter averaging periods. The MPCA maintains that its research supports the conclusion that porewater sulfide is a function of long-term (at least one year) average concentrations of sulfate, rather than short-term changes in surface water sulfate.¹⁷²

116. The MPCA also considered alternatives for sediment sampling and analytical results in the equation-based standard.¹⁷³ The proposed rule establishes how many sediment samples must be taken and analyzed for iron and carbon and how the resulting values are used in the equation.¹⁷⁴ The MPCA proposes that the sediment of a wild rice water can be adequately characterized by a composite of five sediment cores from each of five different areas within the water body.¹⁷⁵ The MPCA proposes to designate the lowest of the five calculated sulfate concentrations as the sulfate standard for that wild rice water.¹⁷⁶

117. Some commenters suggested taking the average value of the five sulfate concentrations, rather than the lowest.¹⁷⁷ Others suggested calculating the 10th or 20th percentile concentration from the data.¹⁷⁸ The MPCA considered these alternatives and concluded that taking the lower value would be the best approach. The MPCA contends that an average value would not be protective of the entire wild rice population and is susceptible to biasing high if the analysis yields one unusually high value that is

¹⁶⁶ *Id.*

¹⁶⁷ *Id.*

¹⁶⁸ *Id.*

¹⁶⁹ *Id.*

¹⁷⁰ Ex. D at 164.

¹⁷¹ *Id.*

¹⁷² *Id.*

¹⁷³ *Id.*

¹⁷⁴ *Id.*

¹⁷⁵ *Id.*

¹⁷⁶ Ex. D at 165.

¹⁷⁷ *Id.*

¹⁷⁸ *Id.*

incorporated into the average.¹⁷⁹ Using the lowest value is also easier to implement than calculating a percentile value. The MPCA maintains that using the lowest value from the set of calculated sulfate concentrations is a reasonable method to produce a protective sulfate concentration for a wild rice water.¹⁸⁰

118. Both Representative Rob Ecklund (Minnesota House District 3A) and Representative Matt Bliss (Minnesota House District 5A) noted that the MPCA had received \$180,000 from the Legislative Citizens Commission on Minnesota Resources to analyze wastewater treatment alternatives to inform the development and analysis of wild rice, sulfate, and other water quality standards.¹⁸¹ That analysis will be completed in May of 2018.¹⁸² Both Representatives Ecklund and Bliss were critical of the MPCA for proposing the new sulfate standard before the analysis of wastewater treatment alternatives was completed. Representative Bliss stated that the legislature moved the deadline for completing this rulemaking to January of 2019 specifically so the MPCA could use the results of the study to further inform its new wild rice standard.¹⁸³

119. The Iron Range Legislative Delegation¹⁸⁴ commented in a joint letter pointing out that, during the 2017 Legislative Session, the legislature provided the MPCA with an additional year, until January, 2019, to adopt a new wild rice water quality standard. The letter states that “[t]he proposed rules are premature . . .” because the sulfate treatment cost analysis is not complete. The letter also expressed concerns about the relative untested nature of the science underlying the proposed standard, and supported eliminating the 10 mg/L standard.¹⁸⁵

120. WaterLegacy opposes the MPCA’s proposed equation standard.¹⁸⁶ It contends that the MPCA’s assumption that iron protects wild rice from the harmful effects of sulfate loading is premature and inconsistent with both laboratory experiments and field experience.¹⁸⁷ According to WaterLegacy, the proposed equation standard will neither provide effective protection of wild rice nor clarify implementation.¹⁸⁸

121. WaterLegacy also opposes the MPCA’s proposed identification of wild rice waters.¹⁸⁹ According to WaterLegacy, the MPCA’s proposal to restrict the water bodies in which any wild rice sulfate standard would apply is arbitrary and would remove a

¹⁷⁹ *Id.*

¹⁸⁰ *Id.*

¹⁸¹ Tr. at 87 (Oct. 25, 2017); Tr. at 69-72 (Oct. 30, 2017); Ex. 1015.

¹⁸² Ex. 1015.

¹⁸³ *Id.*

¹⁸⁴ Letter from Iron Range Legislative Delegation (Senators David Tomassoni, Thomas Bakk, and Justin Eichorn, and Representatives Jason Metsa, Rob Ecklund, Julie Sandstede, Dale Lueck, and Sandy Layman) (Nov. 2, 2017).

¹⁸⁵ *Id.* at 1.

¹⁸⁶ WaterLegacy comments (filed Nov. 22, 2017).

¹⁸⁷ *Id.* at 18.

¹⁸⁸ *Id.*

¹⁸⁹ WaterLegacy comments (filed Nov. 22, 2017) at 30.

designated use and de-list wild rice waters identified by Minnesota state agencies, including waters downstream of existing and potential mining discharge.¹⁹⁰

122. Similarly, both the Friends of the Boundary Waters and the Fond du Lac Band complained that the MPCA was removing a designated use when it failed to identify certain waters as wild rice waters.¹⁹¹ The comments referred to all waters listed in Appendix B of the MDNR's 2008 *Natural Wild Rice in Minnesota* report and the 1854 Treaty Authority's 2016 and 2017 lists of wild rice waters.¹⁹²

123. The MPCA maintains that not all surface waters in the state are class 4A waters used for the production of wild rice. The MPCA points out that the existing sulfate standard is applicable only to "water used in the production of wild rice" and that this modifying language clearly demonstrates that not all Class 4A waters are wild rice waters.¹⁹³ The MPCA also contends that the presence of a waterbody in the MDNR's 2008 inventory¹⁹⁴ is not sufficient to demonstrate beneficial use.¹⁹⁵

124. Other commenters, like Mining Minnesota, complained that the MPCA was over-designating waters as wild rice waters.¹⁹⁶

125. The Administrative Law Judge concludes that the MPCA provided the analysis required by Minn. Stat. § 14.131(4).

(5) 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 separate classes of governmental units, businesses, or individuals.

126. The MPCA states that, because many of the variables affecting costs cannot be determined until the standard is actually implemented at a specific location it has limited information about the probable costs of complying with the proposed rules.¹⁹⁷

127. The MPCA acknowledges that if a facility needs to treat its wastewater discharge to comply with the revised water quality standard, the design, construction, installation, and operation of the treatment system will be a major cost.¹⁹⁸

¹⁹⁰ *Id.*

¹⁹¹ See MPCA's Rebuttal Response to Public Comments Submitted during the Post-Hearing Public Comment Period at 12 (filed Dec. 1, 2017).

¹⁹² *Id.*

¹⁹³ *Id.*

¹⁹⁴ MDNR's 2008 *Natural Wild Rice in Minnesota – A Wild Rice Report Study Report to the Legislature* (2008), Appendix B.

¹⁹⁵ *Id.*

¹⁹⁶ See Comments from Mining Minnesota (filed Nov. 22, 2017) and MPCA's Rebuttal Response to Public Comments Submitted during the Post-Hearing Public Comment Period at 13 (filed Dec. 1, 2017).

¹⁹⁷ *Id.*

¹⁹⁸ Ex. D at 166.

128. In addition to municipal WWTPs, the MPCA permits nearly 520 industrial wastewater discharges under its NPDES/SDS permitting program.¹⁹⁹ The MPCA permits a variety of types of industrial wastewater discharge, including discharges from non-contact cooling water systems, ethanol producers, manufacturing facilities, food processors, paper mills, and power plants. Industrial wastewater dischargers also include sand/gravel/stone mining, peat mining, and taconite mining operations.²⁰⁰

129. The MPCA acknowledges that treatment for sulfate can be extremely expensive.²⁰¹ According to the MPCA, reverse osmosis (RO) membrane filtration is the most practical sulfate treatment technology currently available for removing sulfate from wastewater discharges.²⁰² However, the MPCA states that there are significant design uncertainties that make it difficult to estimate costs for RO treatment of sulfate.²⁰³ According to the MPCA, a design engineer would need to perform extensive site-specific analysis and engineering testing in order to get the correct parameters to design and cost a full-scale plant capable of removing sulfate and meeting all potential permit limits.²⁰⁴ The MPCA states that, if bench or pilot testing of operations is required to obtain design parameters, it will add well over a year to the full-scale plant design time and hundreds of thousands of dollars to the design costs.²⁰⁵

130. The MPCA states that treating municipal wastewater using RO followed by evaporation and crystallization is likely to have high capital costs associated with sulfate-polishing costs that are above the costs of conventional WWTPs.²⁰⁶ There will also be high operation and maintenance costs associated with concentrate management.²⁰⁷ Energy and disposal costs are the primary drivers of concentrate management operations and maintenance costs.²⁰⁸ The MPCA notes that RO is an energy intensive process but evaporation with crystallization is much more so.²⁰⁹ In addition, the crystallized salts must be disposed of at a landfill and the tipping and hauling fees will add cost.²¹⁰ The MPCA cites to the Barr report that found five to ten percent of operations and maintenance costs were associated with disposal fees.²¹¹

131. RO membrane treatment with evaporation and crystallization also has significant secondary costs such as high carbon emissions, advanced operator training requirements, and an increased need for operator labor hours.²¹² According to the MPCA, when evaporators and crystalizers are operated in conjunction with a RO plant,

¹⁹⁹ Ex. D at 169.

²⁰⁰ *Id.*

²⁰¹ Ex. D at 182.

²⁰² *Id.* at 181-182.

²⁰³ *Id.* at 181.

²⁰⁴ *Id.*

²⁰⁵ *Id.*

²⁰⁶ Ex. D at 183.

²⁰⁷ *Id.*

²⁰⁸ *Id.*

²⁰⁹ *Id.*

²¹⁰ Ex. D at 184.

²¹¹ *Id.* citing SONAR Ex. 42.

²¹² Ex. D at 184.

four to eight additional labor hours per eight-hour shift are normally required.²¹³ The MPCA acknowledges that the combination of these secondary considerations could prove prohibitively burdensome for affected communities.²¹⁴

132. The MPCA notes that, with respect to municipal dischargers, there are some state programs available to mitigate the cost of activities necessary to comply with the proposed sulfate standard.²¹⁵

133. With respect to taconite mine dischargers, the MPCA states that it is impossible to estimate the costs for treatment of taconite mine wastewater with a high degree of certainty as it will vary depending on the volume, concentration, level of treatment, and process used.²¹⁶ A mining company's 2012 estimate of costs associated with mining wastewater treatment to achieve the current wild rice sulfate standard of 10 mg/L identified total capital costs at over \$20 million and annual operation and maintenance costs at nearly \$3 million.²¹⁷

134. The MPCA notes that the identification of 1,300 wild rice waters in the proposed rule will expand the number of permittees required to address sulfate treatment in their discharges.²¹⁸ This requirement will likely increase the cost of preparing a permit application for these permittees and the fees associated with the review of the application.²¹⁹

135. In addition, the MPCA includes approximately \$1,200 per body of wild rice water for taking samples to characterize the sediment and collecting and analyzing porewater for sulfide in order to develop the numeric standard.²²⁰

136. The record indicates that some industries and cities will incur substantial costs in complying with the proposed rules.

137. Many commenters expressed concern about the potential significant costs to municipal and industrial dischargers associated with achieving a revised sulfate standard. For example, the Duluth Area Chamber of Commerce indicated its opposition to the proposed rule revisions citing the prohibitively expensive treatment options.²²¹ Likewise, Nancy McReady with Conservationists with Common Sense (CWCS) predicted the proposed rules could bankrupt cities and businesses and result in large increases to residential sewer and water bills.²²²

²¹³ *Id.*

²¹⁴ *Id.*

²¹⁵ Ex. D at 188.

²¹⁶ *Id.* at 184.

²¹⁷ Ex. D at 185, Table 18.

²¹⁸ Ex. D at 186.

²¹⁹ *Id.*

²²⁰ *Id.*

²²¹ Rulemaking eComment from David Ross (filed Nov. 6, 2017).

²²² Rulemaking eComment from Nancy McReady (filed Nov. 4, 2017).

138. State Representative Mike Sundin (Minnesota House District 11A) echoed the Western Lake Superior Sanitary District's concern that implementation of RO treatment could require a \$500 million investment, resulting in residential sewer bills increasing upwards of five times.²²³ Gerard Bettendorf, mayor of the city of Foley, commented that the proposed rule could have a devastating economic impact on Foley and other cities throughout Minnesota.²²⁴

139. In its Response to Public Comments, the MPCA states that the conclusions made by some commenters regarding the extensive costs of implementing the proposed standard are premature.²²⁵ The MPCA asserts that it intends to make use of available tools and "pursue creative strategies" to avoid impacts to municipalities and industries that would affect jobs, affordability of municipal services, and economic vitality.²²⁶ According to the MPCA, economic and environmental health are not mutually exclusive.²²⁷

140. The Administrative Law Judge concludes that the MPCA has attempted to engage in the analysis required by Minn. Stat. § 14.131 but that the record does not support an adequate analysis.

(6) The probable costs or consequences of not adopting the proposed rule, including those costs borne by individual categories of affected parties, such as separate classes of governmental units, businesses, or individuals.

141. The MPCA asserts that there are two primary problems with the existing standard that would not be resolved if the proposed revisions are not adopted.²²⁸ The first problem is the difficulty of determining how the standard applies and defining the waters to which the existing standard applies.²²⁹ The existing standard has no clear information about duration and frequency and implementing the current standard requires a detailed case-by-case analysis to determine whether the wild rice beneficial use exists.²³⁰

142. According to the MPCA, failing to adopt the proposed revisions will result in continued uncertainty and the attendant need for case-by-case interpretation as to whether or not a water used for the production of wild rice is downstream of a discharge.²³¹ This confusion results in delays in the permitting process and increased costs of permit design and review.²³²

²²³ Rulemaking eComment from Rep. Mike Sundin (filed Nov. 21, 2017).

²²⁴ Ex. 1029.

²²⁵ MPCA's Response to Public Comments at 11 (filed Nov. 22, 2017).

²²⁶ *Id.*

²²⁷ *Id.*

²²⁸ Ex. D at 189.

²²⁹ *Id.*

²³⁰ *Id.*

²³¹ *Id.*

²³² *Id.*

143. The MPCA states that the second problem is the existing numeric sulfate standard's lack of accuracy in protecting wild rice beneficial use.²³³ The MPCA maintains that current scientific understanding of sulfate toxicity means that the existing standard may be, depending on the circumstances, either over-protective or under-protective.²³⁴ By retaining the existing standard and not adopting the proposed equation-based approach, the MPCA believes there will be higher misclassification rates and less accurate and effective protection of wild rice.²³⁵

144. The MPCA also contends that failing to adopt the proposed equation-based standard will result in less effective protection of wild rice, negatively impacting the economic, ecological, and cultural benefits provided by wild rice waters.²³⁶

145. Many commenters urged the MPCA to not adopt the proposed rule and to instead retain the existing 10 mg/L standard.²³⁷ These commenters noted that keeping the existing 10 mg/L standard would be easier to enforce and more cost effective than trying to implement the proposed equation.²³⁸

146. Many commenters also agreed that the sulfate standard should be enforced year-round as proposed in the rule, rather than just during the wild rice growing season as required by the existing rule.²³⁹

147. The Administrative Law Judge concludes that the Agency conducted the analysis required by Minn. Stat. § 14.131(6).

(7) An assessment of any differences between the proposed rules and existing federal regulation and a specific analysis of the need for and reasonableness of each difference.

