Attachment 2: EPA Additions to the Minnesota 2020 Impaired Waters List – Response to Public Comments

On March 26, 2021, EPA partially approved Minnesota's 2020 Clean Water Act (CWA) Section 303(d) Impaired Waters List (Minnesota 2020 Impaired Waters List) and disapproved Minnesota's decision not to identify Water Quality Limited Segments (WQLSs) where sulfate concentrations exceed the criterion to protect "waters used for the production of wild rice." Prior to adding these waters, EPA consulted with federally recognized tribes regarding their concerns on the effect of sulfates on wild rice in Minnesota. EPA developed a Screening Analysis for Assessing Waters to Add to the Minnesota Section 303(d) list (Screening Analysis), described in Section III of the April 27, 2021 Decision Document, and, on April 27, 2021, EPA added 30 waters impaired for sulfate to the Minnesota 2020 Impaired Waters List (Appendix 2 of EPA's April 27, 2021 Decision Document). On April 29, 2021, EPA announced a 30-day public comment period regarding the addition of sulfate-impaired waters to the Minnesota 2020 Impaired Waters List. The original 30-day public comment period was subsequently extended by an additional 30 days and concluded on June 30, 2021.

On September 1, 2021, EPA announced a second public comment period for EPA's addition of three WQLSs: Perch Lake (Waterbody ID (WID) 69-0688-00), Sturgeon Lake (WID 25-0017-01) and a St. Louis River estuary segment (WID 69-1291-04), all of which meet EPA's Screening Analysis. This second public comment period concluded on October 1, 2021.

On November 5, 2021, after considering public comments and making revisions, EPA determined that one previously added WQLS did not meet the Screening Analysis, and EPA transmitted our final listing of 32 waters to the State.

Section 303(d)(2) of the CWA requires each state and authorized tribe to identify waters for which existing required pollution controls are insufficient to meet a state's or authorized tribe's federally approved water quality standards. 33 United States Code (U.S.C.) § 1313(d)(2). The impaired waters list is a state's or authorized tribe's list of impaired and threatened waters (e.g., stream/river segments and lakes) requiring a total maximum daily load (TMDL). A TMDL is the calculation of the maximum amount of a pollutant that can enter a water body so that the water will meet and continue to meet water quality standards for that pollutant. A TMDL determines a pollutant reduction target and allocates load reductions necessary to the source(s) of the pollutant. States and authorized tribes are required to submit their impaired waters lists to EPA for approval. If EPA disapproves any portion of a state's or authorized tribe's impaired waters list, EPA must identify the impaired waters (i.e., the WQLSs) that should be included. EPA then must "promptly issue a public notice seeking comment" on those additional WQLSs. After considering public comments and making appropriate revisions, EPA will transmit the final list to the state or authorized tribe.

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During the public comment period of April 29 to June 30, 2021, EPA received 1,444 comments. These included two form letters: one communicating support for EPA's action and the other expressing dissatisfaction with EPA's action. Of the total comments received, 1,415 comments were such form letters. EPA received ten comments during the second public comment period.

This document is EPA's response to comments received during the two public notice periods. Responses to comments received are organized by topic and individual comments are referenced by comment number. Individual comment numbers were assigned based on date and time of EPA's receipt of the comment. Appendix 1 of this document includes a list of all the comments received. A copy of comments received can be found at https://www.epa.gov/tmdl/public-notice-epas-additions-minnesotas-2020-impaired-waters-list and is included in Appendix 1A of this document.

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Index to **Comments**

Contents

Index to Comments 3

1. **Comments that EPA lacks the authority to add waters to the State's Impaired Waters List and Concerns regarding EPA's use of Minnesota's existing Sulfate Criterion** 5

   a. **Comments that EPA should not have disapproved the State's Impaired Waters List because it was no different from previous lists submitted by the State which EPA approved in the past.** 5

   b. **Comments that EPA cannot make impairment assessments against the existing Minnesota Sulfate Criterion because it is scientifically indefensible and/or outdated** 6

   c. **Comments that EPA is using the CWA Sections 303(d) process to make 303(c) designations** 10

   d. **Comments that Minnesota's 2017 List of 1300 Waters is invalid or does not indicate these waters are designated for the "production of wild rice" use and therefore these waters cannot be assessed as impaired against the sulfate WQS.** 12

   e. **Comments that EPA cannot make impairment assessments against the existing Minnesota Sulfate Standard because it has been nullified by the Minnesota Legislature** 16

   f. **Comments that EPA incorrectly applied the existing Minnesota Sulfate Standard to designate additional waters beyond the criteria set out in the text of the WQS** 17

   g. **Comments that EPA should forbear applying the existing standard because of the State's ongoing effort to revise it.** 20

   h. **Comments that EPA cannot make designation decisions against the Sulfate Criterion because it is not a CWA Section 101(a)(1) use.** 22

   i. **Comments that 10 mg/L sulfate standard is not protective enough** 23

   j. **Comment that EPA's action was arbitrary and capricious and hasty.** 24

2. **Comments that EPA should have added Fewer or More Waters to the Minnesota 2020 Impaired Waters List** 25

   a. **Comments that the Initial 30 Waters Added by EPA do not show wild rice present and/or impairment to wild rice.** 25

   b. **Comments that EPA should have Listed additional Waters that are included on the State's List of 1300 Waters** 27

   c. **Comments that EPA Should have listed Additional Waters that are Not Included on the State's List of 1300 Waters** 29

3. **Comments about EPA's Methodology** 31

   a. **Comments that EPA could not use its own Methodology to make List Additions** 31

   b. **Comments that EPA used outdated data** 34

ED_013135_00003542-00003

c. Comments that components of EPA's Methodology are incorrect (e.g., EPA considering sulfate water quality data on an annual scale versus seasonally) 35

d. Comments on EPA's Evaluation of Sulfate Data 37

e. Comments that 10 mg/L Sulfate Criterion does not account for Regional Variability in Naturally occurring Sulfate levels and/or is Outdated 39

4. Comments about data quality/lack of data 40

a. Comments about Lack of Transparency in EPA's Data Analysis 40

5. Comments about EPA's Engagement with Stakeholders 42

6. Comments that EPA should not have listed specific waters 44

7. Comments about Economic Impact of addition of waters added to the Minnesota 2020 Impaired Waters List. 53

8. Comments that implementation of the sulfate criterion will exacerbate climate change 60

9. Comments on Wild Rice as an Existing Use 61

10. Comments on the future actions of EPA 61

11. Comments on Relationship of Listing Decision to Mining Industry 62

12. Comments requesting EPA extend the second public comment period to 60 days 63

13. Comments requesting EPA to share comments received during the public comment periods 63

ED_013135_00003542-00004

1. **Comments that EPA lacks the authority to add waters to the State's Impaired Waters List and Concerns regarding EPA's use of Minnesota's existing Sulfate Criterion**

   a. **Comments that EPA should not have disapproved the State's Impaired Waters List because it was no different from previous lists submitted by the State which EPA approved in the past.**

[9[1] - Form letter #1]: The list submitted by the MPCA is in compliance with the Clean Water Act and is consistent with lists provided in previous years which the EPA approved.[2]

[1370 – Cleveland Cliffs Inc. (CCI)]: ". . . [T]he agency has made an about-face in its interpretation of Minnesota's Sulfate Standard and has exceeded the statutory authority granted under section 303(d) of the Clean Water Act (CWA).

[1370 - CCI]: What changed, apparently, is nothing more than EPA's receipt of a letter from MPCA indicating MPCA's opinion that eight waters which commenters said should be listed as impaired for the Sulfate Standard "should be considered as 'waters used for production of wild rice' for the purpose of evaluating impairment status." MPCA made this statement because these waters were on the proposed list of wild [rice] waters in MPCA's retracted rulemaking. Based on this letter, EPA has undertaken an ad hoc, unauthorized water quality standard–designation process, opening the floodgates to new information and evaluating "extensive additional data and information received through consultation with Tribal Governments" to determine which waters to designate as subject to the Sulfate Standard. This is not a sufficient basis for EPA to change its prior interpretation. [Citations omitted.]