148. The MPCA states that there is no federal counterpart to the equation-based sulfate standard for wild rice waters or the process for identifying wild rice waters.²⁴⁰ Therefore, it is not possible to assess any differences between the proposed rule revisions and existing federal regulations. The MPCA maintains, however, that the proposed revisions are consistent with the intent of the CWA as well as reasonable interpretations of federal guidance and the federal expectation that states develop state-specific water quality standards.²⁴¹

²³³ Ex. D at 190.

²³⁴ *Id.*

²³⁵ *Id.*

²³⁶ Ex. D at 193.

²³⁷ *See, e.g.*, Rulemaking eComment from Kris Wegerson (filed Nov. 21, 2017).

²³⁸ *Id.*

²³⁹ Ex. 1020.

²⁴⁰ Ex. D at 197.

²⁴¹ *Id.*

149. No other state has established a beneficial use class for wild rice or established a sulfate standard applicable to wild rice.²⁴²

150. The Grand Portage and Fond du Lac Bands of the Minnesota Chippewa Tribe have each established a water quality standard for wild rice.²⁴³ The water quality standards for both tribes generally define wild rice areas as bodies of water that “presently has or historically had the potential to sustain the growth of wild rice.” Both also establish a numeric sulfate standard of 10 mg/L.²⁴⁴

151. The MPCA’s current wild rice sulfate standard and proposed revisions to the wild rice sulfate standard differ from the tribal standards as follows:

a. The proposed revisions clarify the existing beneficial use to “the use of the grain of wild rice as a food source for wildlife and humans.”

b. The proposed rule revisions apply the standard to identified wild rice waters based on supporting the beneficial use. The tribal standards apply the standards more broadly to waters on the basis of past, present, or future potential to sustain growth of wild rice.

c. The existing state rules apply the sulfate standard “during periods when the rice may be susceptible to damage by high sulfate levels.” The proposed revisions apply the sulfate standard as an annual average that can be exceeded once in ten years. The Grand Portage tribal standards do not specify when the standard applies. The Fond du Lac sulfate standard is an instantaneous maximum limit.

d. The proposed revisions to the state sulfate standard establish the protective sulfate value through an equation rather than a fixed 10 mg/L standard. Both tribal sulfate standards are fixed numeric standards of 10mg/L.²⁴⁵

152. The Administrative Law Judge finds that the Agency failed to discuss the definition of “existing use” under the CWA, and how its decision to exclude certain waters previously identified as wild rice waters corresponds with the CWA’s definition of “existing use.” Therefore, the Administrative Law Judge determines that the Agency has not met its obligation under Minn. Stat. § 14.131(7) to assess the differences between the proposed rule and federal regulations and the reasonableness of each difference.

153. The Administrative Law Judge notes that the Agency failed to address the potential conflict between the 10 mg/L sulfate standard on the Fond du Lac and Grand Portage Indian Reservations and the proposed equation-based sulfate standard. While this failure may not technically violate the requirements of Minn. Stat. § 116.07, subd. 2(f) (2016), the Administrative Law Judge views this as a violation of the underlying purpose of this statutory requirement.

²⁴² *Id.*

²⁴³ *Id.*; SONAR Exs. 45 and 46.

²⁴⁴ Ex. D at 197; SONAR Exs. 45 and 46.

²⁴⁵ Ex. D at 197-198; SONAR Exs. 45 and 46.

154. The Administrative Law Judge finds that the Agency has met its special obligations under Minn. Stat. § 116.07, subd. 2(f), to assess the impact of the proposed rule and the approaches taken by neighboring states.

(8) Assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule.

155. “Cumulative effect” means the incremental impact of the proposed rule in addition to other rules, regardless of what state or federal agency has adopted the other rules. Cumulative effects can result from individually minor, but collectively significant, rules adopted over a period of time.²⁴⁶

156. As noted above, there is no federal counterpart to the wild rice sulfate standard. Therefore, there is no cumulative effect to assess with respect to other federal regulations.

157. The MPCA maintains that, because it is replacing the existing water quality standard and not proposing an additional standard, the revised standard does not create cumulative impacts.²⁴⁷ According to the MPCA, an assessment of whether a regulation has a cumulative effect is “whether the proposed revisions duplicate an existing rule that achieves the same purpose.”²⁴⁸

158. The Administrative Law Judge disagrees that this is the proper analysis for the question of cumulative effect. The Administrative Law Judge looks first to the plain language of the word “cumulative.” The first dictionary definition of “cumulative” is “increasing by successive additions.”²⁴⁹ “Duplicative,” in contrast, means “consisting of or existing in two corresponding or identical parts or examples.”²⁵⁰

159. The legislative history of Minn. Stat. § 14.131(8) demonstrates that Minnesota legislators were not concerned with agencies promulgating rules that were duplicative. They were concerned with regulations that have an increasing effect on regulated parties. At a hearing before the Senate Committee on Finance when the “cumulative effect” language was under consideration, the MPCA’s legislative director spoke to the committee:²⁵¹

One example [is] our agency deals with hazardous waste, medical waste. As we deal on the disposal side of it, once it gets to a landfill. However, up the chain of control of that issue that is handled by a number of additional

²⁴⁶ Minn. Stat. § 14.131.

²⁴⁷ Ex. D at 199.

²⁴⁸ *Id.*

²⁴⁹ Merriam-Webster online dictionary, <https://www.merriam-webster.com/dictionary/cumulative>.

²⁵⁰ Merriam-Webster online dictionary, <https://www.merriam-webster.com/dictionary/duplicative>.

²⁵¹ Testimony of Kirk Koudelka, legislative director, MPCA before Senate Comm. On Finance, S.F. 1922 (Mar. 29, 2012).

agencies that could have an impact on that. Us then having to do a cumulative effect on how a hospital handles their medical waste or how MnDOT regulates how they transport medical waste before it gets to the landfill.

160. In response to the Committee Chair Robling's concern that the MPCA was not considering the cumulative effect of regulations, and that legislators were hearing from constituents that the cumulative effect was overwhelming,²⁵² Mr. Koudelka replied:²⁵³

For instance, right now we are working on some mercury rules for facilities and their mercury emissions. We do look at what other requirements are on the federal level on that. . . . The way this is written, all other rules that affect that waste, through its chain of command, even though we may not personally have any authority over it, would have to be looked at. There is some concern on what that does to the scope from a number of agencies

161. The Administrative Law Judge finds that the MPCA has not met its obligation to assess the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the proposed rule.

2. Performance-Based Regulation

162. The Administrative Procedure Act²⁵⁴ also requires an agency to describe how it has considered and implemented the legislative policy supporting performance based regulatory systems. A performance-based rule is one that emphasizes superior achievement in meeting the agency's regulatory objectives and maximum flexibility for the regulated party and the agency in meeting those goals.²⁵⁵

163. The Agency asserts that the proposed rules meet the state's objectives for flexible, performance-based standards. It maintains that the existing WQS are a performance-based regulatory system. The WQS identify, using the best-available science, the conditions that must exist in Minnesota's water bodies to support each waters' designated uses. Because the proposed rules do not dictate how a regulated party must achieve the wild rice beneficial use or prescribe how they must operate to ensure compliance with the WQS, the Agency maintains they allow regulated parties maximum flexibility in meeting the standard. The Agency concedes, however, that, in the case of sulfate treatment, there are limited alternatives and options available to meet the standard. Nonetheless, the Agency contends that, by not dictating a single course of action and by allowing for variances, the proposed rules meet the requirement of emphasizing maximum flexibility for the regulated parties.²⁵⁶

²⁵² Chair Claire A. Robling, Senate Comm. On Finance, S.F. 1922 (Mar. 29, 2012).

²⁵³ Testimony of Kirk Koudelka, legislative director, MPCA before Senate Comm. On Finance, S.F. 1922 (Mar. 29, 2012).

²⁵⁴ Minn. Stat. § 14.131.

²⁵⁵ Minn. Stat. § 14.002.

²⁵⁶ Ex. D at 201.

164. The Administrative Law Judge finds that the Agency has met the requirements set forth in Minn. Stat. § 14.131 for consideration and implementation of the legislative policy supporting performance-based regulatory systems.

3. Consultation with the Commissioner of Minnesota Management and Budget (MMB)

165. By memorandum dated September 7, 2017, Sean Fahnhorst, an Executive Budget Officer with MMB, responded to the MPCA's request to evaluate the fiscal impact and benefit of the proposed rules on local units of government, as required by Minn. Stat. § 14.131.²⁵⁷ The MPCA estimates that the 62 municipal wastewater treatment plants that discharge into or within 25 miles upstream of identified wild rice waters are most likely to incur major costs to upgrade their treatment processes to comply with these revised standards.²⁵⁸ The MPCA provided a "preliminary analysis of the costs" in its SONAR and indicated that it expects to complete further analysis of the costs and alternatives of sulfate treatment by May 2018.²⁵⁹

166. MMB reviewed the proposed rules and the Agency's SONAR. MMB noted that municipal wastewater treatment plants are generally not designed to remove sulfate and that upgrades to existing facilities will be non-standard and require site-specific analysis and engineering testing. MMB noted further that few options exist for removing sulfate from wastewater, and the methods available can be very expensive. MMB concluded that cost estimates for upgrades are only possible with detailed wastewater treatment plant design information.²⁶⁰

167. MMB also noted that the MPCA expects to grant variances to some municipal wastewater treatment facilities, which would exempt them from discharge limits related to this standard if they demonstrate that economic or technological factors prevent their compliance. Local governments would incur administrative costs applying for the variance, but the MPCA proposes to reduce some of these expenses by waiving the variance application fee and assisting municipalities with the application process.²⁶¹

168. Finally, MMB noted that, in terms of fiscal impacts, the proposed rules may benefit some local governments by identifying nearby wild rice waters, clarifying wastewater regulations and standards, and attracting tourists.²⁶²

169. The purpose of the consultation with MMB required by Minn. Stat. § 14.131 is "to help evaluate the fiscal impact and fiscal benefits of the proposed rule on units of local government."²⁶³ In this case, given the scarcity of information available about the

²⁵⁷ Ex. K3.

²⁵⁸ *Id.*

²⁵⁹ *Id.*

²⁶⁰ *Id.*

²⁶¹ Ex. K3.

²⁶² *Id.*

²⁶³ Minn. Stat. § 14.131.

actual costs and benefits that are likely to accrue to local governments, the MMB memorandum reaches no conclusions regarding the adequacy of the information and analysis provided by the Agency. Nor is MMB provided with enough information to engage in its own evaluation of the fiscal impacts and benefits of the proposed rule on units of local government.

170. The Administrative Law Judge finds that the Agency consulted with MMB as required under Minn. Stat. § 14.131, but failed to provide adequate information to help MMB evaluate the fiscal impacts and benefits of the proposed rule on units of local government.

4. Cost to Small Businesses and Cities under Minn. Stat. § 14.127

171. Minn. Stat. § 14.127 requires the 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.²⁶⁴

172. The Agency concludes that a small business or city within the definition of Minn. Stat. § 14.127 may incur expenses in excess of \$25,000 to comply with the proposed rule in the first year after the rule takes effect. However, the Agency believes that such a circumstance is unlikely to occur within a year after the rule takes effect.²⁶⁵

173. The Agency discusses the criteria it developed that are necessary to determine which small businesses and cities could potentially be included in an analysis pursuant to Minn. Stat. § 14.127. The criteria identified by the Agency are as follows:

- a. The business or city must discharge to a surface water.
- b. The surface water receiving the discharge must be a wild rice water or within a certain range of a wild rice water. For purposes of this evaluation, the MPCA selected a range of 25 miles.
- c. The discharge must contain sulfate.
- d. The affected business must have fewer than 50 full-time employees. Affected cities must have fewer than 10 full time employees.
- e. The business or city must need to obtain a new or re-issued permit within the first year after the rules are adopted.
- f. The MPCA must have sufficient information available to develop an effluent limit – including sediment data to set the numeric standard

²⁶⁴ Minn. Stat. § 14.127, subds. 1 and 2.

²⁶⁵ Ex. D at 202.

for the receiving wild rice water, sulfate levels in the receiving water, and data on sulfate concentrations in the business or city's effluent.

- g. The application of the adopted sulfate standard must result in effluent limits that are more stringent.
- h. The business or city must incur costs of more than \$25,000 in the first year following adoption of the proposed revisions for planning, installation, or operation activities specifically to meet the revised standard.²⁶⁶

174. Using these criteria, the Agency calculates that, of the 135 dischargers within 25 miles of a regulated wild rice water, there are approximately 75 small businesses and cities that may be affected by the proposed revisions and currently have permits. Because the MPCA issues permits to dischargers on a five-year schedule, fewer than 75 will be required apply for a permit under the new standard in the first year. Nonetheless, assuming the rule is adopted in mid-2018,²⁶⁷ the MPCA estimates that more than 60 dischargers will at least begin the process of updating their existing permits in 2018.²⁶⁸

175. According to the Agency, permit issuance or renewal involves "setting effluent limits, developing and reviewing plans and specifications, permit notice and approval, and construction activities."²⁶⁹ In addition, the Agency recognizes that "dischargers may have to make a significant initial investment in planning and preliminary design work in advance of receiving the permit."²⁷⁰

176. The Agency explains that the cost driver for dischargers is the implementation of a sulfate effluent limit in a permit, which requires the discharger to take action to either limit the sulfate in its discharge or to request a variance. Before a discharger can be assigned an effluent limit, the MPCA must know the numeric sulfate standard applicable to the receiving wild rice water. In addition, the discharger's sulfate effluent concentrations must be available.²⁷¹

177. The Agency states that a majority of dischargers do not have current effluent monitoring for sulfate. For these dischargers, the Agency estimates that sulfate limits could not be implemented before 2023.²⁷²

178. According to the Agency, only if a small business or city receives a more stringent effluent limit than was required under the existing standard will it have higher treatment costs than it would have had under the 10 mg/L standard, or incur the costs of applying for a variance.²⁷³ However, a facility will not know whether its effluent limit is

²⁶⁶ Ex. D at 204.

²⁶⁷ *Id.* at 202.

²⁶⁸ *Id.* at 206.

²⁶⁹ *Id.*

²⁷⁰ *Id.*

²⁷¹ *Id.* at 207.

²⁷² *Id.*

²⁷³ *Id.*

more or less than it would be under the existing standard until the new standard has been set for the receiving wild rice water.²⁷⁴

179. The Agency does not explain why it estimates that it will take dischargers five years to monitor their own sulfate discharges.

180. Furthermore, the Agency states that it expects to take up to ten years to sample the 1,300 regulated wild rice waters identified in the proposed rule for the purpose of setting new standards.²⁷⁵

181. Nonetheless, for purposes of the rulemaking evaluation, the MPCA assumes that all the identified dischargers will have to either meet more stringent sulfate discharge limits or apply for variances. The cost to treat wastewater to remove sulfate is extremely high. The MPCA recognizes that the most effective treatment option at this time to remove sulfate from wastewater is an RO membrane treatment system.²⁷⁶ The cost of designing, building and operating an RO system will certainly exceed \$25,000. However, the MPCA expects permittees will not incur the full cost of treatment or design/build in the first year after adoption of the proposed rules.²⁷⁷

182. The MPCA expects that WWTPs that meet the above criteria may incur costs in the first year after the rules are adopted. Costs could include retaining a contractor or designer to begin the process of evaluating discharge and treatment options, among other items. The WWTP could also begin the process of bench-scale studies and facility design, although the MPCA believes a variance application is more likely. The MPCA notes that the cost of a variance alone could exceed \$25,000, especially for an industrial facility for which there is no variance fee waiver in the rule. However, the MPCA does not presume that the cost of a variance for a municipality would necessarily be less than \$25,000.²⁷⁸

183. The MPCA cannot estimate the cost of these activities “because of the extent of the variables,”²⁷⁹ but the Agency concludes that such costs will “be significant” and “may exceed \$25,000”²⁸⁰ for some small businesses and cities in the first year after adoption of the proposed revisions.²⁸¹

184. While the MPCA’s analysis pursuant to Minn. Stat. § 14.127 discusses the question of whether small businesses and cities will spend more than \$25,000 to comply with the proposed rule within one year after the rule is adopted, the statutory language

²⁷⁴ Ex. D at 207.

²⁷⁵ Response Cover Memo at 10.

²⁷⁶ Ex. D at 207.

²⁷⁷ *Id.*

²⁷⁸ Ex. D at 208.

²⁷⁹ *Id.*

²⁸⁰ *Id.*

²⁸¹ *Id.*

requires this analysis to focus on the “cost of complying with a proposed rule in the first year after the rule takes effect”²⁸²

185. Because MPCA predicts that it will likely take five to ten years to sample the regulated wild rice waters identified in the proposed rule for the purpose of setting new standards that will provide the basis for new effluent limits, the Administrative Law Judge finds that the rule cannot take effect for purposes of the Agency’s analysis under Minn. Stat. § 14.127 until the necessary sediment and porewater sampling have been completed and new sulfate standards calculated pursuant to the equation standard in the proposed rule.

186. Any attempt to perform the analysis required by Minn. Stat. § 14.127 is based on conjecture regarding whether and to what extent any given small business or city that meets the criteria outlined by the MPCA will be subject to a more stringent effluent limit once a new standard is determined for receiving waters subject to the wild rice sulfate rules.

187. The legislature’s purpose in enacting Minn. Stat. § 14.127 was to better understand the impact of its regulatory delegations. For example, in its 1993 review of Minnesota’s rulemaking process, the State Commission on Reform and Efficiency observed that the legislature is often “not aware of the specific costs of preparing and adopting the rules it authorizes or requires” and “lacks cost information when considering bills authorizing rulemaking.”²⁸³ In this context, the provisions of Minn. Stat. § 14.127 operate as a check against the legislature misjudging the cost of regulatory programs when it delegates rulemaking authority.

188. The structure and text of the exemptions in Minn. Stat. § 14.127, subd. 4, confirm this conclusion. Subdivision 4 provides that there is no safe harbor from regulatory compliance for small cities and small businesses when:

- a. the legislature has appropriated sufficient funds for the costs of complying with the proposed rule;
- b. the proposed rule follows from “a specific federal statutory or regulatory mandate”;
- c. the rules were promulgated under the limited exemption of the “good cause exempt” rulemaking procedure;
- d. the legislature exempted the proposed rules from compliance with Chapter 14 rulemaking procedures;
- e. the rules were promulgated by the Public Utilities Commission; or

²⁸² Minn. Stat. § 14.127 (emphasis added).

²⁸³ See Finding 6, *Reforming Minnesota’s Administrative Rulemaking System* (State Commission on Reform and Efficiency, 1993.).

- f. the Governor waives the safe-harbor provisions by filing a notice with both houses of the legislature and publishing the same in the *State Register*.

189. These exemptions reflect an underlying legislative assumption that delegated rulemaking authority will not result in compliance costs of more than \$25,000 for a small city or small business during the first year. If that cost assumption is not generally true for a particular agency (such as the Public Utilities Commission), or untrue with respect to a particular program (such that appropriation accompanies the rulemaking delegation), one of the listed exemptions will apply. In all other cases, the legislature offers the affected stakeholders the opportunity to revisit the question of compliance costs with the legislature and the agency.²⁸⁴

190. The Agency's application of the statute significantly narrows the protections for small businesses and small cities. Under Minn. Stat. § 14.127, a qualifying small city or small business may opt out of costly regulatory programs by filing "a written statement with the agency claiming a temporary exemption from the rules"²⁸⁵ until "the rules are approved by a law enacted after the agency determination or administrative law judge disapproval."²⁸⁶ Because, according to the MPCA, the small businesses and cities it has identified as potentially affected by \$25,000 limitation in Minn. Stat. § 14.127 will not know for certain whether their effluent limits will be more or less stringent until the new sulfate standards are calculated, it is not technically possible for any small city or business to claim that it must spend \$25,000 in order to comply with the new sulfate standards. Thus, the Agency's attempt to implement a rule without definite standards runs afoul of the statutory language of Minn. Stat. § 14.127, despite the Agency's finding that some small businesses and cities may spend \$25,000 within a year after the proposed rule is adopted.

191. The Administrative Law Judge finds that the Agency has made a determination required by Minn. Stat. § 14.127, but that determination is not adequately supported in the rulemaking record. The hearing record does not establish that the compliance costs for any one qualifying small city or small business will be more than \$25,000 in the first year following the adoption of the proposed rule because the hearing record does not establish that the compliance costs for any one qualifying small city or small business will be known within one year of adoption of the proposed rule.

192. The cost determination under Minn. Stat. § 14.127 is disapproved.

193. The result of this cost determination disapproval would usually be that any small business or city that must spend more than \$25,000 to comply with this rule can file a statement with the Agency pursuant to Minn. Stat. § 14.127, subd. 3, claiming a temporary exemption pending further action by the legislature. Because the basis for the disapproval is that the Agency has failed to provide the information required to make a

²⁸⁴ Minn. Stat. § 14.127, subd. 3.

²⁸⁵ *Id.*

²⁸⁶ *Id.*

finding under Minn. Stat. § 14.127, it is not possible for a small city or business to claim a temporary exemption at this time without further action by the Agency.

5. Adoption or Amendment of Local Ordinances

194. Under Minn. Stat. § 14.128 (2016) the 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.²⁸⁷

195. The Agency states that, because state water quality standards are not implemented at the local level, no changes will be required to local ordinances or regulations in response to the proposed rule revisions. The Agency notes, however, that local units of government that own or operate a WWTP may be subject to additional conditions on discharges due to the proposed revisions. For example, a city may require pre-treatment of high sulfate wastewater or charge a higher fee for discharge of sulfate to the municipal WWTP. These conditions may be in the form of an ordinance or regulation, but they are not specifically required by the proposed rules.²⁸⁸

196. The Administrative Law Judge finds that the Agency has made the determination required by Minn. Stat. § 14.128 and approves that determination.

6. Economic Analysis and Identification of Cost-Effective Permitting

197. Pursuant to a 2015 Minnesota Session Law,²⁸⁹ the MPCA is required to consider the effect the proposed revisions will have on MPCA's permit process for industrial and municipal dischargers.²⁹⁰

198. The MPCA states that it considered the effects its proposed revisions will have on the permit process and it recognizes that, for some dischargers, the proposed rules may result in substantial costs.²⁹¹

199. The MPCA expects that, in most cases, dischargers can only meet the proposed sulfate standard by using membrane treatment. The MPCA recognizes that the current options for treating sulfate are costly and complex.²⁹²

²⁸⁷ Minn. Stat. § 14.128, subd. 1. Moreover, a determination that the proposed rules require adoption or amendment of an ordinance may modify the effective date of the rule, subject to some exceptions. Minn. Stat. § 14.128, subds. 2 and 3.

²⁸⁸ Ex. D at 201.

²⁸⁹ 2015 Minn. Laws 1st Spec. Sess. ch. 4, art. 3, § 2, subd. 2 (authorizing funds for “enhanced economic analysis in the water quality standards rulemaking process, including more specific analysis and identification of cost-effective permitting.”).

²⁹⁰ Ex. D at 209-213.

²⁹¹ *Id.* at 209.

²⁹² *Id.*

200. The MPCA states that industrial dischargers could encounter substantial treatment costs if sulfate effluent limits are included in NPDES/SDS permits. The industries most likely to be affected include ethanol producers, food processors, power plants, ferrous (taconite) mining and processing, and any potential non-ferrous mining. The taconite industry on the Mesabi Iron Range is likely to be the most affected of the industrial categories because of the prevalence of wild rice in that region, the amount of sulfate generated by mining and processing, the aggregate volume of water discharged, and the elevated sulfate concentrations from legacy mining.²⁹³

201. The MPCA notes that variances from water quality standards are a permitting tool that may be used to temporarily address uncertain or costly treatment alternatives.²⁹⁴ The MPCA expects variances to become an increasingly necessary component of the permit process as more stringent water quality-based effluent limits are implemented.²⁹⁵ In considering a variance, the MPCA must determine the point at which costs would result in substantial and widespread negative economic and social impact such that compliance with the standard is not feasible.²⁹⁶ All variances from a water quality standard are subject to final approval by the United States Environmental Protection Agency (EPA).²⁹⁷

202. Because the proposed sulfate effluent limits may prompt an increase in variance requests, the MPCA is considering implementing a streamlined variance process. According to the MPCA, the streamlined process will define the information required for obtaining final approval from the EPA and allow ample time for a discharger to consider its permitting options. The MPCA maintains that the streamlined process will reduce permitting uncertainty and application review time and result in more cost-effective permitting.²⁹⁸

203. The Administrative Law Judge concludes the Agency has made the analysis required under 2015 Minn. Laws 1st Spec. Sess. ch. 4, art. 3, § 2, subd. 2, given the limited information available.

7. External Review Panel

204. The Agency is required to convene an external review panel during the promulgation or amendment of a water quality standard, or state in the SONAR why such a panel was not convened.²⁹⁹

205. The MPCA conducted an external peer review on the state-sponsored wild rice study in 2014.³⁰⁰ The report of the peer review panel was released in September

²⁹³ *Id.* at 209-210.

²⁹⁴ Ex. D at 210.

²⁹⁵ *Id.*

²⁹⁶ *Id.*

²⁹⁷ *Id.*

²⁹⁸ Ex. D at 216.

²⁹⁹ See Minn. Stat. § 115.035 (2016).

³⁰⁰ Ex. D at 217.

2014.³⁰¹ The names and affiliations of the peer reviewers are provided in Table 19 of the SONAR.³⁰² The MPCA states that the report of the peer review panel informed its analysis and interpretation of data regarding the effect of sulfate on wild rice and that analysis is reflected in its March 2015 draft proposal.³⁰³

206. The Administrative Law Judge finds that the Agency met the requirement of Minn. Stat. § 115.035 regarding external review panels.

IV. Rulemaking Legal Standards

207. The Administrative Law Judge must make the following inquiries: whether the agency has statutory authority to adopt the rule; whether the rule is unconstitutional or otherwise illegal; whether the agency has complied with the rule adoption procedures; whether the proposed rule grants undue discretion to government officials; whether the rule constitutes an undue delegation of authority to another entity; and whether the proposed language meets the definition of a rule.³⁰⁴

208. Under Minn. Stat. § 14.14, subd. 2 and Minn. R. 1400.2100 (2017), the agency must establish the need for, and reasonableness of, a proposed rule by an affirmative presentation of facts. In support of a rule, the agency may rely upon materials developed for the hearing record,³⁰⁵ “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),³⁰⁶ and the agency’s interpretation of related statutes.³⁰⁷

209. 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.”³⁰⁸ By contrast, a proposed rule will be deemed arbitrary and capricious where the agency’s choice is based upon whim, devoid of articulated reasons or “represents its will and not its judgment.”³⁰⁹

210. 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.³¹⁰ Thus, while reasonable minds might differ as to whether one or another particular approach

³⁰¹ *Id.*; SONAR Ex. 9.

³⁰² Ex. D at 217.

³⁰³ *Id.*; SONAR Ex. 10.

³⁰⁴ See Minn. R. 1400.2100.

³⁰⁵ See *Manufactured Housing Institute v. Petterson*, 347 N.W.2d 238, 240 (Minn. 1984); *Minnesota Chamber of Commerce v. Minnesota Pollution Control Agency*, 469 N.W.2d 100, 103 (Minn. Ct. App. 1991).

³⁰⁶ Compare generally *United States v. Gould*, 536 F.2d 216, 220 (8th Cir. 1976).

³⁰⁷ See *Mammenga v. Agency of Human Services*, 442 N.W.2d 786, 789-92 (Minn. 1989); *Manufactured Housing Inst.*, 347 N.W.2d at 244.

³⁰⁸ *Manufactured Hous. Inst.*, 347 N.W.2d at 244.

³⁰⁹ 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).

³¹⁰ *Peterson v. Minn. Dep't of Labor & Indus.*, 591 N.W.2d 76, 78 (Minn. Ct. App. 1999).

represents “the best alternative,” the agency’s selection will be approved if it is one that a rational person could have made.³¹¹

211. Because both the Agency and the Administrative Law Judge suggested changes to the proposed rule language after the date it was originally published in the *State Register*, it is also necessary for the Administrative Law Judge to determine if this new language is substantially different from that which was originally proposed.

212. The standards to determine whether any changes to proposed rules create a substantially different rule are found in Minn. Stat. § 14.05, subd. 2(b). The statute specifies that a modification does not make a proposed rule substantially different if:

(1) the differences are within the scope of the matter announced . . . in the notice of hearing and are in character with the issues raised in that notice;

(2) the differences are a logical outgrowth of the contents of the . . . notice of hearing, and the comments submitted in response to the notice; and

(3) the . . . notice of hearing provided fair warning that the outcome of that rulemaking proceeding could be the rule in question.

213. In reaching a determination regarding whether modifications result in a rule that is substantially different, the Administrative Law Judge must consider whether:

(1) persons who will be affected by the rule should have understood that the rulemaking proceeding . . . could affect their interests;

(2) the subject matter of the rule or issues determined by the rule are different from the subject matter or issues contained in the . . . notice of hearing; and

(3) the effects of the rule differ from the effects of the proposed rule contained in the . . . notice of hearing.³¹²

V. Analysis of the Proposed Rule

214. There were few sections of the proposed rule that were not opposed by any member of the public. This Report will first address the three portions of the rule that are central to its function and design: Minn. R. 7050.0224, subp. 2, which proposes to repeal the 10 mg/L sulfate standard; Minn. R. 7050.0224, subp. 5, B (1), which proposes to replace the 10 mg/L standard with the equation-based sulfate standard; and Minn. R. 7050.0471, subps. 3-9, which proposes the list of waters to be included as class 4D waters to be protected by the wild rice sulfate standard.

³¹¹ *Minnesota Chamber of Commerce*, 469 N.W.2d at 103.

³¹² See Minn. Stat. § 14.05, subd. 2.