[1343 – International Union of Operating Engineers]: I ask that the EPA rescind the proposed list of 30 waters and fully approve the Minnesota Pollution Control Agency's (MPCA) 303(d) impaired waters listing as it was proposed to the EPA. The list submitted by the MPCA complies with the Clean Water Act and is consistent with lists provided in previous years which the EPA approved. The EPA must recognize that until waters have been properly designated and criteria established to determine impairment, the MPCA should be responsible for the decision regarding implementation of the wild rice sulfate standard, which is a state-level rule, not a federal regulation.

Response (1.a): EPA acknowledges these comments but disagrees. As EPA explained in detail in our March 26 and April 27, 2021 Decision Documents, the Minnesota 2020 Impaired Waters List submittal was not the same as previous lists the State had submitted because in this submission the Minnesota Pollution Control Agency (MPCA) expressly stated that but for the State legislature's prohibition on MPCA's listing authority for purposes of CWA Section 303(d), MPCA would have listed seven of eight sulfate-impaired waters proposed to the State in comments submitted by Tribes.[3] As we explained in our

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[1] In this Response to Comments Document we refer to all comments by number. The specific commenter letters are identified by number in Appendix 1 of this Document.

[2] EPA has directly quoted language from the comments received throughout this Document unless otherwise noted.

[3] EPA, *Decision Document for the Partial Approval of Minnesota's 2020 Clean Water Act Section 303(d) List*, March 26, 2021[hereafter March 26, 2021 Decision Document] at 18-19; EPA, *Decision Document Regarding the Sulfate Impaired Waters EPA is Adding to the Minnesota 2020 Clean Water Act Section 303(d) List*, April 27, 2021

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April 27, 2021 Decision Document, EPA subsequently sought clarification from MPCA regarding whether MPCA considered[4] the eight waters to be "waters used for the production of wild rice" although not appearing on the State's list of 24 waters so designated in the State's rules.[5]

In response to EPA's letter, MPCA responded that these eight waters appear on MPCA's 2017 List of 1300 waters subject to the wild rice beneficial use developed by MPCA (MPCA 1300 Waters List).[6] Accordingly, as we further explained in our April 27, 2021 Decision Document, EPA has for many past listing cycles followed a cautious interpretation of those waters subject to the State's criterion at Minn. R. 7050.0224,

> **We recognize that in its 2020 list submittal, MPCA has, for the first time, provided clarification on the applicability of the wild rice beneficial use to a universe greater than the 24 waters listed in Minn. R. 7050.0224, subpart 1. . . . We also recognize MPCA's statement that it views its 2017 list of 1300 waters as the minimum universe of waters subject to the wild rice beneficial use and but for state law curtailing the Agency's authority to list waters as impaired, MPCA would have included seven of these waters on its 2020 list of impaired waters. [Citation omitted.] We further note that the 2018 Chief Administrative Law Judge (ALJ) Order, while faulting MPCA's list as too narrow, did not find that MPCA was mistaken in concluding that MPCA's 2017 list of 1300 waters were subject to the beneficial use. Therefore, EPA is revising our previous interpretation of Minn. R. 7050.0224 to be consistent with MPCA's statement that its 2017 list of 1300 waters is the minimum list of waters to which the wild rice beneficial use applies.[7]**

Thus, EPA's decision to partially disapprove the Minnesota 2020 Impaired Waters List was based on MPCA's own clarification regarding the applicability of the State's criterion at Minn. R. 7050.0224, and the State's failure to assess or list impaired waters against this criterion during its 2020 listing cycle.[8]

b. Comments that EPA cannot make impairment assessments against the existing Minnesota Sulfate Criterion because it is scientifically indefensible and/or outdated

[9 - Form letter #1]: The EPA must recognize that until waters have been properly designated and criteria established to determine impairment, the MPCA should be responsible for the decision regarding implementation of the wild rice sulfate standard, which is a state-level rule, not a federal regulation.

[hereafter April 27, 2021 Decision Document] at 6-7. For a history of EPA's engagement with MPCA regarding its CWA Section 303(d) List, see April 27, 2021 Decision Document at 2-6.

[4] April 27, 2021 Decision Document at 6-7.

[5] April 27, 2021 Decision Document at 6-7.

[6] April 27, 2021 Decision Document at 7. See MPCA, *Statement of Need and Reasonableness, Amendment of the Sulfate Water Quality Standard Applicable to Wild Rice and Identification of Wild Rice Waters*, July 2017, Attachment 2. https://www.pca.state.mn.us/sites/default/files/wq-rule4-15i.pdf, last visited 11/4/2021.

[7] April 27, 2021 Decision Document at 9 and 7-10.

[8] April 27, 2021 Decision Document at 2-7.

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[148 - Cameron Trembath question 7]: What authority does the EPA have to force the listing of impaired waters based on rules that only exist at a state level?

[805 – Range Association of Municipalities and Schools (RAMS)]: Given the complexity of this issue and the state's own admission that the current standard is obsolete, the EPA's decision to add water bodies to the state's list of impaired waters sets a dangerous precedent with serious implications for our region.

[805 – RAMS]: We encourage the EPA to work with the MPCA to form a wild rice task force to work towards a holistic approach to protecting wild rice or utilize the updated research to revise the standard, so it has the intended result without putting municipal wastewater facilities and industrial employers at risk.

[1313 – Minnesota Chamber of Commerce]: Minnesota's existing Class 4A wild rice sulfate water quality standard has been demonstrated to be overly protective and not scientifically supported; as such is inappropriate to enforce. . . . The inappropriateness of the existing 10 mg/L numeric sulfate standard was also recognized by the MPCA when they proposed in 2017 to replace it with "an equation that translates a protective concentration of sulfide in the sediment porewater to a calculated sulfate concentration in the overlying water that will be protective of wild rice in that particular wild rice water". . . . The MPCA has also previously acknowledged "the variability of the conditions for wild rice growth", the existence of "other factors that limit the growth of wild rice (e.g., it will not grow where water levels vary too widely)", and the complex relationships between "the variables affecting wild rice presence and growth"[Citation omitted]. Due to the many complex factors that influence and impact wild rice, the existing standard focused solely on sulfate concentrations is often overly protective and thus inappropriate to enforce.[Citation omitted.]

[1345 – Coalition of Greater Minnesota Cities]: Given the enormous potential cost of complying with sulfate effluent limits that could result from EPA's decision to designate a waterbody as impaired based on Minnesota's Wild Rice Sulfate Standard, it is essential that EPA ensure that any impairment designations are based on the best available science and apply the standard as adopted. Unfortunately, the proposed additions to the impairment list are based on EPA's misapplication of the Minnesota Pollution Control Agency's (MPCA) outdated standard.

[1377 – U.S. Steel Corporation (USS)]: Due to the many complex factors that influence and impact wild rice, the existing standard focused solely on sulfate concentrations is often overly protective and thus inappropriate to enforce.

[1405 – Minnesota Environmental Science an Economic Review Board (MESERB)]: In proposing to add 30 waterbodies to Minnesota's Impaired Waters List, EPA relies on (and misapplies) MPCA's outdated Wild Rice Sulfate Standard. This standard is outdated and does not reflect the best available science on sulfate, wild rice, and the protection of the state's designated use for the production, cultivation, and consumption of wild rice in Minnesota.[Citation omitted.]

[1405 – MESERB]: The Clean Water Act (CWA) and its implementing regulations require that the states and EPA ensure that water quality standards, Total Maximum Daily Load (TMDL) studies and National Pollution Discharge Elimination System programs requirements are based on the best available information and a sound scientific rationale. Further, the Clean Water Act, implementing regulations and applicable guidance requires that water quality standards and

numeric criteria established as a part of those water quality standards be set at levels that are necessary to protect the applicable designated uses. [Citation omitted.]

[1405 – MESERB]: In this instance, MPCA has expressly acknowledged that the state's existing Wild Rice Sulfate Standard is not based on the best-available information or a sound scientific rationale as required by the CWA. [Citation omitted.] In 2017, MPCA undertook rulemaking to update the outdated standard and MPCA proposed an alternative standard relying on updated scientific information that, in part, takes into consideration the complex relationship between sulfate, the presence of iron and carbon in soil sediment, and new information about the growth of wild rice plants. [Citation omitted.] Specifically, the Statement of Need and Reasonableness (SONAR), technical support document and related studies relied upon by MPCA in 2017 provide ample evidence that the 10 mg/l sulfate concentration guideline, which EPA improperly relies upon to propose to list waterbodies as impaired, is not based on the best available information or a sound scientific rationale and as a result was not set at level necessary to protect wild rice and the applicable designated use as required by the CWA. [Citation omitted.]