A. Repeal of the 10 mg/L Sulfate Standard

215. Minn. R. 7050.0224, subp. 2, proposes to repeal the 10 mg/L sulfate standard applicable to wild rice waters, which are currently classified as Class 4A waters.³¹³

216. Minn. R. 7050.0220, subps. 3a, 4a, 5a, and 6a, propose to delete references to the 10 mg/L sulfate wild rice water standard.³¹⁴

217. A number of commenters support repeal of the 10 mg/L sulfate standard as it applies to wild rice waters, without regard to whether they are re-classified as Class 4D waters or remain classified as Class 4A waters.³¹⁵

218. The MPCA responded that the decision to repeal the 10 mg/L standard “is not separate from moving forward with the proposed equation.”³¹⁶ Because the MPCA has determined that sulfate negatively affects wild rice, albeit indirectly rather than directly, the MPCA determined that “[i]t is not scientifically defensible to conclude that simply eliminating the existing sulfate standard would protect” wild rice.³¹⁷

219. The 1854 Treaty Authority, the Fond du Lac Band of Lake Superior Chippewa, the Grand Portage Band of Chippewa, WaterLegacy, and numerous individuals oppose repeal of the 10 mg/L sulfate standard.³¹⁸ These commenters and others express concerns that increases in sulfate could lead to increases in methyl mercury, which bio-accumulates in fish, has long-term serious health effects on humans, and is especially dangerous to developing fetuses.³¹⁹ Some commenters also question

³¹³ Ex. C at 7.16, proposed Minn. R. 7050.0224, subp. 5.

³¹⁴ Ex. C at 3.16, 4.11, 5.7, 5.23, proposed Minn. R. 7050.0220, subps. 3a, 4a, 5a, and 6a.

³¹⁵ Test. of Rob Beranek, Oct. 23 Tr. at 91; eComment from Kurt Anderson on behalf of Minnesota Power at 7 (Minnesota Power comment) (Nov. 21, 2017); eComment from Elizabeth Wefel on behalf of Coalition of Greater Minnesota Cities at 1-2 (Coalition of Greater MN Cities comment) (Nov. 22, 2017); Test. of Chrissy Bartovich, Oct. 24, 2017 Tr. at 82; Test. of Jason Metsa, Oct. 24, 2017 Tr. at 104; Letter from Iron Range Mayors (Hoyt Lakes, Ely, Virginia, Nashwauk, Aurora, Biwakkik, Grand Rapids, Hibbing, Babbitt, Mountain Iron) at 1 (Nov. 6, 2017); Letter from Iron Range Legislative Delegation (Senators David Tomassoni, Thomas Bakk, and Justin Eichorn, and Representatives Jason Metsa, Rob Ecklund, Julie Sandstede, Dale Lueck, and Sandy Layman) (Nov. 2, 2017).

³¹⁶ MPCA Response, Att. 1 at 24.

³¹⁷ MPCA Response at 3.

³¹⁸ eComment from Paula Maccabee on behalf of WaterLegacy at 11-12, 55-56 (WaterLegacy comment), (eComment filed Nov. 22, 2017); Letter from Darren Vogt at 5 (Nov. 21, 2017); eComment from Nancy Schuldt at 25 (Nov. 22, 2017); Test. of Dennis Scymialis, Oct. 26, 2017, Tr. at 70; Test. of Tom Thompson, Oct. 26, 2017, Tr. at 75. Some commenters objected to the Agency’s classification of wild rice waters as class 4 waters rather than class 2 waters. Test. of Margaret Watkins, Oct. 26, 2017, Tr. at 89-90, Hearing Ex. 1020 (Letter from Dennis Morrison on behalf of Grand Portage Tribal Reservation Council at 8 and Letter from Robert L. Larsen on behalf of Minnesota Indian Affairs Council at 2).

³¹⁹ Test. of Dave Zentner, Oct. 26 Tr. at 117; Test. of Dr. Emily Onello, Oct. 26, 2017, Tr. at 68; Test. of Margaret Watkins, Oct. 26, 2017, Tr. at 89-90, Hearing Ex. 1020 (Letter from Dennis Morrison on behalf of Grand Portage Tribal Reservation Council at 8 and Letter from Robert L. Larsen on behalf of Minnesota Indian Affairs Council at 2).

whether the extraordinary nutritional value – and health benefits – of wild rice will be degraded by increased surface water sulfate levels.³²⁰

220. In response to the concerns raised about the effect of increased sulfate concentrations on the methylation of mercury, the MPCA acknowledges that “increased concentrations of sulfate have been shown to increase the methylation of mercury in aquatic systems where organic carbon is available and especially where background sulfate concentrations are low.” The MPCA agrees that “enhanced production of methylmercury is a significant concern.”³²¹

221. Despite these concerns, and while acknowledging that it is “very concerned about actions that might increase the mercury content of fish,” the Agency notes that “in a formal sense,” the scope of this rulemaking does not encompass the effects of sulfate on the methylation of mercury.³²² The MPCA reports that it is “conducting a significant separate study concerning the factors that control mercury in fish.”³²³ At this time, the Agency states that it has determined

that the relationship between sulfate and mercury methylation is significantly more complicated than the relationship between sulfate and sulfide on which the proposed wild rice rule is based. Therefore, it would be even more challenging to develop a proposed sulfate standard that addresses the role of sulfate in the potential for production of methylmercury.³²⁴

For these reasons, the Agency states, it is not making “any decisions as how to proceed on the question of enhanced mercury methylation until the results of the ongoing major study are available.”³²⁵

222. Both the Fond du Lac Band and the Grand Portage Band of Lake Superior Chippewa have wild rice water quality standards that limit sulfates to 10 mg/L. Each Band has authority to set water quality standards on its reservation, and the EPA has approved the standard for each Band.³²⁶

223. The CWA requires that, any time a state revises or adopts a new water quality standard, the standard “shall be such as to protect the public health or welfare, enhance the quality of water and serve the purposes of” the CWA.³²⁷ Standards “shall

³²⁰ Test. of Dr. Emily Onello, Oct. 26, 2017, Tr. at 68-69; Test. of Dr. Debby Allert, Oct. 26, 2017, Tr. at 107-112, Hearing Ex. 1024 (Materials submitted by Dr. Allert on behalf of Minnesota Academy of Family Physicians).

³²¹ MPCA Response Att. 1 at 21 (Nov. 22, 2017).

³²² *Id.*

³²³ *Id.*

³²⁴ *Id.*

³²⁵ *Id.*

³²⁶ Hearing Ex. 1020 (Letter from Dennis Morrison on behalf of Grand Portage Tribal Reservation Council at 11; Test. of Nancy Schuldt at 96 (Oct. 26, 2017); eComment from Paula Maccabee on behalf of WaterLegacy at 15 (eComment filed Nov. 22, 2017).

³²⁷ 33 U.S.C. § 1313 (c).

be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other purposes”³²⁸ The federal regulations also require the state to “take into consideration the water quality standards of downstream waters and . . . ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters.”³²⁹

224. Minn. R. 7050.0155 requires that “[a]ll waters must maintain a level of water quality that provides for the attainment and maintenance of the water quality standards of downstream waters, including the waters of another state.”

225. The MPCA has proposed that the maximum value of sulfate which could result in application of the proposed equation-based standard would be 838 mg/L,³³⁰ a standard more than 80 times the current standard of 10 mg/L.

226. In the face of challenges raised by the public concerning increased mercury methylation, further harm to wild rice, and degradation of waters due to algae blooms as a result of elevated sulfate standards, the MPCA has failed to make an affirmative presentation of facts which demonstrate that, in establishing standards which would allow increased levels of sulfate in wild rice waters, it is protecting the public health or welfare, enhancing the quality of water, and ensuring that the proposed water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters, as required by federal and state law.³³¹ Therefore, the Administrative Law Judge concludes that the proposed repeal of the 10 mg/L wild rice sulfate standard violates Minn. R. 1400.2100.D, prohibiting a rule that conflicts with other applicable law.

227. For the reasons set forth in the following section regarding the equation-based standard, the Administrative Law Judge further concludes that the MPCA has not presented facts adequate to support the reasonableness of the proposed repeal of the 10 mg/L sulfate standard without a replacement standard that is equally or more protective of wild rice waters. Therefore, the proposed rule repealing the 10 mg/L sulfate standard is defective because it violates Minn. R. 1400.2100.B.

³²⁸ 33 U.S.C. § 1313 (c)

³²⁹ 40 C.F.R. § 131.10(b) (2015).

³³⁰ MPCA Rebuttal at 4.

³³¹ The Fond du Lac Band of the Minnesota Chippewa Tribe asserts that the Chippewa retain usufructuary rights to gather wild rice under the Treaties of 1837 and 1854. *Minnesota v. Mille Lacs Band of Chippewa Indians*, 526 U.S. 172, 196 (1999). The Fond du Lac Band, along with the entire Minnesota Indian Affairs Council, believes that equation-based sulfate standard is not proven to be protective of wild rice waters. Hearing Ex. 1020 (Letter from Dennis Morrison on behalf of Grand Portage Tribal Reservation Council at 8 and Letter from Robert L. Larsen on behalf of Minnesota Indian Affairs Council at 2). Therefore, the Fond du Lac Band argues, the State has an obligation under the 1837 and 1854 Treaties to insure that wild rice is not degraded or contaminated. The Fond du Lac Band contends that the proposed equation-based standard will not adequately protect wild rice or, by extension, the Band’s Tribal treaty rights. eComment from Nancy Schuldt at 1,4-5 (Nov. 22, 2017). Because the Administrative Law Judge finds that repeal of the 10 mg/L violates federal and state law, this Report need not reach the treaty-rights arguments.

228. Should the Agency proceed with this rulemaking, it may cure the defect by retaining the 10 mg/L wild rice sulfate standard either by returning to the current wild rice classification as 4A waters, or by applying the 10 mg/L wild rice sulfate standard to wild rice in the 4D classification.

229. The Administrative Law Judge finds that the suggested changes would be needed and reasonable and would not constitute a substantially different rule under Minn. Stat. § 14.05, subd. 2(b).

B. Equation-based Sulfate Standard

230. **Part 7050.0224, subp. 5, B (1)**. As stated above, the MPCA proposed the equation-based sulfate standard to replace the 10 mg/L sulfate standard.

231. Because the Administrative Law Judge has determined that the proposed repeal of the 10 mg/L sulfate standard is not needed or reasonable, the equation-based standard cannot be implemented as part of this rulemaking. Nonetheless, for purposes of the Agency's consideration in future rulemaking procedures, the Administrative Law Judge provides a review of the equation-based standard.

232. **Part 7050.0224, subp. 5, B (1)** contains the equation for the calculated sulfate standard as proposed by the Department. The standard is expressed as milligrams of sulfate ion per liter, as follows:³³²

$$\text{Calculated sulfated standard} = 0.0000121 \times \frac{\text{Iron}^{1.923}}{\text{Organic carbon}^{1.197}}$$

Where:

- (a) organic carbon is the amount of organic matter in dry sediment. The concentration is expressed as percentage of carbon, as determined ~~using~~ consistent with the method for organic carbon analysis in Sampling and Analytical Methods for Wild Rice Waters, which is incorporated by reference in item E;
- (b) iron is the amount of extractable iron in dry sediment. The concentration is expressed as micrograms of iron per gram of dry sediment, as determined ~~using~~ consistent with the method for extractable iron in Sampling and Analytical Methods for Wild Rice Waters, which is incorporated by reference in item E;
- (c) sediment samples are collected ~~using consistent with~~ the procedures established in Sampling and Analytical Methods for Wild Rice Waters; and

³³² Ex. C at lines 7.25-7.26 and 8.1-8.17.

(d) the calculated sulfate standard is the lowest sulfate value resulting from the application of the equation to each pair of organic carbon and iron values collected and analyzed in accordance with units (a) to (c).³³³

233. Many of the commenters rejected the proposed equation-based standard. Concerns about the equation-based standard focused on the implementation of the standard and on the science underlying the equation.

1. Implementation of the Equation-based Standard

234. The equation will require measurements of iron and carbon to be taken from the sediment in each of the 1,300 or more identified wild rice waters. The data will then be inserted into the equation to calculate the equation-based sulfate standard for that particular water.³³⁴ As stated above, the Agency estimates that it will take approximately ten years for agency staff to calculate the standards for the approximately 1,300 waters identified in the proposed rule.³³⁵

235. A number of commenters express concerns that it will take approximately ten years for the Agency to establish the standards under the proposed rule. Some of the concerns are that the Agency's delayed ability to implement the new standards will create confusion, and will defer enforcement of the water quality standards for wild rice waters.³³⁶ Regulated parties assert that they lack the information they need to properly plan for compliance with the standards once they are implemented.³³⁷ Others observe that the Agency has not enforced the 10 mg/L standard for most of the years the existing standard has been in place, and that the Agency, with its limited resources, has not shown that it will have the means to develop the 1,300 individual standards which must be calculated before they can be enforced.³³⁸

236. Cleveland Cliffs, which owns and operates United Taconite and Northshore Mining Company and partially owns and operates Hibbing Taconite, is a major employer on Minnesota's Iron Range. Cleveland Cliffs employs over 1,700 individuals and claims it has a total economic impact to the region of nearly \$900 million.³³⁹ In its post-hearing comments, Cleveland Cliffs asserts that the MPCA's implementation plan for the equation-based standard is unreasonable. Cleveland Cliffs contends that it is unreasonable that the MPCA cannot notify any potentially affected WWTP what revised standard will apply to it because the MPCA has not calculated sulfate standards in

³³³ Ex. C at 8.5-8.17; MPCA Rebuttal Response to Public Comments at 5.

³³⁴ MPCA Rebuttal at 44.

³³⁵ Ex. D at 153-154; MPCA's Response to Public Comments at 10-11 (Nov. 22, 2017).

³³⁶ Comments of Lea Foushee, Oct. 23 Hearing Tr. at 93; (MCEA eComment) at 6-8 (Nov. 22, 2017).

³³⁷ Comments of Chrissy Bartovich, Oct. 24 Hearing Tr. at 82.

³³⁸ Comments of Matt Tuchel, Oct. 24 Hearing Tr. at 151-152; Paula Maccabee letter at 7-11 (Nov. 22, 2017); Dorie Reisenweber, Oct. 26 Hearing Tr. at 106; Dave Zentner, Oct 26 Hearing Tr. at 114; Allen Richardson, Oct. 26 Hearing Tr. at 129; Barbara Cournyea, Oct. 30 Hearing Tr. at 88; Sydney Evans (eComment) (Oct. 23, 2017); Jeff Williams (eComment) (Nov. 2, 2017).

³³⁹ Letter from Rob Beranek at 1 (Nov. 22, 2017) (Beranek Letter).

individual wild rice waters under the proposed rule.³⁴⁰ To demonstrate the inadequacy of the MPCA's regulatory cost analysis,³⁴¹ Cleveland Cliffs cites the MPCA's statements in the SONAR that "sulfate treatment is prohibitively expensive for many dischargers"³⁴² and that "companies might choose to stop operations rather than invest in the treatment needed to meet a revised standard."³⁴³

237. The Agency's response to comments regarding implementation of the equation-based standard is that this water quality rule is not unique:

With any standard, resources are required to collect a sufficient amount of data for implementation. In fact, the MPCA is not convinced that the resources needed to implement the proposed standard revision exceed those needed to implement the existing 10 mg/L sulfate standard if this rulemaking were not to proceed.³⁴⁴

238. In response to commenters' concerns regarding the time needed to develop the individual sulfate limits, the Agency states: "[i]t is not uncommon for data gathering to be necessary before a standard can be fully implemented in permits."³⁴⁵

239. The Agency explains that implementing the current 10 mg/L standard takes time, both because wild rice waters have to be identified and because surface waters have to be analyzed to see whether the 10 mg/L standard is being met.³⁴⁶

240. The Agency plans to make efficient use of its resources by collecting sediment iron and carbon data to develop the new sulfate standards using its existing 10-year intensive watershed monitoring program.³⁴⁷

241. The MPCA acknowledges that, because it does not have the data available to calculate the proposed equation-based standard, it does not know "how many dischargers will be required to install additional treatment"³⁴⁸ or "how many wild rice waters need a standard more stringent than the existing 10 mg/L."³⁴⁹ Similarly, the Agency states in the SONAR, "[b]ecause the number of dischargers who must meet a different limit (either more or less stringent) is not known, it is difficult to quantify the change in environmental costs or benefits based on this rule revision."³⁵⁰

242. In its rebuttal comments, the MPCA states:

³⁴⁰ Beranek Letter at 25-26.

³⁴¹ Beranek Letter at 23.

³⁴² Ex. D at 107.

³⁴³ Ex. D at 148.

³⁴⁴ MPCA Response at 10 (Nov. 22, 2017).

³⁴⁵ MPCA Response, Att. 2 at 39.

³⁴⁶ MPCA Response at 10-11 (Nov. 22, 2017).

³⁴⁷ MPCA Response at 10 (Nov. 22, 2017).

³⁴⁸ Ex. D at 144.

³⁴⁹ Ex. D at 143.

³⁵⁰ *Id.*

[T]he MPCA understands that dischargers want clarity about how the standard will affect them, and we are sensitive to comments that the MPCA should strive to fully understand and articulate the implementation details of a rule prior to adopting the rule. In the case of water quality standards, the impact on permitted facilities comes through development of an effluent limit specific to a facility that ensures the permitted facility will not cause or contribute to a violation of the water quality standard. Effluent limit setting requires evaluating multiple factors as described beginning on page 96 of the SONAR.

There are approximately 1000 facilities in Minnesota that hold water discharge permits. Site-specific data is required to evaluate the need for an effluent limit at each facility, and these issues are addressed in an individualized permitting process. This data is not immediately available for all facilities and it takes time to gather this data.

This time and data need is inherent to the difference between water quality standards and effluent limits, and is not unique to the proposed revisions to the wild rice sulfate standard. As explained in Part 6G, pp. 96-99 of the SONAR, evaluating the need for and (as needed) determining a water quality based effluent limit requires data specific to the discharge being evaluated and the receiving water(s) being discharged to. Data needs unique to the proposed rule revisions are the sediment iron and carbon (or porewater sulfide) data.

Collecting all the data necessary to calculate all effluent limits statewide would take at least ten to fifteen years, even if the sediment data were not needed. Necessary steps such as gathering five years of effluent data to evaluate and set effluent limits combined with the 10-year surface water monitoring schedule to gather surface water data cumulatively add up to the necessary data not being available for some permitted discharges until at least ten to fifteen years after rule promulgation. The MPCA does plan to prioritize data collection based on factors such as those mentioned in the EPA comments, Appendix 2 – the likelihood of sulfate impacts (because of type and location of dischargers) and permitting schedules.³⁵¹

243. The rule, as proposed, gives regulated parties no notice of the numeric sulfate standard they will be expected to comply with, because it repeals the existing 10mg/L standard and replaces it with an equation based on variables that lack values. WWTPs will not know, until there is a final decision regarding the new water quality standards applicable to their discharge facilities, whether and to what extent they will have to treat their wastewater discharge for sulfate.

244. During the public hearings, MPCA staff distinguished between the process of setting standards and the permitting process. In her introductory remarks, Shannon Lotthammer, Division Director for the MPCA's Environmental Analysis and Outcomes

³⁵¹ MPCA Rebuttal Memo at 40.

Division, stated, “So one thing I want to point out is that the permitting process is not the same thing as establishing a water quality standard.”³⁵² Ms. Lotthammer made similar comments during her introductory remarks at each public hearing.³⁵³

245. To the extent that the Agency claims that the delay in setting standards does not disadvantage the WWTPs because the permitting process can also take years, that claim is undermined by the Agency’s own statements that setting water quality standards and permitting are two completely separate processes. The additional step of establishing a water quality standard before effluent limits can be established will prevent the WWTPs from planning, with any certainty, how to approach what will, at that point, be unknown compliance obligations.

246. The Administrative Law Judge finds that Part 7040.0224, subp. 5, B (1) violates Minn. R. 1400.2100.B. The equation-based sulfate standard is not rationally related to the Agency’s objective. The Agency states that its objective in this proceeding is “[t]o amend the state water quality standards and the rules implementing those standards to protect wild rice from the impact of sulfate, so that wild rice can continue to be used as a food source by humans and wildlife.”³⁵⁴ The equation-based sulfate standard does not update the standards because, while the rule repeals the existing sulfate standard of 10 mg/L,³⁵⁵ it fails to provide the values necessary to insert into the proposed equation to calculate individualized standards for each wild rice water body. Therefore, if the rule is enacted as proposed, there will be no standards when the rule becomes effective. Regulated parties will not know what standards will apply to them, or even whether any sulfate standard applies to them. Therefore, the rule as proposed will not protect wild rice from the impact of sulfate, and is not rationally related to the Agency’s objective.

247. The Administrative Law Judge finds that Part 7040.0224, subp. 5, B (1) violates Minn. R. 1400.2100.E because it is unconstitutionally void for vagueness. “A rule, like a statute, is void for vagueness, if it fails to give a person of ordinary intelligence a reasonable opportunity to know what is prohibited or fails to provide sufficient standards for enforcement.”³⁵⁶

248. The Administrative Law Judge finds that Part 7040.0224, subp. 5, B (1) violates 1400.2100.G. By its own terms, the equation-based sulfate standard cannot have the force and effect of law. The equation lacks values to insert in the place of the iron and organic carbon variables, and thus cannot be calculated. Therefore, the proposed equation-based sulfate standard will not have the force and effect of law within five working days after notice of its adoption and violates the requirements of Minn. Stat. § 14.38.

³⁵² Comments of Shannon Lotthammer, Tr.at 49 (Oct. 23, 2017).

³⁵³ Comments of Shannon Lotthammer, Tr.at 44-45 (Oct. 24, 2017); Tr. at 44 (Oct. 25, 2017); Tr. at 58 (Oct. 26, 2017); Tr. at 57 (Oct. 30, 2017); Tr. at 47-48 (Nov. 2, 2017).

³⁵⁴ Ex. D at 1.

³⁵⁵ Ex. C. at lines 7.8-7.10 (proposed Minn. R. 7050.0224, subp. 2).

³⁵⁶ *In re N.P.*, 361 N.W. 2d 386, 394 (Minn. 1985), *citing Grayned v. City of Rockford*, 408 U.S. 104, 108-09, 92 S. Ct. 2294, 2298-99 (1972).

249. The Agency could cure the defects identified in this section only by conducting the sampling process necessary to provide the values for the equation proposed in the rule for each water identified in the rule, before proposing the rule. However, because the Agency cannot repeal the 10 mg/L sulfate standard for the reasons explained in section V. A., above, the Agency cannot implement the equation-based sulfate standard.

2. Science-based Objections to the Equation

250. The basis for many of the objections were disagreements with the scientific underpinnings of the equation. The science-based objections fall primarily into the following categories:

- a. Disagreement with the MPCA's conclusion that sulfate harms wild rice.³⁵⁷
- b. Disagreement with the MPCA's conclusion that the proposed sulfide standard will be protective of wild rice.³⁵⁸
- c. Concerns that permitting higher sulfate levels will result in increased methyl mercury in fish.³⁵⁹
- d. Criticisms of MPCA's research based on its decision to exclude from consideration stressors on wild rice growth other than sulfate or sulfide.³⁶⁰
- e. Disagreement with the MPCA's conclusion that a level as low as 120 micrograms per liter of sulfide is the maximum level that is protective of wild rice.³⁶¹
- f. Criticisms of the MPCA's research on porewater sulfide.³⁶²
- g. Criticisms of the MPCA's use of field data.³⁶³
- h. Criticisms of the MPCA's choice of data sets.³⁶⁴

³⁵⁷ eComment from Tom Scott (Nov. 22, 2017); Kurt Anderson, Tr. at 116 (Oct. 23, 2017); Sen. David Tomassoni Tr. at 53-55 (Oct. 24, 2017); Larry Sutherland, Tr. at 73 (Oct. 24, 2017).

³⁵⁸ eComment from John Coleman on behalf of Great Lakes Indian Fish and Wildlife Commission at 3-7 (Nov. 22, 2017); eComment from Nancy Schuldt on behalf of Fond du Lac Band of Chippewa at 26-88 (Nov. 22, 2017).

³⁵⁹ Jennifer Lang, Tr. at 61 (Oct. 23, 2017); Ex. 1000, Letter from Lea Foushee on behalf of North American Water Office at 1; eComment from Nancy Schuldt on behalf of Fond du Lac Band of Chippewa at 33 (Nov. 22, 2017); Test. of Dave Zentner on behalf of Izaak Walton League, Tr. at 116-117 (Oct. 26, 2017); E- comment from Kristin Blann on behalf of The Nature Conservancy (Nov. 22, 2017).

³⁶⁰ Test. of O'Neill Tedrow, Tr. at 89-95 (Oct. 24, 2017) and Ex. 1008; Test. of Chrissy Bartovich, Tr. at 80 (Oct. 24, 2017).

³⁶¹ Test. of Kurt Anderson, Tr. at 113-116 (Oct. 23, 2017); Test. of Mike Bock, Tr. at 76-80 (Oct. 23, 2017); Test. of Mike Hansel, Tr. at 82 (Oct. 23, 2017); Test. of Rob Beranek, Tr. at 90 (Oct. 23, 2017); Tom Rukavina, Tr. at 134-148 (Oct. 24, 2017); Sen. Justin Eichorn, Tr. at 59-60 (Oct. 24, 2017).

³⁶² Test. of Mike Hansel, Tr. at 83 (Oct. 23, 2017).

³⁶³ Test. of Mike Bock, Tr. at 79 (Oct. 23, 2017); eComment from John Coleman on behalf of Great Lakes Indian Fish and Wildlife Commission at 3-7 (Nov. 22, 2017).

³⁶⁴ Test. of Rob Beranek, Tr. at 90 (Oct. 23, 2017); eComment from John Coleman on behalf of Great Lakes Indian Fish and Wildlife Commission at 4-5 (Nov. 22, 2017).

- i. Concerns that the equation assumes steady state in a water body.³⁶⁵
- j. Questions about upwelling of ground water.³⁶⁶
- k. Questions about the long-term effectiveness of the calculated sulfide levels.³⁶⁷
- l. Concerns about error rates in the equation.³⁶⁸
- m. Disagreement about the use of EC₁₀ concentration standard.³⁶⁹
- n. Effect of sulfate on different parts of the wild rice plant.³⁷⁰
- o. Challenges to the MPCA's analysis of its research and data.³⁷¹
- p. Concerns about response to peer review criticisms.³⁷²
- q. Issues with the structural equation model (SEM).

251. The Administrative Law Judge finds that the MPCA presented sufficient evidence to demonstrate that there is an adequate scientific basis to conclude that the proposed equation-based sulfate standard is supported by peer-reviewed science and is needed and reasonable.

252. With one notable exception, the MPCA responded to each of the arguments raised by the commenters with arguments that were supported by peer-reviewed research.³⁷³

253. The exception, for which the MPCA did not offer a convincing response, was raised by several parties, most notably Dr. John Pastor, one of the scientists on whose foundational research the MPCA relied for its conclusions that sulfide, rather than sulfate, is the direct cause of damage to naturally-occurring wild rice.³⁷⁴ Dr. Pastor's continuing mecosystem research has indicated that, while increased iron may counter the toxicity of sulfide to wild rice seedlings in the springtime, iron sulfide plaques form and

³⁶⁵ John Pastor, PhD., Technical Review Comments on MPCA's Proposed Flexible Standard for Sulfate in Wild Rice Beds (Nov. 2017), submitted as attachment to WaterLegacy eComments (Nov. 22, 2017); eComment from Nancy Schuldt on behalf of Fond du Lac Band of Chippewa (Nov. 22, 2017); eComment from Miya Evans on behalf of Mesabi Nugget (Nov. 22, 2017).

³⁶⁶ Test. of Meaghan Blair, Tr. at 117-119 (Oct. 24, 2017).

³⁶⁷ John Pastor, PhD., Technical Review Comments on MPCA's Proposed Flexible Standard for Sulfate in Wild Rice Beds (Nov. 2017), submitted as attachment to WaterLegacy eComments (Nov. 22, 2017);

³⁶⁸ Test. of Rob Beranek, Tr. at 91 (Oct. 23, 2017); Test. of Sen. David Tomassoni, Tr. at 55 (Oct. 24, 2017); Test. of Jack Crowell, Tr. at 99 (Oct. 24, 2017); Test. of Rep. Jason Metsa, Tr. at 102 (Oct. 24, 2017); Test. of Sen. Justin Eichorn, Tr. at 54, 61 (Oct. 25, 2017).

³⁶⁹ eComment from Nancy Schuldt on behalf of Fond du Lac Band of Chippewa at 28-31 (Nov. 22, 2017); eComment from Rob Beranek at 12-13 (Nov. 22, 2017); eComment from John Coleman on behalf of Great Lakes Indian Fish and Wildlife Commission at 4-5 (Nov. 22, 2017).

³⁷⁰ eComment from Rob Beranek at 6-8 (Nov. 22, 2017); Test. of Kurt Anderson, Tr. at 69-70 (Oct. 23, 2017).

³⁷¹ Test. of Mike Bock, Tr. at 78-79 (Oct. 23, 2017); Test. of Kurt Anderson, Tr. at 114 (Oct. 23, 2017).

³⁷² Test. of Kelsey Johnson, Tr. at 69 (Oct. 24, 2017).

³⁷³ See MPCA Response Memorandum (Nov. 22, 2017) and Rebuttal Memorandum (Dec. 1, 2017).