[1405 – MESERB]: By relying on this outdated and inaccurate standard, the EPA's proposed action to add waters to Minnesota's impaired waters list is arbitrary and capricious, in excesses of EPA's statutory and regulatory authority and a violation of the CWA and its implementing regulations.

[1405 – MESERB]: Further, by proposing to list waters as impaired based on such outdated scientific information, EPA is setting up for failure the MPCA, NPDES permit holders, and ultimately the goal of protecting wild rice in a sensible way.

[1405 – MESERB]: How can MPCA complete a TMDL for a sulfate impairment or issue effluent limits to NPDES permit holders based on a water quality standard when its own scientists (and many others) have determined that the standard is not scientifically defensible or reasonable? Such action would force MPCA to violate both the CWA and state law.

[1405 – MESERB]: How can EPA expect MPCA to enforce effluent limits that will result in millions of dollars of compliance costs when the standard upon which those effluent limits will be based is demonstrably not scientifically defensible?

[1405 – MESERB]: Our communities take protecting water very seriously, but with the overwhelming challenges they will face in the coming years it is essential that investments in infrastructure be made wisely and that those investments be focused on the pollutants that are demonstrably causing water quality problems. When there is ample evidence that wild rice can grow in conditions where sulfate far exceeds the 10 mg/L standard, it is irresponsible to declare this group of waters impaired without further investigation and analysis.

[1405 – MESERB]: We are troubled that the EPA relies on selective portions of the 2017-18 rulemaking, such as the list of wild rice waters or the statement that wild rice can grow through the year, while ignoring the portions that do not support and at times contradict its impairment declaration, including evidence that wild rice can grow in the presence of sulfate far exceeding 30 mg/l in certain circumstances. Such selective application of the SONAR and its underlying data point to the larger problem at issue here – further work is necessary on developing a sulfate standard for wild rice waters.

[1411 – Iron Mining Association]: The sulfate water quality standard has been challenged by numerous scientists and the scientific community since its inception.

[1411 – Iron Mining Association]: The Minnesota Pollution Control Agency, Minnesota Department of Natural Resources and others have spent significant fund researching wild rice and its habitat and the vast majority of the body of research does not support the current standard.

Response (1.b): EPA acknowledges these comments but disagrees that it was inappropriate for EPA to make additions to the Minnesota 2020 Impaired Waters List based on the State's existing sulfate standard. Section 303(d)(2) of the CWA provides:

> **Each State shall submit to the Administrator from time to time, with the first such submission not later than one hundred and eighty days after the date of publication of the first identification of pollutants under section 1314(a)(2)(D) of this title, for his approval the waters identified and the loads established under paragraphs (1)(A), (1)(B), (1)(C), and (1)(D) of this subsection. The Administrator shall either approve or disapprove such identification and load not later than thirty days after the date of submission. If the Administrator approves such identification and load, such State shall incorporate them into its current plan under subsection (e) of this section. *If the Administrator disapproves such identification and load, he shall not later than thirty days after the date of such disapproval identify such waters in such State and establish such loads for such waters as he determines necessary to implement the water quality standards applicable to such waters and upon such identification and establishment the State shall incorporate them into its current plan under subsection (e) of this section. [Emphasis added.]***

33 U.S.C. 1313(d)(2). Thus, when EPA partially approved and partially disapproved Minnesota's 2020 Impaired Waters List submittal on March 26, 2021, the CWA required EPA to make additions to the State's list within 30 days, as EPA did here.

In our role in making such list additions under CWA Section 303(d)(2), EPA does not re-evaluate a state's or approved tribe's existing, federally approved water quality standards. EPA's regulations at 40 Code of Federal Regulations (C.F.R.) § 130.7 and EPA guidance instruct EPA to identify WQLSs using water quality standards established by states and authorized tribes and approved by EPA under Section 303 of the CWA. The existing sulfate standard was developed by the State of Minnesota and EPA approved it as part of the State's federally-approved water quality standards (WQS) in 1973. While between 2012 and 2017, MPCA completed steps toward a rulemaking that would have revised the sulfate standard, MPCA ultimately did not revise it. Pursuant to 40 C.F.R. § 131.21(e), "A State or authorized Tribe's applicable water quality standard for purposes of the Act remains the applicable standard until EPA approves a change, deletion, or addition to that water quality standard or until EPA promulgates a more stringent water quality standard." Therefore, Minn. R. 7050.0224 remains the applicable standard, irrespective of the State's incomplete rulemaking effort to revise it and is the applicable standard for purposes of assessing and listing waters under CWA Section 303(d) and 40 C.F.R. § 130.7. EPA does

not separately review the substantive basis of federally approved standards when discharging our responsibilities under CWA Section 303(d) and 40 C.F.R. § 130.7.[9]

EPA notes that Minnesota's current water quality standards at Minn. R. 7050.0224 contain two provisions that speak to protection of wild rice. Minn. R. 7050.0224, subpart 1 states:

> **Wild rice is an aquatic plant resource found in certain waters within the state. The harvest and use of grains from this plant serve as a food source for wildlife and humans. In recognition of the ecological importance of this resource, and in conjunction with Minnesota Indian tribes, *selected* wild rice waters have been specifically identified [WR] and listed in part 7050.0470, subpart 1. The quality of these waters and the aquatic habitat necessary to support the propagation and maintenance of wild rice plant species must not be materially impaired or degraded. [emphasis added]**

At Minn. R. 7050.0224, subpart 2, there is an additional provision that specifies a water quality criterion of 10 mg/L be applied to, "water used for production of wild rice during periods when the rice may be susceptible to damage by high sulfate levels." Thus, unless and until Minnesota revises this federally approved water quality standard, it remains in place and is the appropriate standard to use for both CWA Section 303(c) and Section 303(d) purposes.

c. Comments that EPA is using the CWA Sections 303(d) process to make 303(c) designations

[1313 – Minnesota Chamber of Commerce]: Designation of beneficial uses should be conducted in accordance with CWA Section 303(c) and promulgated in Minnesota rule. It is not appropriate for the EPA and/or MPCA to circumvent these procedures and it is not appropriate for the EPA to assign and/or designate beneficial uses for waters as part of their review of a state's CWA Section 303(d) list. The EPA has previously indicated they agree that it is not appropriate to use the assessment process established in CWA 303(d) to displace the process for establishing and revising water quality standards outlined in CWA 303(c).

[1370 & 1457 - CCI]: Under section 303(d)(1)(A) and (C), states must identify waters for which effluent limitations are "stringent enough to implement any water quality standards applicable to such waters" and establish TMDLs for these impaired waters. The phrase "applicable to such waters" makes clear that the process required by this statute to identify impaired waters is only relevant when and if a prior decision has been made that the standard in question is "applicable." This only makes sense: a water body cannot be determined to be impaired for a water quality standard under section 303(d) if the water body is not subject to the standard in the first place.

[1370 - CCI]: EPA is not only attempting to identify waters that fall short of standards Minnesota has made applicable to the waters—a step for which it does have authority under section 303(d)—rather, EPA is also undertaking the underlying, precedent task of choosing the Minnesota waters in which the Sulfate Standard will be "applicable." This is beyond EPA's statutory authority.

[9] April 27, 2021 Decision Document at 2-6.

[1377 – USS, similar to 1458 – USS]: It is not appropriate for the EPA and/or MPCA to circumvent these procedures and it is not appropriate for the EPA to assign and/or designate beneficial uses for waters as part of their review of a state's CWA Section 303(d) list.

[1389 – Poly Met Mining, Inc. (PolyMet)]: Nor would it be appropriate for the EPA (or MPCA) to designate those waters as wild rice waters using the CWA 303(d) process. Such designations can only be completed under the CWA Section 303(c) process and applicable Minnesota law.

[1389 – PolyMet]: Waters proposed in the 2021 EPA Designation Letter as impaired for sulfate are not designated by the MPCA in the Minnesota Rules as wild rice waters. Specifically, Minn. R. 7050.0470 only identifies 24 waters as wild rice waters (identified with a [WR]). The EPA's proposed listing of 30 additional waters as wild rice waters is contrary to the explicit language of Minn. R. 7050.0470, and Minn. R. 7050.0224, subpart 1, which creates the wild rice water classification. Nothing in the Clean Water Act allows the EPA to alter Minnesota's EPA-approved rules in this manner. Because the waters in question have not been included within the wild rice beneficial use, they cannot lawfully be designated under state or federal law as impaired for that use. [Citations omitted.]

[1389 – PolyMet]: Federal law delegates to states the authority to establish designated uses of waters, which should be done under the CWA 303(c) process. The designation of a beneficial use for a segment of a water body needs to be looked at on a segment-by-segment basis, determining in each instance that the use as "actually attained in the water body on or after November 29, 1975," in accordance with 40 CFR § 131.3(e). Reliable evidence demonstrates that a wild rice beneficial use is not attainable in certain segments of some of the water bodies that are proposed by the EPA to be added to the 303(d) List, and that the criteria for application of the numeric sulfate standard are not met. We will describe this evidence in more detail below; but it is not appropriate to use the CWA 303(d) process to establish the beneficial use of a water body, to bypass the state's delegated authority to do so under 40 CFR § 131.4(a), or to define designated uses outside the CWA 303(c) process. Designating a water body as impaired for a water quality standard that does not have that designated beneficial use defined in rule is in effect an unpromulgated rulemaking with respect to the designated use and is not allowed under either the Clean Water Act or Minnesota law.

[1389 – PolyMet]: Given the nature and characteristics of the 24 waters designated as wild rice waters in Minn. R.7050.0470, and the criteria provided in Minn. R. 7050.0224, it is clear that Minnesota created water quality standards to protect the harvesting of wild rice, rather than to make the water quality standards applicable to any water that could have a single stem of wild rice or small densities of wild rice that are not practical to harvest or are not of significant value for wildlife. Critically for present purposes, the EPA approved these rules as written and when written. These binding, longstanding decisions and interpretations by the federal and state agencies should not be overturned by improper and non-transparent use of the CWA 303(d) process by the EPA.

[1405 – MESERB]: Rather than apply the Wild Rice Sulfate Rule as adopted, EPA's proposed action ignores the Wild Rice Sulfate Standard that MPCA adopted (and EPA approved) and is attempting to adopt and implement what amounts to a new numeric water quality criteria and water quality standard for sulfate via the Impaired Waters List review and approval process. Such an action is inconsistent with the CWA and its implementing regulations, constitutes illegal

unpromulgated rulemaking, and violates the Federal Administrative Procedures Act. [Citation omitted.]

[148 - Cameron Trembath question 6]: Are the waters the EPA is requiring Minnesota to be classified as impaired designated as wild rice waters?

Response (1.c): Please see Responses 1.a and 1.b.

d. Comments that Minnesota's 2017 List of 1300 Waters is invalid or does not indicate these waters are designated for the "production of wild rice" use and therefore these waters cannot be assessed as impaired against the sulfate WQS.

[148 - Cameron Trembath question 5]: What is the legal definition of "waters used for the production of wild rice"?

Response (1.d.1): According to MPCA's July 2017 Statement of Need and Reasonableness (SONAR) for its wild rice rulemaking, "The word 'production' at the time the standard was first adopted in the 1970s was commonly used to describe the amount of rice harvested or yielded from both natural beds of wild rice as well as rice harvested from cultivated paddies (e.g., Edman 1969[10]). Furthermore, environmental scientists used the word "production" to refer to the growth of plants in lakes even when there was no attempt to harvest any part of the plant (e.g., Rich et al. 1971[11][citation omitted]). Natural lakes and streams with wild rice beds, as well as commercial paddies, were collectively described as wild rice production areas."[12]

[1313: Minnesota Chamber of Commerce]: None of the 30 waters that the EPA is proposing to add to the Minnesota 2020 Section 303(d) list have been officially designated as wild rice waters and thus it is not appropriate to list them as impaired for sulfate. It is also not the appropriate procedure for the EPA to assign and/or designate beneficial uses for waters as part of their review of a state's impaired waters list. . . . Despite the documented issues with the MPCA's 2017 proposed list of wild rice waters, both the EPA and the MPCA are now asserting that it is the minimum list of waters to which the wild rice beneficial use applies. [Citation omitted.] This is not an appropriate assertation as the list was disapproved by the ALJ and has not been adopted into Minnesota rule or submitted to the EPA for review as a revision to Minnesota's water quality standards.

[1345 – Coalition of Greater Minnesota Cities]: EPA ignores that the rule applies only to waters designated as wild rice waters by relying on a list rejected by the ALJ.

[1370 - CCI]: EPA was using a list of proposed waters for a wild rice beneficial use designation that had an accompanying equation based criteria, BOTH the use and the criteria are inseparable components of a water quality standard. EPA is proposing to separate the designated use from the equation based criteria to then make an impairment determination against the

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[10] F.R. Edman, *A Study of Wild Rice in Minnesota: A Staff Report,* Minnesota Resources Commission (1969).
[11] P.H. Rich, et al. "Distribution, Production and Role of Aquatic Macrophytes in a Southern Michigan Marl Lake," *Freshwater Biology* (1971): 3-21.
[12] MPCA, *Statement of Need and Reasonableness, Amendment of the Sulfate Water Quality Standard Applicable to Wild Rice and Identification of Wild Rice Waters*, July 2017, Section 6.C.1 at 33-35. https://www.pca.state.mn.us/sites/default/files/wq-rule4-15i.pdf, last visited 11/4/2021.

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existing criteria. . . . EPA does not have the authority to proceed in this manner with the proposed listing of the additional wild rice waters to Minnesota's impaired waters list.

[1370 - CCI]: Section 303(d) does not authorize EPA to override state decisions regarding which water quality standards are "applicable to" which waters. Yet that is exactly what EPA proposes to do: determine which Minnesota water[s] are "wild rice waters" subject to the standard and then, once the designation process is complete, determine which of these waters are impaired for the standards. Cliffs respectfully suggests that EPA is well outside its statutory land and urges the agency to take the approach it did in the 2018 Decision Document and not list any waters as impaired for the Sulfate Standard.

[1370 - CCI]: More importantly, however, MPCA's new interpretation of the CWA represents a monumental overstep of EPA's authority under the Act and an unparalleled interference with Minnesota's right to exercise zoning power. First, not only is EPA taking over Minnesota's authority to designate which waters will be protected for the WRIU, EPA is treating the proposed list from the retracted rulemaking as if it had been duly adopted as a final rule, which it has not. The list was proposed by MPCA, and the ALJ, in her nonbinding recommendation to MPCA, said she thought the list was underinclusive, but neither of those actions constitutes an actual designation, and certainly not one undertaken through rulemaking, as required by the Minnesota legislature. To the contrary, the fact those waters were proposed for designation and, after an extensive process, finally were not designated makes abundantly clear they should not be deemed designated.

[1377 – USS, similar to 1458 - USS]: None of the 30 waters that the EPA is proposing to add to the Minnesota 2020 Section 303(d) list have been officially designated as wild rice waters and thus it is not appropriate to list them as impaired for sulfate. It is also not the appropriate procedure for the EPA to assign and/or designate beneficial uses for waters as part of their review of a state's impaired waters list. . . . The MPCA's 2017 proposed rule amendments included a list of approximately 1,300 waters that were proposed to be designated for a wild rice beneficial use. [Citation omitted.] This proposed list of wild rice waters was specifically disapproved by an Administrative Law Judge (ALJ) and the rule amendments were withdrawn. The ALJ's criticism of the MPCA's 2017 proposed list of wild rice waters included that "in making its determinations as to which water bodies would be included in the list, the MPCA did not explicitly apply the standards it intends to use in future rulemakings to determine whether a water body should be added to the list of wild rice waters", but rather "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" in which "many of the supporting documents used in the MPCA's review do not contain complete information about the density or acreage of wild rice". [Citations omitted.]

[1389 – PolyMet]: To start, the wild rice beneficial use and sulfate standard set forth in Minn. R. 7050.0224, subparts 1 and 2, applies only to water bodies formally designated by the MPCA as wild rice waters in accordance with procedures established by Minnesota law. None of the 30 waters proposed by the EPA to be added to the 303(d) List have been designated by the MPCA as wild rice waters in Minnesota rules, and therefore those waters cannot be listed as impaired for a water quality standard that does not apply.