³⁷⁴ Ex. D at Ex. S-19.

precipitate on the plants' roots during the flowering and seed production phases of the wild rice life cycle. These plaques result in fewer and smaller seeds, with reduced nitrogen content, leading to extinction of the wild rice plant within 4 or 5 years at about 300 mg/L of sulfate, and greatly reducing wild rice plant population viability at lower concentrations of sulfate. Dr. Pastor hypothesizes that this occurs because the increased plaque appears to block uptake by the plant of nitrogen during the critical flowering and seed production portion of its life cycle.³⁷⁵

254. The MPCA's response to Dr. Pastor's reports about the plaque formation is, first, that "the only information the MPCA has on this issue is a four-page non-peer reviewed progress report" The MPCA also states that Dr. Pastor only presents evidence of nutrient uptake inhibition at 300 mg/L, asserting that this is "much higher than would be allowed using the MPCA's proposed equation."³⁷⁶

255. The Administrative Law Judge notes that the MPCA failed to mention the discussion of plaque formation in the peer-reviewed article which Dr. Pastor co-authored with MPCA staff, among others. The MPCA relies on this article, among others, to support the theory that increased iron in the porewater is protective against sulfide, permitting increased sulfate in the surface water.³⁷⁷ This theory underlies, and is essential to, its equation-based sulfate standard. Furthermore, as discussed above, Dr. Pastor considered the effect of lower amounts of sulfate, as reported in his June 2017 article, concluding that, even at lower levels, sulfate greatly reduced plant viability when combined with increased iron.³⁷⁸

256. Nonetheless, Dr. Pastor's continued research regarding the harmful effects of increased sulfate with increased iron are not yet the subject of peer-reviewed publication. Therefore, the Administrative Law Judge finds that the MPCA demonstrated by an affirmative presentation of facts that it could rationally choose to proceed with the equation-based sulfate standard from a scientific standpoint.

257. The Administrative Law Judge finds that the MPCA's demonstration that the science underlying the equation-based standard is reasonable in that it describes a manner of calculating a sulfate level resulting in a level of sulfide in porewater protective of wild rice.

258. Nonetheless, because the MPCA failed to make an affirmative presentation of facts that implementation of the equation-based standard, or the alternate standard, would provide "for the attainment and maintenance of the water quality standards of downstream waters," the new proposed sulfate standards, even if based on science that a rational decision-maker could conclude is protective of wild rice, must be disapproved.

³⁷⁵ MPCA Response, Att. 5, N-34 at 3 (Pastor, Progress Report on Experiments on Effects of Sulfate and Sulfide on Wild Rice. June 28, 2017); eComment from John Coleman on behalf of Great Lakes Indian Fish and Wildlife Commission at 6 (Nov. 22, 2017).

³⁷⁶ MPCA Rebuttal at 25.

³⁷⁷ Ex. D at Ex. S-19.

³⁷⁸ MPCA Response, Att. 5, N-34 at 3 (Pastor, Progress Report on Experiments on Effects of Sulfate and Sulfide on Wild Rice. June 28, 2017).

C. List at Minn. R. 7050.0471 of Proposed 4D (Naturally Occurring) Wild Rice Waters

259. **Part 7050.0471, subparts 3-9**, proposes to list the waters that will be protected as Class 4D wild rice waters. There are approximately 1,300 Minnesota water bodies in the list as proposed by the MPCA.³⁷⁹

260. In the SONAR, the MPCA explains that the current rules “apply the wild rice beneficial use to ‘water used for production of wild rice,’” without identifying the waters to which the use applies.³⁸⁰ The MPCA states that the case-by-case process of evaluating potential wild rice waters has posed a significant challenge to the implementation of the existing standard.³⁸¹

261. The proposed rule is a response to a legislative mandate first passed in 2011:³⁸²

(a) Upon completion of the research referenced in paragraph (d), the commissioner of the Pollution Control Agency shall initiate a process to amend Minnesota Rules, chapter 7050. The amended rule shall:

(1) address water quality standards for waters containing natural beds of wild rice, as well as for irrigation waters used for the production of wild rice;

(2) designate each body of water, or specific portion thereof, to which wild rice water quality standards apply; and

(3) designate the specific times of year during which the standard applies.

Nothing in this paragraph shall prevent the Pollution Control Agency from applying the narrative standard for all class 2 waters established in Minnesota Rules, part 7050.0150, subpart 3.

(b) “Waters containing natural beds of wild rice” means waters where wild rice occurs naturally. Before designating waters containing natural beds of wild rice as waters subject to a standard, the commissioner of the Pollution Control Agency shall establish criteria for the waters after consultation with the Department of Natural Resources, Minnesota Indian tribes, and other interested parties and after public notice and comment.

³⁷⁹ Ex. C at 11.16-11.17 and 12.7-66.8 (proposed Minn. R. 7050.0471, subps. 1 and 3-9). The original proposed list is slightly longer than the list as finally proposed by the MPCA, because the MPCA initially included waters within the boundaries of the Grand Portage and Fond du Lac reservations. The two tribes objected to inclusion of the waters within their reservations’ boundaries, and the MPCA proposed to remove those waters from the proposed list. MPCA Response at 13.

³⁸⁰ Ex. D at 38.

³⁸¹ *Id.*

³⁸² 2011 Minn. Laws, 1st Sp. Sess. ch. 2, art. 4, § 32(a)-(d).

The criteria shall include, but not be limited to, history of wild rice harvests, minimum acreage, and wild rice density.

(c) Within 30 days of the effective date of this section, the commissioner of the Pollution Control Agency must create an advisory group to provide input to the commissioner on a protocol for scientific research to assess the impacts of sulfates and other substances on the growth of wild rice, review research results, and provide other advice on the development of future rule amendments to protect wild rice. The group must include representatives of tribal governments, municipal wastewater treatment facilities, industrial dischargers, wild rice harvesters, wild rice research experts, and citizen organizations.

(d) After receiving the advice of the advisory group under paragraph (c), consultation with the commissioner of natural resources, and review of all reasonably available and applicable scientific research on water quality and other environmental impacts on the growth of wild rice, the commissioner of the Pollution Control Agency shall adopt and implement a wild rice research plan using the money appropriated to contract with appropriate scientific experts. The commissioner shall periodically review the results of the research with the commissioner of natural resources and the advisory group.

262. The proposed rule applies the sulfate standard only to waters specifically identified as Class 4D wild rice waters, which are listed in proposed Minn. R. 7050.0471.³⁸³ Waters which are not listed in the rule are not subject to the sulfate standard.³⁸⁴

263. In determining which waters to include in the proposed rule, the MPCA relied on a number of sources, including:³⁸⁵

- a. *Natural Wild Rice in Minnesota*) – A Wild Rice Study Report to the Legislature (2008) (Minnesota DNR) – MDNR Wild Rice Harvester Survey Report (2007);
- b. Minnesota Wild Rice Management Workgroup List of 350 Important Wild Rice Waters (2010);
- c. 1854 Treaty Authority List of wild rice waters (through March 2016 plus three additional waters since March 2016);
- d. MDNR Aquatic Plant Management Database;
- e. MPCA Biomonitoring Field Sites;
- f. University of Minnesota/MPCA Wild Rice Study Field Survey Sites;

³⁸³ Ex. C at li. 12.7-66.8 (proposed Minn. R. 7050.0471, subps. 3-9); Ex. D at 38.

³⁸⁴ Test. of S. Lotthammer, Nov. 2, 2017 Tr. at 92.

³⁸⁵ Ex. D at 42.

- g. Minnesota Biological Survey Database;
- h. MPCA Call for Data;
- i. Permittee Monitoring Reports;
- j. WR Waters (7050.0470);
- k. Waters identified by MDNR in 2015 as wild rice waters; and
- l. Waters Identified through MPCA Review of Various Water Surveys.

264. The MPCA found that it could not determine that certain waters were Class 4D wild rice waters based solely on the information it received from these sources. In some cases, the MPCA could not identify the location of the water from the information provided. In other cases, the MPCA could not correlate the location of a river or stream with a specific WID.³⁸⁶

265. The MPCA acknowledges that the MDNR's 2008 report "is widely considered the most comprehensive source of information regarding where rice may be found in Minnesota, and [the DNR report] was extensively reviewed."³⁸⁷ The MDNR report represents the work of experts in the field from state, tribal, and federal governments, along with academia and the private sector.³⁸⁸ However, the MPCA found the MDNR list insufficient on its face because it consolidated certain information on the location of natural wild rice stands, making it difficult for the MPCA to define the density or acreage of some rice stands. In addition, according to the MPCA, the MDNR report contains limited information about streams with wild rice.³⁸⁹

266. As part of this rulemaking, at proposed Minn. R. 7050.0471, subp. 2, the MPCA is proposing "[a]cceptable types of evidence"³⁹⁰ that can be used in future rulemakings to add wild rice water bodies. The evidence must

support a demonstration that the wild rice beneficial use exists or has existed on or after November 28, 1975, in the water body, such as by showing a history of human harvest or use of the grain as food for wildlife or by showing that a cumulative total of at least two acres of wild rice are present.³⁹¹

267. The evidence the MPCA lists as acceptable evidence in its proposed Minn. R. 7050.0471, subp. 2, includes:

³⁸⁶ Ex. D at 45.

³⁸⁷ *Id.*

³⁸⁸ *Id.*

³⁸⁹ Ex. D at 46.

³⁹⁰ Ex. C at line 11.24 (proposed Minn. R. 7050.0471, subp. 2).

³⁹¹ Ex. C at lines 11.21-11.24 (proposed Minn. R. 7050.0471, subp. 2) and MPCA Rebuttal at 8. The reference to the Rebuttal reflects some fairly minor proposed changes to the language in subpart 2 which the MPCA set forth in its December 1, 2017 Rebuttal Memorandum.

- A. written or oral histories that meet the criteria of validity, reliability, and consistency;
- B. written records, such as harvest records;
- C. photographs, aerial surveys, or field surveys; or
- D. other quantitative or qualitative information that provides a reasonable basis to conclude that the wild rice beneficial use exists.³⁹²

268. The MPCA found the MDNR report sufficiently reliable to presume that water bodies included in the report “with wild rice acreage estimates of two acres or more meet the beneficial use.”³⁹³ For waters in the MDNR report with fewer than two acre estimates, the MPCA looked to other sources to identify “high quality, harvestable wild rice waters.”³⁹⁴

269. Several commenters maintained that, in rejecting waters listed in MNDR’s 2008 report and in the 1854 Treaty Authority’s list, the MPCA is removing a designated use from waters that already had wild rice as an “existing use” under federal law.³⁹⁵ Under federal law, states are delegated authority to establish “designated uses” of waters and to set water quality standards to protect the designated uses.³⁹⁶ According to these commenters, this action by the MPCA violates the CWA’s prohibition against removing a designated use if the designated use is an “existing use[], as defined in [40 C.F.R.] § 131.3, unless a use requiring more stringent criteria is added”³⁹⁷

270. A number of commenters object to the MPCA’s proposed list of Class 4D wild rice waters.³⁹⁸ WaterLegacy and others assert that the MPCA’s use of the term “beneficial use” with regard to the classification of wild rice waters is an imprecise and confusing use of a term that is not defined in either existing or proposed rules.³⁹⁹

271. WaterLegacy argues that the MPCA’s proposed list of Class 4D waters is “arbitrary and exclusive” and will “de-list wild rice waters identified by Minnesota state agencies, including waters downstream of existing and potential mining discharge.”⁴⁰⁰

272. WaterLegacy points out that the existing rules, at Minn. R. 7050.0220, subs. 3a, 4a, 5a, and 6a, apply the current 10 mg/L sulfate standard where wild rice is

³⁹² Ex. C at lines 12.1-12.6 (proposed Minn. R. 7050.0471, subp. 2).

³⁹³ Ex. D at 46.

³⁹⁴ Ex. D at 46.

³⁹⁵ WaterLegacy eComment at 30. Hearing Ex. 1020, Written Comments of Dennis Morrison on behalf of Grand Portage Band of Chippewa (Grand Portage Comments) at 8 (Oct. 24, 2017). See eComment from Nancy Schuldt on behalf of Fond du Lac Band at 21-23 (Nov. 22, 2017).

³⁹⁶ WaterLegacy eComment at 31. 40 C.F.R. § 131.3.

³⁹⁷ 40 C.F.R. § 131.11(h)(1).

³⁹⁸ eComment of Nancy Schuldt on behalf of Fond du Lac Band at 8-25 (Nov. 22, 2017), WaterLegacy eComment at 30-40; Hearing Ex. 1020, Grand Portage Comments at 4-8 (Oct. 24, 2017). eComment of Minnesota Center for Environmental Advocacy (MCEA eComment) at 2-5 (Nov. 22, 2017).

³⁹⁹ WaterLegacy eComment at 30. Fond du Lac eComment at 20-21.

⁴⁰⁰ WaterLegacy eComment at 30.

“present.” Minn. R. 7050.0224, subp. 1, protects wild rice as a Class 4 water, “for wildlife designated public uses and benefits,” recognizing it as a “food source for wildlife and humans.” In addition, WaterLegacy cites Minn. R. 7050.0224, subp. 2, which limits sulfate to 10 mg/L in “water used for production of wild rice”⁴⁰¹

273. WaterLegacy maintains that, while rescinding existing Minnesota rules that protect waters used for the production of wild rice and where wild rice is present, the proposed rules create a list of protected waters that excludes “many known and previously designated wild rice waters.”⁴⁰²

274. WaterLegacy claims that the MPCA proposes to delist designated wild rice waters previously identified in consultation with the MDNR and Minnesota tribes. WaterLegacy contends that this delisting violates the CWA’s prohibition on removing existing uses that have been attained at any time since November 28, 1975. In addition, according to WaterLegacy, the MPCA’s proposed list fails to protect wild rice waters generally, and particularly fails to protect wild rice waters downstream of existing and proposed WWTPs.⁴⁰³

275. Other commenters disagree with the MPCA’s proposed list of Class 4D waters for distinctly different reasons. Cleveland Cliffs focuses on the 2011 legislative requirement that the MPCA must consult “with the Department of Natural Resources, the Minnesota Indian tribes, and other interested parties and after public notice and comment”⁴⁰⁴ to establish criteria for wild rice waters before the Agency designates such waters.⁴⁰⁵ Cleveland Cliffs argues that this legislative language required the MPCA to engage in rulemaking to establish criteria for designating wild rice waters before it could designate such waters.⁴⁰⁶

276. In addition, Cleveland Cliffs contends that MPCA violated the language in the 2011 law requiring that “[t]he criteria shall include, but not be limited to, history of wild rice harvests, minimum acreage, and wild rice density” when it included waters in the Class 4D wild rice waters list, without regard to their failure to meet the MPCA’s stated minimum acreage requirement or a known density of wild rice.⁴⁰⁷

277. U.S. Steel Corporation asserts the MPCA’s listing of waters violates the 2011 legislation because the list does not contain information about wild rice density.⁴⁰⁸

⁴⁰¹ WaterLegacy eComment at 31.

⁴⁰² WaterLegacy eComment at 31. eComment of Nancy Schuldt on behalf of Fond du Lac Band at 8-25 (Nov. 22, 2017), Hearing Ex. 1020, Grand Portage Comments at 4-8 (Oct. 24, 2017).

⁴⁰³ WaterLegacy eComment at 31.

⁴⁰⁴ 2011 Minn. Laws, First Sp. Sess., Ch. 2, Art. 4(b).

⁴⁰⁵ eComment from Rob Beranek on behalf of Cleveland Cliffs (Cleveland Cliffs eComment) at 16 (Nov. 22, 2017).

⁴⁰⁶ Cleveland Cliffs eComment at 16.

⁴⁰⁷ Cleveland Cliffs eComment at 17.

⁴⁰⁸ Letter from Lawrence Sutherland on behalf of U.S. Steel (U.S. Steel letter) at 37-38 (Nov. 22, 2017).