[1389 – PolyMet]: In 2017, the MPCA proposed modifications to the wild rice sulfate standard and the list of wild rice waters. See MPCA's Statement of Need and Reasonableness, Amendment

of the sulfate water quality standard applicable to wild rice and identification of wild rice waters (July 2017) ("MPCA 2017 Wild Rice SONAR"). The proposed changes included designating approximately 1,300 new wild rice waters under Minn. R. 7050.0470. These changes went through the public rulemaking process but were ultimately rejected by the Chief Administrative Law Judge. Under the requirements of Minnesota law, this rulemaking process is the only authorized process for designating additional wild rice waters. Any such state rulemaking to add additional wild rice waters would also be required to go through and satisfy all of the requirements of CWA Section 303(c) for revisions to Minnesota's water quality standards. [Citations omitted.]

[1389 – PolyMet]: The EPA states in its Decision Document Regarding the Sulfate Impaired Waters EPA is Adding to the Minnesota 2020 Clean Water Act Section 303(d) List ("EPA Decision Document") that because the State of Minnesota has not identified where the wild rice uses apply, "EPA's final action on the 2014, 2016, and 2018 Minnesota Section 303(d) lists reviewed only existing and readily available water quality data for the 24 waters specifically designed as wild rice waters in Minn. R. 7050.0470." In other words, the EPA recognizes that under federal and state law, it may not add to Minnesota's existing list of 24 wild rice waters as set forth in Minn. R. 7050.0470. But the EPA is now proposing to add to that list of designated wild rice waters. The EPA should continue to evaluate only those 24 waters specifically designated as wild rice waters in Minn. R. 7050.0470. Any other action is inconsistent with the requirements of the Clean Water Act.

[1389 – PolyMet]: This misinterpretation of the state's water quality standards is demonstrated by the EPA's action in proposing, in some instances, that entire water bodies be listed as impaired for sulfate when there is no evidence that production wild rice, as defined in the Minnesota rules, is occurring throughout those waters. A good example of this is with respect to the Embarrass River where the EPA has identified the entire river as impaired in the proposed 303(d) List, whereas the MPCA included only two segments of the river as potential wild rice waters in its proposed rulemaking process. There are numerous other instances where the EPA has designated entire water bodies as impaired on the proposed 303(d) List when there is no evidence that those waters meet the Minnesota definition of "waters used in the production of wild rice." [Citation omitted.]

[1405 – MESERB]: Minnesota's Wild Rice Sulfate Standard applies only to those waters which are designated as wild rice waters. None of the 30 waters that the EPA proposes to add to the impaired waters list have been designated as wild rice waters in Minnesota rule nor through the process required by the CWA.

[1405 – MESERB]: The EPA has circumvented this portion of the rule by relying on a list that the Administrative Law Judge explicitly rejected in 2018. Such an action is inappropriate because it ignores the requirements of the Minnesota Administrative Procedures Act ("MAPA") and applies a portion of a regulation that was specifically rejected by the ALJ in the state rulemaking process, which is inconsistent with the traditional notions of cooperative federalism under the CWA. [Citation omitted.]

Response (1.d.2): EPA acknowledges these comments but disagrees. For the basis of EPA's actions relating to the Minnesota 2020 Impaired Waters List, please see Response 1.a. As EPA noted in our April 27, 2021 Decision Document:

EPA recognizes that throughout this time there have been various compilations by Tribes, state agencies, and stakeholders that seek to identify the list of waters that are subject to the wild rice beneficial use, including MPCA's 2017 List of 1300 waters. EPA also recognizes that in 2018, Minnesota's Chief Administrative Law Judge issued an order that affirmed that MPCA's 2017 List of 1300 waters was too narrow based on the legislative charge given to MPCA to develop a new sulfate criterion and a list of waters to which applies.

In its 2020 list submittal, MPCA has, for the first time, provided clarification on the applicability of the wild rice beneficial use to a universe greater than the 24 waters listed in Minn. R. 7050.0224, subpart 1.[13] We also recognize MPCA's statement that it views its 2017 List of 1300 waters as the minimum universe of waters subject to the wild rice beneficial use and but for If it's state law curtailing the Agency's authority to list waters as impaired, MPCA would have included seven of these waters on its 2020 list of impaired waters.[14] We further note that the 2018 Chief ALJ Order, while faulting MPCA's list as too narrow, did not find that MPCA was mistaken in concluding that MPCA's 2017 List of 1300 waters *were* subject to the beneficial use. Therefore, EPA is revising our previous interpretation of Minn. R. 7050.0224 to be consistent with MPCA's statement that its 2017 List of 1300 waters is the minimum list of waters to which the wild rice beneficial use applies.[15]

In the use of the word, "selected," Minnesota's rules at 7050.0224 subpart 1 make clear that the wild rice waters specifically identified in Minn. R. 7050.0470, subpart 1 are part of a larger universe of wild rice waters and the 10 mg/L sulfate criterion at Minn. R. 7050.0224, subpart 2 applies to all water used for production of wild rice, regardless of whether or not the water is so designated in Minn. R. 7040.0470, subpart 1. MPCA's past practice in implementing its water quality standards through NPDES permits has been to make a case-by-case assessment of whether the 10 mg/L criterion applies to a given surface water.

EPA acknowledges that the universe of waters potentially subject to the beneficial use may be greater than MPCA's 1300 Waters List, and EPA is taking no action to approve or disapprove any potential wild rice waters or sulfate impaired waters not included in EPA's final list. Rather EPA will continue to share information with the State and coordinate with the State and interested tribes regarding further development of information supportive of the State's continuing efforts to further develop its assessment and listing of such waters.

As stated above, EPA considered waters included on MPCA's 1300 Waters List to be the minimum universe of waters known to be subject to the wild rice beneficial use and subject to the sulfate criterion. Therefore, EPA's Screening Analysis included a determination that waters proposed for listing would appear on this list. In applying the Screening Analysis, EPA was cognizant that our action is being taken under CWA Section 303(d) and is

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[13] Letter from Katrina Kessler, MPCA, to Tera L. Fong, EPA, March 15, 2021.
[14] Id.
[15] April 27, 2021 Decision Document at 8-10.

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separate from an action to revise the State's WQS under CWA Section 303(c). EPA continues to look to MPCA to make beneficial use determinations and to develop its own assessment and listing process.

e. Comments that EPA cannot make impairment assessments against the existing Minnesota Sulfate Standard because it has been nullified by the Minnesota Legislature

[1172 – State Senators]: EPA's action also ignores Minnesota law that bars the MPCA from listing wild rice waters as impaired under CWA Section 303(d). . . until an updated rulemaking takes effect [Citation omitted]. . . It is troubling that the EPA would attempt to act completely contrary to that Minnesota law.

[1313 – Minnesota Chamber of Commerce]: Standard toxicity testing, including that conducted by Dr. John Pastor and Fort Environmental Labs [Citation omitted] have proven that sulfate, in and of itself, does not impede the growth of wild rice below concentrations of 2,500 mg/L. As such, it is inappropriate to enforce this existing standard. The inappropriateness of enforcing this standard was recognized by the Minnesota State Legislature in 2015/2016 when they decided "the agency shall not list waters containing natural beds of wild rice as impaired for sulfate under section 303(d) of the federal Clean Water Act, United States Code, title 33, section 1313" until an updated rulemaking takes effect.

[1377 - USS]: Minnesota law bars the MPCA from listing wild rice waters as impaired under CWA Section 303(d). The EPA should refrain from acting on a state issue and allow Minnesota to determine the proper path forward. . . . The Minnesota legislature enacted a law that prohibits the MPCA from listing wild rice waters as impaired in accordance with CWA Section 303(d). As provided by Laws 2015, First Special Session chapter 4 -S.F. No, 5, article 4, section 136(a)(2), "the agency shall not list waters containing natural beds of wild rice as impaired for sulfate under section 303(d) of the federal Clean Water Act, United States Code, title 33, section 1313" until an updated rulemaking takes effect.30 The EPA's decision to list numerous waters as impaired for sulfate is in direct contrast to the spirit of this law. It would be prudent for the EPA to respect the decision that the Minnesota legislature made in the best interest of their own state.