278. The MPCA maintains that, for this rulemaking, it used a “weight-of-evidence approach as it reviewed the corroborating evidence from sources to determine if the wild rice beneficial use exists or has existed in a water.” Further, the MPCA states:⁴⁰⁹

Many of the supporting documents used in the MPCA’s review do not contain complete information about the density or acreage of wild rice. Therefore, MPCA scientists used their best professional judgement to determine if the available information provided reasonable evidence that the water demonstrated the wild rice beneficial use (or had done so since November 28, 1975).

For example, where a corroborating source qualitatively identified a water as having “lush” stands of wild rice, the MPCA considered that it met the beneficial use as a wild rice water. Because no single source provided comprehensive or consistent data about the presence of wild rice, the MPCA was not able to apply a strict criterion for what information did or did not reasonably characterize a wild rice water. The MPCA reasonably made the best use of the information from all sources as a basis for professional judgement.

279. In considering possible wild rice waters for inclusion in the list at 7050.0442, subp. 2, the MPCA did not explicitly apply the evidentiary expectations it proposes in Minn. R. 7050.0471, subp. 2. Nor did the MPCA explain why it rejected each proposed specific water that the MPCA excluded from the list in the proposed rule.

280. The MPCA acknowledges that it may not have included all of the waters where the wild rice use has existed since November 28, 1975 in the list proposed at Minn. R. 7050.0471.⁴¹⁰

281. In the SONAR, the MPCA addresses the questions of whether it has included all wild rice waters with an existing use, stating that the Agency

acknowledges that the wild rice waters in this rulemaking may not include every water in Minnesota where the wild rice beneficial use has existed since November 28, 1975. Although the MPCA has made reasonable use of the information available to develop and justify the proposed list of Class 4D wild rice waters, there are additional waters that may be wild rice waters but for which there is not yet sufficient information to determine that the beneficial use is demonstrated.⁴¹¹

282. In response to the commenters who believe that the list of wild rice waters is under-inclusive, the MPCA responds that “it is likely that not all wild rice waters have

⁴⁰⁹ Ex. D at 47.

⁴¹⁰ Ex. D at 58.

⁴¹¹ *Id.*

been identified and is proposing a specific process for future identification of wild rice waters” at proposed Minn. R. 7050.0471, subp. 2.⁴¹²

283. In its December 1, 2017 Rebuttal memorandum, the MPCA states that it “does not agree that the presence (or evidence of past presence) of any amount of wild rice is indicative that the Class 4D wild rice beneficial use is an existing use in that water body.”⁴¹³ In the same document, the MPCA states, with no affirmative presentation of facts to support the statement, that it “has identified those waters where wild rice is an existing use as wild rice waters. Some of those waters may not have wild rice today, but under the CWA must be protected if the use has existed since November 28, 1975.”⁴¹⁴

284. The 2011 legislature required the MPCA to engage in rulemaking only after completing significant research on “water quality and other environmental impacts on the growth of wild rice”⁴¹⁵ The amended rule was required to:

- (1) address water quality standards for waters containing natural beds of wild rice, as well as for irrigation waters used for the production of wild rice;
- (2) designate each body of water, or specific portion thereof, to which wild rice water quality standards apply; and
- (3) designate the specific times of year during which the standard applies.⁴¹⁶

285. The MPCA was not authorized to engage in separate preliminary rulemaking to establish criteria for designating wild rice water bodies.⁴¹⁷

286. The Administrative Law Judge concludes that the plain language in 2011 Minn. Laws 1st Spec. Sess. ch. 2, art. 4, § 32(b), requires the MPCA to consider the criteria listed in the 2011 Session Law, but does not require that any one of the criteria be determinative. Therefore, the Administrative Law Judge concludes that there is no minimum wild rice acreage or density required for the MPCA to determine that a water body is included in the listing of wild rice water bodies.

287. The Administrative Law Judge concludes that the MPCA’s proposed list of wild rice waters at Minn. R. 7050.0471, subps. 3 through 9 is defective because it fails to include all waters previously identified by the MDNR and federally recognized Indian tribes as waters where wild rice was an existing use since November 28, 1975. The MPCA’s approach, in using a “weight-of-evidence” standard to identify waters such as those with “lush stands of wild rice” that would meet its criteria for “the beneficial use as a wild rice water” violates federal law, which prohibits removing an existing use for wildlife

⁴¹² MPCA Response Memo at 13.

⁴¹³ MPCA Rebuttal Memo at 12.

⁴¹⁴ MPCA Rebuttal Memo at 13.

⁴¹⁵ 2011 Minn. Laws 1st Spec. Sess. ch. 2, art. 4(d).

⁴¹⁶ 2011 Minn. Laws 1st Spec. Sess. ch. 2, art. 4(a).

⁴¹⁷ 2011 Minn. Laws 1st Spec. Sess. ch. 2, art. 4.

unless more stringent criteria are applied.⁴¹⁸ Because Minn. R. 7050.0471 violates federal law, it fails to meet the requirements of Minn. R. 1400.2100.D and is defective.

288. The MPCA could cure the defect at Minn. R. 7050.0471 by amending the listed waters to include all waters previously identified by the MDNR and federally recognized Indian tribes as waters where wild rice was an existing use since November 28, 1975. The Administrative Law Judge concludes that adding the wild rice waters as described in this paragraph would not constitute modification that makes the rule substantially different than the rule as originally proposed based on the standards set forth at Minn. Stat. § 14.05, subd. 2.

D. Other Rule Parts Not Approved

287. In addition to the disapproved proposed rules and proposed changes to the proposed rules discussed above, there are several other rule parts which the Administrative Law Judge finds do not meet the legal requirements for rulemaking. Because of the significant underlying problems with these proposed rules overall, the following rules, and the standards they violate, are listed without additional discussion for the purpose of putting the Agency on notice should it reconsider this rulemaking in the future:

- a. Minn. R. 7050.0224, 5, C. Site-specific sulfate standard. The proposed rule is disapproved based on a violation of Minn. R. 1400.2100.D. No process is provided for the commissioner to determine that “the beneficial use is not harmed.” The criteria included in the rule, “reliable and representative data characterizing the health and viability of the wild rice . . . ,” are vague and grant the commissioner discretion in excess of statutory authority to determine whether to substitute the existing standard.
- b. Minn. R. 7050.0224, subp. 6. This proposed rule concerns the existing narrative standard for Class 4D [WR] waters currently at Minn. R. 7050.0224, subp. 1. The narrative standard applied to the only other wild rice waters previously identified in rule. The proposed rule moves the narrative standard to Minn. R. 7050.0224, subp. 6, and explicitly restricts application of the narrative standard to the wild rice waters originally identified in the rule, at Minn. R. 7050.0470, excluding the wild rice waters listed at 7050.0471 from the scope of its protections.⁴¹⁹ The Administrative Law Judge disapproves Minn. R. 7050.0224, subp. 6, to the extent that it does not apply to all wild rice waters. The MPCA provided no basis to distinguish between protections needed for the waters listed at Minn. R. 7050.0470 and those listed at Minn. R. 7050.0471. Therefore, to apply the narrative standard only to those listed at 7050.0470 violates Minn.

⁴¹⁸ 40 C.F.R. § 131.11(h)(1).

⁴¹⁹ Test. of Nancy Schuldt, Oct. 26, 2017 Tr. at 95-96.

R. 1400.2100.B because the record does not demonstrate the reasonableness of the rule.

E. Technical Errors

288. The language included in the following proposed rules appears to amend version of subparts which are no longer in effect. These are technical errors rather than legal defects. The Agency may cure the errors by amending the proposed language to propose changes to the current versions of the rule:

- a. Minn. R. 7050.0220, subp. 5a
- b. Minn. R. 7050.0470, subps. 1 through 9

F. Changes to the Proposed Rule

289. Following the public hearings, in its Response and Rebuttal Comments, the MPCA makes a number of proposed changes to the proposed rule. Because the Agency suggested changes to the proposed rule language after the date it was originally published in the *State Register*, it is necessary for the Administrative Law Judge to determine if this new language is substantially different from that which was originally proposed.

290. The standards to determine whether any changes to proposed rules create a substantially different rule are found in Minn. Stat. § 14.05, subd. 2(b). The statute specifies that a modification does not make a proposed rule substantially different if:

- (1) the differences are within the scope of the matter announced . . . in the notice of hearing and are in character with the issues raised in that notice;
- (2) the differences are a logical outgrowth of the contents of the . . . notice of hearing, and the comments submitted in response to the notice; and
- (3) the notice of hearing provided fair warning that the outcome of that rulemaking proceeding could be the rule in question.

291. In reaching a determination regarding whether modifications result in a rule that is substantially different, the Administrative Law Judge is to consider whether:

- (1) persons who will be affected by the rule should have understood that the rulemaking proceeding . . . could affect their interests;
- (2) the subject matter of the rule or issues determined by the rule are different from the subject matter or issues contained in the . . . notice of hearing; and

(3) the effects of the rule differ from the effects of the proposed rule contained in the . . . notice of hearing.⁴²⁰

292. To the extent that they are not approved, the MPCA's suggested language changes are described in the following paragraphs.

1. Changes That Are Not Approved

(1) Minn. R. 7050.0224, subp. 5, B (1)

293. The EPA comments that "it is not possible to say with certainty," regarding the equation-based sulfate standard set forth at Minn. R. 7050.0224, subp. 5, B (1), "that the relationships between sediment pore water sulfide and total organic carbon and total extractable iron used to calculate protective water column sulfate concentrations remain valid outside the range of the data used to develop the criterion."⁴²¹

294. Commenter Nathan Johnson similarly observes:

It is possible that a limitation on the model predictions could be imposed . . . which would not allow high sulfate concentrations to be calculated by the model if the statistical strength of the model's predictive abilities towards the edge of the domains is limited. Using the proposed equation to extrapolate to very high surface water sulfate concentrations (higher than those observed commonly in the observational dataset) represents a potential instance of applying the model beyond an appropriate domain of applicability. The same could be said for sediment carbon and iron.⁴²²

295. In response to these concerns, the Agency proposes to amend the equation for the numeric sulfate standard, "by setting constraints on the implementation of the equation that would ensure that the equation is protective."⁴²³ The MPCA proposes to set these constraints so "that input values of carbon cannot be lower than the minimum value in the range of data used to develop the equation, because carbon enhances sulfide production." Similarly, under the MPCA's proposal the "input values of iron cannot be higher than the maximum value in the range of data used to develop the equation because iron removes sulfide from porewater."⁴²⁴ The MPCA provides no specific values for its minimum carbon or maximum iron values.

296. As part of its response to the concerns raised by Mr. Johnson and the EPA about setting constraints consistent with the models, the MPCA proposes "that output

⁴²⁰ See Minn. Stat. § 14.05, subd. 2.

⁴²¹ EPA Comments at 6.

⁴²² Nathan Johnson Comment at 1-2 (eComment Nov. 22, 2017).

⁴²³ MPCA Rebuttal Memo at 3.

⁴²⁴ *Id.*

values of sulfate cannot be higher than the maximum value in the range of data used to develop the equation, 838 mg/L.”⁴²⁵

297. The MPCA asserts that the constraint on sulfate is appropriate “because observed sulfate levels were an input to the development of the equation, and the equation is of unknown validity outside the range used to develop it.”⁴²⁶ The Agency believes that this approach “will help assuage commenter concerns about exceedingly high sulfate levels that may result from the equation.” However, the Agency realizes that imposing these limits may also raise concerns for other commenters.⁴²⁷

298. The Administrative Law Judge finds that, to the extent the equation-based standard remains a viable part of this rule, the sulfate cap is needed and reasonable and would not constitute a modification that makes the rule substantially different than the rule as originally proposed based on the standards set forth at Minn. Stat. § 14.05, subd. 2.

299. The Administrative Law Judge finds that, to the extent the equation-based standard remains a viable part of this rule, unspecified minimum carbon or maximum iron input values for the equation-based standard are not reasonable. They are unconstitutionally vague and violate the standards of Minn. R. 1400.2100.E.

(2) Minn. R. 7050.0224, subs. 5.E and F

300. In Minn. R. 7050.0224, subp. 5, E, the MPCA proposes to incorporate Sampling and Analytical Methods for Wild Rice Methods. As the name indicates, this document sets out methods for collecting and analyzing wild rice water sediment samples.

301. The MPCA explains that a “primary goal of incorporating the sampling methodology into the rule was to provide clarity so that others can conduct sampling and to ensure that the sampling, which is foundational to the developing of a numeric sulfate standard, is completed consistently and accurately.” Because this goal is important to the MPCA, it plans to incorporate any changes to the methods incorporated by reference through rulemaking.⁴²⁸

302. Commenter Norman Miranda notes:

The dilemma I see for utility managers regardless of whatever protective limit is adopted is to convince their respective City Council and rate payers that a very limited number of samples and sample locations yielded adequate and conclusive data to justify a significant capital investment. ... I believe MPCA is on the right track offering a consistent sampling regime of a fixed number of samples at a prescribed location array. ... I believe at least two sampling events conducted in appropriate but separate locations

⁴²⁵ MPCA Rebuttal Memo at 4.

⁴²⁶ *Id.*

⁴²⁷ *Id.*

⁴²⁸ MPCA Rebuttal at 5.

need to be conducted by the MPCA. I realize the MPCA has limited financial resources to conduct extensive sampling and analysis in multiple locations for every discharger. However, to offer some flexibility, I think the Rule should include a provision that municipalities/permitted facilities be given the opportunity to conduct additional sampling/testing beyond two events that would be required under the Rule. The ground rules for this additional sampling could include:

- Regulated party must submit a plan for MPCA approval showing proposed alternative sample locations.
- Sampling must follow MPCA “Sampling and Analytical Methods” and be conducted by approved lab/consultant.
- Sampling/testing to be done before or concurrent with MPCA sampling as not to delay MPCA’s schedule.
- Cost of additional sampling events to be the responsibility of the Regulated Party.

In return I believe there should be language where the MPCA will give the Regulated Party’s data set the same weight if all conditions are followed.⁴²⁹

303. The MPCA agrees that some flexibility may be needed as more sampling occurs, and appreciates that many permittees want to do more sampling, and perhaps sooner, than the MPCA plans to undertake. While the MPCA plans to do most sampling with its own resources, it plans to allow the use of data submitted by other parties (whether regulated parties or others) if the data was collected in accordance with the MPCA’s requirements.⁴³⁰

304. The MPCA is proposing to amend Minn. R. 7050.0224, subp. 5, B (1) (a) - (c) at lines 8.6, 8.11, and 8.13, to require that analysis and sampling happen consistent with the methods that are incorporated by reference, rather than requiring exact adherence to the methods. This will allow some flexibility if, for example, an analytical method is slightly updated. The MPCA is also proposing to add language that the sediment samples are collected in areas where wild rice is growing or may grow within the wild rice water. The proposed rule language would read:⁴³¹

Where:

(a) organic carbon is the amount of organic matter in dry sediment. The concentration is expressed as percentage of carbon, as determined ~~using~~ consistent with the method for organic carbon analysis in Sampling and Analytical Methods for Wild Rice Waters, which is incorporated by reference in item E;

⁴²⁹ eComment of Norman Miranda (Nov. 15, 2017).

⁴³⁰ MPCA Rebuttal at 4-5.

⁴³¹ MPCA Rebuttal at 5.