[1389 – PolyMet]: The Minnesota Legislature has prohibited the MPCA from designating additional wild rice waters beyond those currently designed under Minn. R. 7050.0224 and 7050.0470 except in connection with the adoption of new wild rice rules. [Citation omitted.] The 2015 Minnesota law also specifically prohibits the MPCA from listing any water as impaired under CWA Section 303(d) for sulfate under the state's wild rice standard except in accordance with the adoption of new wild rice rules. Because no such new rules have been promulgated and approved, EPA's proposed additions to the 303(d) List would require the MPCA to act directly contrary to Minnesota law.

[1411 – Iron Mining Association]: That's why the action by the EPA was so surprising. It disregards long standing relationships with permit holders throughout the region and state and circumvents state law.

[1411 – Iron Mining Association]: It is also important that EPA not unduly interfere with a state's regulatory process.

Response (1.e): EPA acknowledges these comments but disagrees because state law cannot and does not abrogate a state's obligation to complete a list of impaired waters as required by the Clean Water Act, 33 U.S.C. § 1313(d), a federal law. Minnesota is required to complete its CWA Section 303(d) list according to the federal regulations promulgated under the CWA, including 40 C.F.R. § 130.7. Accordingly, the Minnesota laws limiting the MPCA's authority to make assessment and listing decisions with respect to Minn. R. 7050.0224, subpart 2, provide insufficient justification for the State to fail to list as impaired any water that would otherwise be appropriate for listing under the currently-applicable water quality standards and federal regulations. EPA is not bound by state law where such law conflicts with the federal CWA and its implementing regulations. Thus, even if MPCA believes itself legally prohibited from complying with federal law, the CWA and EPA's regulations require EPA to take appropriate action to ensure that a state's or authorized tribe's impaired waters list reflects the existing and readily available data and information and applicable, federally approved water quality standards.

f. Comments that EPA incorrectly applied the existing Minnesota Sulfate Standard to designate additional waters beyond the criteria set out in the text of the WQS

[1331 - City of Redwing]: To properly apply the 10 mg/L sulfate ambient concentration, Minn. R. 7050.0224 Subp.2 further clarifies that the 10 mg/L sulfate standard "shall be <u>used as a guide</u> in determining the suitability of the waters for such uses". (Emphasis provided) Thus, the rule does not contemplate the strict, direct application of the 10 mg/L sulfate standard as the basis for assessing whether use of the water for the production of wild rice is impaired. The 10 mg/l sulfate concentration is merely a screening tool for further evaluation –not a strict criteria requiring compliance. The factors known to significantly influence the impact of an ambient sulfate concentration include pore water levels and amount of iron in the sediment –which are not evaluated by measuring the overlying water concentration. Further analyses of ambient conditions affecting the ability of sulfate to reduce wild rice growth are required which EPA failed to undertake, rendering its decision arbitrary and capricious. (Motor Veh. Mfrs. Ass'n v. State Farm Ins.,463 U.S. 29 (1983)–failure to consider an important factor renders agency analyses in violation of the Administrative Procedures Act).

[1331 - City of Redwing]: For example, MPCA has noted that iron in the sediment may remove sulfide, thus supporting the production of wild rice in waters high in sulfate despite ambient levels in excess of 10 mg/l sulfate. (See, Final Technical Support Document: Refinements to Minnesota's Sulfate Water Quality Standard to Protect Wild Rice. MPCA. August 11, 2017. at 40). For this reason, MPCA has not listed waters as impaired, simply because an ambient concentration in excess of 10 mg/l has been monitored.

[1345 – Coalition of Greater Minnesota Cities]: ". . . EPA applies the 10 mg/L standard as a bright line test when the language of the rule clearly states it should be used only as guidance [citation omitted]."

[1389 – PolyMet]: In 2011, Minnesota enacted a law to further clarify the scope of the state's rules for protecting wild rice and applying the sulfate water quality standards to protect wild rice production9: 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. The criteria shall include, but not be limited to, history of wild rice harvests, minimum acreage, and wild rice density. (Emphasis added) In other words, the state Legislature was not seeking to narrow the scope of wild rice protection, but rather than acting to ensure that the wild rice/sulfate water quality standards were applied consistently with their original intent and were not expanded in the manner that the EPA is now proposing. [Citation omitted.] In 2015, Minnesota enacted further legislation directing and supporting the rulemaking process required by the 2011 law. [Citation omitted.] The EPA, in its 2021 EPA Designation Letter, is employing an interpretation of the Minnesota water quality standards that deviates from the scope of state's rules for protecting wild rice. In particular, the EPA's proposed 303(d) List includes waters not used for the production of wild rice, which as described above is a prerequisite for application of the Minnesota water quality standards adopted by MPCA in compliance with the responsibilities delegated to the state agency by the EPA.

[1405 – MESERB]: EPA's interpretation and application of the Minnesota's adopted Wild Rice Sulfate Standard in this instance is inconsistent with the adopted standard, a violation of the CWA, amounts to unpromulgated rulemaking under the Federal Administrative Procedures Act and violates traditional notions of cooperative federalism.

[1405 – MESERB]: The plain language of the rule makes it clear that the 10 mg/L sulfate concentration component of the standard "shall be used as a guide" and that an exceedance of the numeric guideline (i.e., 10 mg/L sulfate) is merely indicative of actual or potential impairment.8 Thus under the rule the 10 mg/L sulfate guideline, if exceeded should trigger additional evaluations that focus on whether the designated use (production of wild rice) is actually impaired. These evaluations include, but are not limited to evaluating use impairment by referring to Handbook 60 as published by the U.S. Department of Agriculture. [Citation omitted.]

[1405 – MESERB]: Further, EPA's findings make a selective reference to the MPCA's SONAR for its assertion that an evaluation of whether the elevated level of sulfate was found during a period when wild rice is susceptible is unnecessary. [Citation omitted.] Yet the EPA ignores other portions of the SONAR and the underlying data which explicitly demonstrate that wild rice can survive at much higher concentrations of sulfate and for longer durations, depending on the conditions. [Citation omitted.] This countervailing evidence in the SONAR demonstrates that the EPA cannot and should not apply the 10 mg/L sulfate guideline as if it were a numeric water quality criterion for CWA purposes.

[1405 – MESERB]: Because the explicit language of the rule requires that the 10 mg/l sulfate level should only be used as a guide and the body of evidence demonstrates that levels of sulfate that far exceed the 10 mg/L level can support the healthy growth of wild rice in certain circumstances, the EPA should withdraw its proposed action and work with stakeholders to determine a better method for protecting wild rice waters.

Response (1.f): EPA acknowledges these comments but disagrees. Please see Response 1.c regarding EPA's role in implementing CWA Section 303(d), in contrast to EPA's role in implementing CWA Section 303(c). Please see Response 1.d.2 regarding why EPA chose to rely on the MPCA 1300 Waters List as a factor in the Screening Analysis and the role of the State's existing sulfate criterion in the CWA Section 303(d) context. See also Response 1.e regarding the supremacy of federal law over state law within the context of CWA Section 303(d).

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In MPCA's recently completed and EPA-approved revisions to the Class 3 and Class 4 water quality standards, Minnesota specifically struck the phrase referenced by the commenters, "The following standards shall be used as a guide…" replacing it with the phrase, "The quality of class 4A waters of the state must be such as to permit their use for irrigation without significant damage or adverse effects upon any crops or vegetation usually grown in the waters or area. In addition, the following standards apply…." EPA also notes that Minnesota's rules at 7050.0224, Subp.1 include this statement, "If the standards in this part are exceeded in waters of the state that have the class 4 designation, it is considered indicative of a polluted condition which is actually or potentially deleterious, harmful, detrimental, or injurious with respect to the designated uses." In its recent SONAR for revisions to its Class 3 and Class 4 WQS, MPCA states:

> **Minnesota's rules include a subclass of the existing Class 4A beneficial use, described as "waters used for production of wild rice" (Minn. R. 7050.0224, subp. 2). The wild rice water quality standard is highly controversial, and past MPCA attempts to revise the wild rice standard have been unsuccessful. This rulemaking does not make any substantive changes to the wild rice standard. Any apparent changes are solely to ensure that both the main Class 4A (irrigation) beneficial use and the wild rice subclass beneficial use are clearly linked to the matching standards, and are appropriately and clearly described.[16]**
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> **. . . Several parties (U.S. Steel, Chamber, ArcelorMittal) commented that the "used as a guide" language found in the current Class 4A standards language should be retained because it was needed to implement the wild rice sulfate standard. The MPCA does not agree, and is proposing to remove this language from the rule because it creates confusion and can be reasonably be interpreted differently by different people. Moreover, a review of the historical record shows that the "used as a guide" phrase dates back to the 1967 rulemaking and was associated with only irrigation and not the 10 mg/L wild rice standard, which was not promulgated into rule until 1973.[17]**

In light of these statements from the SONAR that describe the history and intent of the sulfate standard to protect wild rice, EPA finds that it is reasonable to conclude that MPCA has always intended to that the 10 mg/L sulfate standard to be treated as any other water quality standard contained in Minnesota's WQS.

EPA notes commenter 1331 has stated that EPA did not conduct "[f]urther analyses of ambient conditions affecting the ability of sulfate to reduce wild rice growth," and that EPA's omission amounts to an arbitrary and capricious action, citing *Motor Vehicle Mfrs. Ass'n of U.S., Inc. [MVMAUS] v. State Farm Mut. Auto. Ins. Co. [State Farm]*, 463 U.S. 29

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[16] MPCA, SONAR, In the Matter of Proposed Revisions of Minnesota Rule Chapters 7050 and 7053, Relating to Water Quality Standards – Use Classifications 3 and 4," December 14, 2020, at 14. https://www.pca.state.mn.us/sites/default/files/wq-rule4-17k.pdf, last visited 11/4/2021.

[17] MPCA, *SONAR, In the Matter of Proposed Revisions of Minnesota Rule Chapters 7050 and 7053, Relating to Water Quality Standards – Use Classifications 3 and 4*, December 14, 2020, at 23. https://www.pca.state.mn.us/sites/default/files/wq-rule4-17k.pdf, last visited 11/4/2021.

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(1983). EPA disagrees. In *MVMAUS v. State Farm* the Supreme Court held that the National Highway Traffic Safety Administration (NHTSA) acted arbitrarily and capriciously in revoking a requirement that cars produced after 1982 be equipped with automatic passive restraints to protect occupant safety in a collision, where NHTSA had failed to provide a "reasoned analysis" that it had considered current safety benefits of such seatbelts, including in relation to other options such as detachable seat belts and air bag technology. 463 U.S. 29, 55-57. EPA notes that unlike the NHTSA decision at issue in *MVMAUS v. State Farm,* Section 303(d)(2) of the CWA does not task EPA with undertaking beneficial use designations that have already been assigned by a state or authorized tribe and approved by EPA, including such "analyses of ambient conditions affecting the ability of sulfate to reduce wild rice growth." On the contrary, when exercising authority under CWA Section 303(d), EPA is not engaged in water quality criteria development within the scope of CWA Section 303(c). Please see Response 1.d.2, which explains why EPA chose to rely on MPCA's 1300 Waters List in our Screening Analysis. Given this legal framework under CWA Section 303 and the State's (and EPA's) interpretation of the standard as described above, the "used as a guide" language does not have the significance that the commenter suggests. Therefore, it is not the case that EPA has "fail[ed] to consider an important factor" by treating the 10 mg/L wild rice standard as a binding, applicable criterion, rather than a "screening tool" that triggers a requirement for "[f]urther analyses of ambient conditions affecting the ability of sulfate to reduce wild rice growth" as the commenter would prefer.

EPA acknowledges that the universe of waters potentially subject to the beneficial use may be greater than MPCA's 1300 Waters List, and EPA is taking no action to approve or disapprove any potential wild rice waters or sulfate impaired waters not included in EPA's final list. Rather EPA will continue to share information with the State and coordinate with the State and interested tribes regarding further development of information supportive of the State's continuing efforts to further develop its assessment and listing of such waters. Because EPA's action to add waters to the Minnesota 2020 Impaired Waters List is separate from an action to revise the State's WQS under CWA Section 303(c), EPA continues to look to MPCA to make beneficial use determinations and to develop its own assessment and listing process.

g. Comments that EPA should forbear applying the existing standard because of the State's ongoing effort to revise it.

[148 – Cameron Trembath question 3]: What scientific evidence is there to show that 10 mg/L is the appropriate standard to be applied to wild rice waters?

[148 – Cameron Trembath question 4]: Is there substantial evidence that shows that 10 mg/L may not be the correct value?

[148 – Cameron Trembath question 10]: The first several pages describe the MPCA as going to great lengths to evaluate and identify wild rice waters for protection. The MPCA is working on protecting wild rice waters, but upon further review, the science does not support a sulfate limit of 10 mg/L and is working toward establishing a defensible limit. Does the EPA recognize that there is [sic] limited data on the correct sulfate limit for the protection of wild rice?

[148 – Cameron Trembath question 13]: For the "Data Evaluation for Sulfate" section, the EPA seems to be relying on a quote from a single entry published in 1944 in its support of the 10 mg/L wild rice standard, is that correct? If not, what other scientifically published documents support a 10 mg/L standard for wild rice?

[805-RAMS]: ". . . we urge the EPA to encourage Minnesota to resume its rule making process and revise the standard, so it accurately reflects the state's years of research and investment to get this right."

[1172 – State Senators]: The EPA disapproval must be withdrawn. . . We are very concerned that your decision indicates EPA's willingness to directly impose regulatory requirements on our mining industry and cities by enforcing a Minnesota water quality standard that the MPCA has concluded is obsolete and requires revision. . . . The EPA should respect the State of Minnesota process to review the standard and refrain from interceding until that process is complete and can rest assured that there is strong support for wild rice protection."

[1377 - USS]: Minnesota's Class 4A wild rice sulfate water quality standard has been demonstrated to be overly protective and not scientifically supported; as such is inappropriate to enforce. Furthermore, Minnesota has been working to develop and implement a more scientifically supportable standard. EPA should use its allowable discretion to refrain from acting until this work is complete.

[1377 - USS]: The courts have long held that EPA has discretion to refrain from enforcing provisions of the CWA while awaiting state action. In Envtl. Def Fund, Inc. v. Castle, 657 F.2d 275, the court held that requiring mandatory EPA intercession would breach the state review process required by the CWA. The court stated that "it is logical that EPA should refrain from acting until the states have completed an initial effort to update the standards as they deem appropriate. For EPA to intercede prior to the initial completion of the state review process would also disserve the mandate within Section 101 (b) of the Clean Water Act,". As Minnesota is in the process of reviewing and updating the sulfate standard, EPA should refrain from interceding to enforce an invalid standard.

[1405 – MESERB]: Both water and wild rice are important natural resource that Minnesota's citizens value, but these impairment listings are not supported by law or science. Creating a sulfate TMDL and imposing permit limits based on the wasteload allocations could divert resources from other problems that are causing greater harm to human or aquatic health. The technology to remove sulfate at the wastewater level is prohibitively expensive. Before starting down that path, the United States Environmental Protection Agency (EPA) should instead work with the Minnesota Pollution Control Agency (MPCA), the impacted native American tribes and other stakeholders to develop a standard that better reflects the more recent science and the complicated factors that affect wild rice.

[1405 – MESERB]: We recognize that the protection of wild rice is challenging from both a scientific and political standpoint but moving forward with the addition of these water bodies to the impaired list will not resolve those issues. Rather than continue this current course, we urge the EPA to withdraw its proposed list of additions and work with stakeholders on addressing how wild rice can be protected in a scientifically sound manner.

[1411 – Iron Mining Association]: IMA wants to see the MPCA update the standard to reflect the best available science and data on the true effects on wild rice habitat.

[1411 – Iron Mining Association]: We request that you open this process up to a broader conversation. EPA should allow Minnesota and the MPCA to appropriately review and update the wild rice sulfate standard in accordance with state law. This requires evaluating the best available science to understand what is happening to wild rice habitat. Once a new standard is established, regulators should work with permit holders and local communities to explore options to make any necessary changes to implement a new, science-based, standard.