(b) iron is the amount of extractable iron in dry sediment. The 8.10 concentration is expressed as micrograms of iron per gram of dry sediment, as determined using consistent with the method for extractable iron in Sampling and Analytical Methods for Wild Rice Waters;

(c) sediment samples are collected using consistent with the procedures established in 8.14 Sampling and Analytical Methods for Wild Rice Waters;

305. The MPCA is proposing additional related changes, likely to be codified as rule part 7050.0224, subp. 5, E, which would read as follows:⁴³²

For each wild rice water identified in 7050.0471, the methods for selecting sediment sampling sites and for collecting, processing and analyzing sediment samples must be documented, including all QA/QC. Where methods are used that are consistent with but different from those specified in Sampling and Analytical Methods for Wild Rice Waters, the intended methods and how they will be used to calculate the numeric sulfate standard must be submitted to and approved by the Commissioner prior to sample collection.

306. The MPCA believes these changes will allow parties wishing to undertake sampling of wild rice waters needed to calculate a protective sulfate value the flexibility to do so, while ensuring necessary consistency. The MPCA intends that sampling by non-Agency personnel could occur at any time, even if MPCA sampling has already occurred. In those cases, the MPCA states, “the intended methods should describe how both the MPCA gathered data and any additional data will be used in concert.” The MPCA intends that, in all cases, all sampling be documented.⁴³³

307. The Administrative Law Judge disapproves the MPCA’s proposed language requiring prior approval of data collection methods to plan for allowing non-Agency personnel to engage in sampling and data collection of wild rice waters because the MPCA provides no criteria for approving alternate sampling plans. This delegates discretion to the Agency beyond what is allowed by law, in violation of Minn. R. 1400.2100.D.⁴³⁴

308. The MPCA states in its Rebuttal memorandum, but nowhere in the rule, that the MPCA will make the final determination about the numeric sulfate standard for any given water body.⁴³⁵

309. The MPCA includes no process and no criteria in the proposed rule language for the Agency to determine which of possible competing numeric sulfate

⁴³² MPCA Rebuttal at 5. The incorporation by reference would then be renumbered as Subp. 5, F. MPCA Rebuttal at 5.

⁴³³ MPCA Rebuttal at 5.

⁴³⁴ See *Lee v. Delmont*, 228 Minn. 101, 113, 36 N.W.2d 530, 538 (1949); accord *Anderson v. Commissioner of Highways*, 126 N.W.2d 778, 780 (Minn. 1964).

⁴³⁵ MPCA Rebuttal at 5.

standards will apply in a given wild rice water. While the Administrative Law Judge does not disapprove incorporating by reference into the rule the Sampling and Analytical Methods for Wild Rice Waters, the Agency's larger scheme of permitting multiple players to propose standards with no written, transparent process or criteria for choosing among those standards exceeds the Agency's authority.

310. The Administrative Law Judge disapproves the MPCA's proposed language because, by granting the Agency authority to choose which standard to apply with no criteria in rule, the rule grants the Agency discretion beyond what is allowed by law in violation of Minn. R. 1400.2100.D.⁴³⁶

(3) Minn. R. 7050.0224, subp. 5, B (2)

311. The MPCA received several comments about the Alternate Standard set forth at Minn. R. 7050.0224, subp. 5, B (2). This alternate standard procedure develops a replicable approach to developing an alternate standard for areas where the equation does not fit – where there is high sulfate but low porewater sulfide. A number of commenters objected to the standard for a variety of reasons.⁴³⁷

312. In its Rebuttal, the MPCA proposes to revise Minn. R. 7050.0224, subp. 5, B (2), as follows:⁴³⁸

The commissioner may establish an alternate sulfate standard for a wild rice water when the ~~ambient surface water~~ sulfate concentration is above the calculated sulfate standard and data demonstrates that sulfide concentrations in pore water are 120 micrograms per liter or less. Data must be gathered ~~using consistent with~~ the procedures specified in Sampling and Analytical Methods for Wild Rice Waters, which is incorporated by reference in item E. The alternate sulfate standard ~~established must be either the annual average sulfate concentration in the ambient water or a level of sulfate the commissioner has determined will maintain the sulfide concentrations in pore water at or below 120 micrograms per liter. is determined by calculating the ratio of measured sulfide, in micrograms per liter, to 120 micrograms per liter and applying that ratio to the surface water sulfate as follows~~
$$\frac{120}{\text{porewater sulfate}} * \text{surface water sulfate}.$$

313. The Administrative Law Judge disapproves of Minn. R. 7050.0224, subp. 5, B (2), because, as with the repeal of the 10 mg/L sulfate standard, the MPCA has failed to make an affirmative presentation of facts demonstrating that, in establishing an Alternative Standard which would allow increased levels of sulfate in wild rice waters, it

⁴³⁶ See *Lee v. Delmont*, 228 Minn. 101, 113, 36 N.W.2d 530, 538 (1949); accord *Anderson v. Commissioner of Highways*, 126 N.W.2d 778, 780 (Minn. 1964).

⁴³⁷ Test. of P. Maccabee, Oct. 23, 2017 Tr. at 104; eComment of Kurt Anderson on behalf of Minnesota Power (Minnesota Power eComment) at 18-19 (Nov. 21, 2017); eComment of Chrissy Bartovich and Lawrence Sutherland on behalf of U.S. Steel (U.S. Steel eComment) at 34 (Nov. 22, 2017).

⁴³⁸ MPCA Rebuttal at 7.

is protecting the public health or welfare, enhancing the quality of water, and ensuring the proposed water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters, as required by federal and state law. Therefore, the Administrative Law Judge concludes that the proposed Alternative Standard violates Minn. R. 1400.2100.D, because it conflicts with other applicable law.

(4) Part 7050.0130, subp. 6a

314. **Part 7050.0130, subp. 6a** defines a “water identification number” or “WID” as a unique identifier used by the agency to identify a surface water.⁴³⁹ Mining Minnesota objects to the MPCA’s use of WIDs to describe the identified wild rice waters at proposed Minn. R. 7050.0471.⁴⁴⁰ The basis for Mining Minnesota’s objection is that the WIDs fail to describe the areas where wild rice beds are located with sufficient specificity, resulting in a list that designates waters with no wild rice, or no history of wild rice presence, as wild rice waters.⁴⁴¹ The result of the MPCA’s use of what is essentially an administrative convenience, according to Mining Minnesota, is an overbroad regulation that “will inflict significant hardship on industry, companies, and private citizens across the state in a manner that is contrary to legislative intent.”⁴⁴²

315. The MPCA disagrees with this criticism, stating that “WIDs are an important component of the MPCA’s water programs.”⁴⁴³ The MPCA notes that the EPA agrees with the MPCA’s assessment that rulemaking is required to make changes to a WID number that would entirely remove the WID from a particular water, or from a subpart of the water already identified as a wild rice water.⁴⁴⁴ The MPCA contends that it is logical to apply the standard to the entire WID for lakes, wetlands, and reservoirs, because in these situations, the water generally “moves and mixes throughout the waterbody.”⁴⁴⁵ The MPCA notes that, in those cases where part of a lake or reservoir, such as a bay, is hydrologically isolated, the MPCA has a mechanism for assigning a separate WID to the hydrologically separate part of the waterbody.⁴⁴⁶

316. While the MPCA recognizes “that there may [be] cases where the presence of wild rice within a large or very diverse WID does not justify the application of the standard to the entire WID” the MPCA suggests that, in those cases, it “can split the WID and conduct a use and value determination . . . to remove the wild rice beneficial use from the WID that does not support the beneficial use.”

317. The Administrative Law Judge concludes that the MPCA’s proposal to “split the WID and conduct a use and value determination . . . to remove the wild rice beneficial

⁴³⁹ Ex. C at lines 1.16-1.22.

⁴⁴⁰ Letter from Frank Ongaro on behalf of Mining Minnesota (Mining Minnesota letter) at 3 (Nov. 22, 2017).

⁴⁴¹ Mining Minnesota letter at 3-4.

⁴⁴² Mining Minnesota letter at 7.

⁴⁴³ MPCA Rebuttal at 14.

⁴⁴⁴ *Id.*

⁴⁴⁵ *Id.*

⁴⁴⁶ *Id.*

use from the WID that does not support the beneficial use” at some time in the future would violate the federal prohibition on removing an existing use.⁴⁴⁷ This proposal is not currently in the proposed rule and the Administrative Law Judge does not approve including it.

2. Changes That Are Approved

318. The MPCA proposes changes to a number of proposed rules in its Response and Rebuttal memoranda. Should the MPCA proceed with revisions to the overall rule, the Administrative Law Judge concludes that the MPCA’s proposed changes to the rule parts listed below would be needed and reasonable and would not constitute modifications that make the rule substantially different than the rule as originally proposed based on the standards set forth at Minn. Stat. § 14.05, subd. 2:

- a. Minn. R. 7050.0130, subp. 2b⁴⁴⁸
- b. Minn. R. 7050.0130, subp. 6c⁴⁴⁹
- c. Minn. R. 7050.0220, subps. 1, B (1-4), 3a, 4a, 5a and 6a⁴⁵⁰
- d. Minn. R. 7050.0220, subp. 3a⁴⁵¹
- e. Minn. R. 7050.0224, subp. 5, B⁴⁵²
- f. Minn. R. 7050.0471, subp. 3⁴⁵³
- g. Minn. R. 7050.0471, subps. 6 and 8⁴⁵⁴
- h. Minn. R. 7050.0471, subp. 8⁴⁵⁵
- i. Minn. R. 7053.0406, subp. 1⁴⁵⁶
- j. Minn. R. 7053.0406, subp. 2⁴⁵⁷
- k. Minn. R. 7053.0406, subp. 2, B⁴⁵⁸

⁴⁴⁷ 40 C.F.R. § 131.3 (e).

⁴⁴⁸ MPCA Rebuttal at 2.

⁴⁴⁹ MPCA Rebuttal at 3. The MPCA Rebuttal mistakenly refers to the rule part in question as part 7050.0220, subp. 6c.

⁴⁵⁰ MPCA Rebuttal at 2.

⁴⁵¹ MPCA Rebuttal at 2-3.

⁴⁵² Rebuttal at 7. EPA Comments at 5.

⁴⁵³ MPCA Response to Comments at 13.

⁴⁵⁴ MPCA Response to Comments at 14.

⁴⁵⁵ This WID location tool is intended to be supplementary to the Tableau interactive mapping tool presently available on the MPCA wild rice web page <http://www.pca.state.mn.us/water/protectingwild-rice-waters>. MPCA Response to Comments at 14.

⁴⁵⁶ MPCA Response to Comments at 14-15.

⁴⁵⁷ MPCA Response at 15. Minn. R. 7050.0190 contains provides that a variances from a water quality standard includes a variances for its related WQBEL. Environmental Protection Agency Comments (EPA Comments) at 15 (Nov. 22, 2017).

⁴⁵⁸ MPCA Response at 15.

G. Additional Findings

319. The Administrative Law Judge finds that the Agency has demonstrated by an affirmative presentation of facts the need for and reasonableness of all rule provisions that are not specifically addressed in this Report.

320. Further, the Administrative Law Judge finds that all provisions that are not specifically addressed in this Report are authorized by statute, and that, to the extent they are severable from the defective rules, there are no other defects that would bar the adoption of those rules.

321. Because some of the defects in the rule are defects in foundational portions of the proposed rules, the Administrative Law Judge advises the Agency against resubmitting the rule for approval of changes unless it addresses the defects in the wild rice water sulfate standard and the list of wild rice waters. However, the list of wild rice waters proposed at Minn. R. 7050.0471 is severable from the wild rice water sulfate standard. Therefore, the Administrative Law Judge finds that the Agency could choose to resubmit the proposed list of wild rice waters separately from the wild rice water sulfate standard.

Based upon the Findings of Fact and the contents of the rulemaking record, the Administrative Law Judge makes the following:

CONCLUSIONS OF LAW

1. The Agency gave proper notice of the hearing in this matter, pursuant to Minn. Stat. §14.14, subd. 1(a).

2. The Agency has failed to fulfill the procedural requirements of Minn. Stat. §§ 14.127 and 14.131, paragraphs 1, 5, 7, and 8. All other procedural requirements of rule and law have been satisfied for both the proposed repeal of the 10 mg/L sulfate standard and the adoption of the proposed rules.

3. The following proposed rules are **DISAPPROVED**:

- a. Proposed **Minn. R. 7050.0220, subps. 3a, 4a, 5a, 6a**: deleting reference to 10mg/L sulfate wild rice water standard violates Minn. R. 1400.2100 B and D.
- b. Proposed **Minn. R. 7050.0224, subp. 2**: repealing 10mg/L sulfate wild rice water standard violates Minn. R. 1400.2100.B and D.
- c. Proposed **Minn. R. 7050.0224, subp. 5, A**: to the extent the language incorporates the standard in items B (1) and (2) the language violates Minn. Stat. § 14.38 and Minn. R. 1400.2100.B and G.

- d. Proposed **Minn. R. 7050.0224, subp. 5, A**: to the extent the language incorporates the standard in item C, the language violates Minn. R. 1400.2100.D.
 - e. Proposed **Minn. R. 7050.0224, subp. 5, B (1)**: violates Minn. R. 14.38 and Minn. R. 1400.2100.B, G, and E.
 - f. Proposed **Minn. R. 7050.0224, subp. 5, C**: violates Minn. R. 1400.2100.D.
 - g. Proposed **Minn. R. 7050.0224, subp. 6**: need or reasonableness for rule not established. Failure to distinguish between [WR], which are provided the additional protection of the narrative standard, and other wild rice waters listed at Minn. R. 7050.0471 violates 1400.2100.B.
 - h. Proposed **Minn. R. 7050.0471, subs. 3 through 9**: violates Minn. R. 1400.2100.D and E.
4. The following changes to rules as originally proposed are **DISAPPROVED**:
- a. Proposed changes to **Minn. R. 7050.0224, subp. 5, B (1)**: violates Minn. R. 1400.2100.E.
 - b. Proposed changed to **Minn. R. 7050.0224, subs. 5, E and F**: violate Minn. R. 1400.2100.D.
 - c. Proposed changes to **Minn. R. 7050.0224, subp. 5, B (2)**: violates Minn. R. 1400.2100.D.

5. The Administrative Law Judge has suggested actions to correct some of the defects cited herein and to improve the clarity of the proposed rules should they be resubmitted for approval in the future.

6. Due to the disapproval of the proposed rules and the repeal of the existing rules, this Report has been submitted to the Chief Administrative Law Judge for her approval pursuant to Minn. Stat. § 14.15, subd. 3.

7. Any Findings that might properly be termed Conclusions, and any Conclusions that might properly be termed Findings, are hereby adopted as such.

8. A Finding or Conclusion of need and reasonableness with regard to any particular rule subsection does not preclude and should not discourage the Agency from further modification of the proposed rules based upon this Report and an examination of the public comments, provided that the rule finally adopted is based on facts appearing in this rule hearing record and is not substantially different from the proposed rule.

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

RECOMMENDATION

IT IS HEREBY RECOMMENDED that the proposed rules be **DISAPPROVED**.

Dated: January 9, 2018



LAURASUE SCHLATTER
Administrative Law Judge

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