We hope that EPA will consider withdrawing its intervention into the State of Minnesota process to manage implementation of the standard and produce a new standard that reflects current knowledge and modern scientific methodology.

Response (1.g): Please see Response 1.b for an explanation of why EPA was required to use Minnesota's existing standard for the wild rice beneficial use in reviewing the State's 2020 Impaired Waters List and in making listing additions.

h. Comments that EPA cannot make designation decisions against the Sulfate Criterion because it is not a CWA Section 101(a)(1) use.

[1370 & 1457 - CCI]: "For two primary reasons, EPA's authority under the CWA is substantially limited when it comes to determining which Minnesota waters are subject to the Class 4A 10 mg/L sulfate standard ("Sulfate Standard"). First, the wild rice irrigation use (WRIU) protected by the Sulfate Standard is not among the CWA section 101(a)(2) "fishable/swimmable" uses that states must protect in their waters. 33 U.S.C. § 1251(a)(2). To the contrary, the decision whether to establish a non-fishable/swimmable beneficial use such as the WRIU—and the related decisions of what the scope of the use should be and the waters to which it should be designated—is up to Minnesota, not EPA.

[1370 - CCI]: Second, EPA's authority in this situation is further limited because EPA is attempting to designate waters subject to the Sulfate Standard rather than change the 10 mg/L criteria for the Standard. As the Fifth Circuit explained in its costly decision, EPA's role "is more dominant when water quality criteria are in question"; criteria are "more amenable to uniformity," which Congress recognized by authorizing EPA to publish nationwide water quality criteria. Id citing 33 U.S.C. § 1314(a)(1). But, the Fifth Circuit continued, "[a]lthough the designation of uses and the setting of criteria are interrelating chores, the specification of a waterway as one for fishing, swimming, or public water supply is closely tied to the zoning power Congress wanted left with the states." 625 F.2d at 1275(emphasis added). Thus, the decision regarding which waters are subject to the Sulfate Standard, i.e., the designation of the WRIU to specific waters, is fundamentally a zoning decision entrusted to Minnesota alone, particularly since the WRIU at issue is not one of the fishable/swimmable uses mandated by the CWA. By attempting to designate waters as being subject to the Sulfate Standard, EPA is contravening the CWA's balancing of federal and state power. For that reason, EPA should not proceed with its proposed listings.

Response (1.h): Please see Response 1.b for an explanation of why EPA was required to use Minnesota's existing standard in reviewing the State's 2020 Impaired Waters List and in making listing additions. The distinction between CWA Section 101(a)(1) and CWA Section 101(a)(2) uses is immaterial to this action because EPA is not modifying the beneficial uses that apply to the State's waters. Instead, EPA is using existing and readily available data and information to assess whether the State waters are meeting the

applicable standards. Based on information and analysis provided by the State, EPA has determined that the wild rice beneficial use that currently exists in the State's standards applies to the 32 waters that EPA has added to the State's list. This determination is not a modification of the State's standards but is instead an application of Minnesota's current, federally approved wild rice beneficial use and criterion.

i. Comments that 10 mg/L sulfate standard is not protective enough

[543 – Duluth Izaak Walton League]: Sulfate through reduction produces hydrogen sulfide, which even at very low levels (2 ug/L) is toxic in aquatic communities [Citation omitted]. The well recognized role that sulfates play in the methylation of mercury and accumulation in fish tissue has resulted in negative human health impacts in northeastern MN.

Sulfate must not only be examined under the confines of the wild rice sulfate standard. The entirety of its role in the environment should be considered when listing impaired water bodies. . . EPA and MPCA are missing the opportunity to protect fish and macro-invertebrate communities (fish-food organisms) which are adversely affected by sulfate reduction to hydrogen sulfide (H2S), just like wild rice plants are affected lethally.

The US EPA water quality criterion for the protection of fish and aquatic life is 0.002 mg/L hydrogen sulfide (USEPA GOLD BOOK 1986). Compared to the sulfate standard for wild rice of 10 mg/L, only a small percentage of the 10 mg/L sulfate (< 0.1 %) when converted to the toxic form of H2S, would be needed to adversely affect fish, fish food (phytoplankton and macro-invertebrates), and viable long-term populations! [Citation omitted.]

So, not only do we need to protect wild rice from sulfate, we need to recognize and acknowledge the fact that fish are also being placed at risk by discharging sulfate into these natural waters, either from point sources or from non-point sources, most commonly associated with mining, fossil fuel energy production and wastewater treatment.

EPA should not overlook the connection between sulfate/sulfide and mercury in the formation of methylmercury, and the serious problems associated with its bio-accumulation into fish tissue. This toxic form of mercury moves up through the food chain and is likely causing long-term consequences in humans, where the problems are particularly acute for women and their fetus during pregnancy, and in young children. A 2011 Minnesota Department of Health study, "Mercury Levels in Blood from Newborns in the Lake Superior Basin", (https://www.health.state.mn.us/communities/environment/fish/techinfo/newbornhglsp.html) found that 10% of newborn babies in our region had elevated levels of mercury in their blood. For these individuals, this neuro-toxin could inhibit fetal development, lead to childhood learning disabilities and possibly long-term chronic health issues. Because elevated levels of sulfate in our waters are one of the factors that promote the conversion of elemental mercury to methylmercury, the reduction of sulfate levels should be a priority to help our region solve this long-term human health issue. We need to consider what the impact of failing to enforce the sulfate standard for wild rice, and to list all impaired waters, might have upon methylmercury production, its uptake by fish, and human health.

Response (1.i): Please see Response 1.b for an explanation of why EPA was required to use Minnesota's existing standard in reviewing the State's 2020 Impaired Waters List and in making listing additions. EPA acknowledges these comments but emphasizes that in our role under CWA Section 303(d), EPA does not re-evaluate a state's or approved tribe's

existing, federally approved water quality standards. Because Minnesota's existing federally approved standard to protect the wild rice production beneficial use is 10 mg/L for sulfate, this is the standard that EPA and MPCA must apply in implementing CWA Section 303(d). Under CWA Section 303(c), States and authorized tribes have the primary authority to make use designations for waters within their jurisdiction. We defer to the State to consider, together with stakeholder involvement, whether and how sulfate, other pollutants and environmental conditions should be factored into revisions, if any, to the State's existing water quality standard.

EPA acknowledges that elevated sulfate concentrations in the water column due to loading of sulfate to surface waters may negatively impact other biological species (e.g., fish and macroinvertebrates) and may have role in the bioaccumulation of mercury in certain species which in turn poses a significant threat to human health, especially those communities that rely on subsistence fishing as part of their diets. However, EPA's responsibilities under CWA Section 303(d)(1)(A) and 40 C.F.R. § 130.7 are to review whether states have applied the existing, EPA-approved water quality standard to identify waters where "controls are not stringent enough to implement any water quality standard applicable to such waters." In this case, that means applying the 10 mg/L sulfate standard to waters used for the production of wild rice. EPA notes that the CWA provides states and authorized tribes with a wide array of options and tools to revise their water quality standards and adopt new or revised water quality criteria that account for local differences in water quality conditions necessary to protect designated uses of surface waters. Minnesota can and should make use of these tools to revise and refine its water quality standards where doing so is scientifically defensible and protective of the use.

j. Comment that EPA's action was arbitrary and capricious and hasty.

[148 - Cameron Trembath question 9]: In many locations in the decision document it identifies that the EPA's decision was made hastily and the EPA is not providing full clarification of it's decision. I consider this arbitrary and capricious decision making and further raises question as to the EPA's full understanding of the implications of its actions. Does the EPA agree with this assessment?

Response (1.j): EPA acknowledges this comment but disagrees. Pursuant to CWA Section 303(d), Congress directed that EPA approve or disapprove a State's CWA Section 303(d) submittal in 30 days and if EPA disapproves a State's CWA Section 303(d) submittal, EPA "shall not later than thirty days after the date of such disapproval identify such waters in such State. . . ." CWA Section 303(d)(2), 33 U.S.C. § 1313(d)(2), as EPA did here.[18] For a

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[18] CWA Section 303(d)(2) provides:

> Each State shall submit to the Administrator from time to time, with the first such submission not later than one hundred and eighty days after the date of publication of the first identification of pollutants under section 1314(a)(2)(D) of this title, for his approval the waters identified and the loads established under paragraphs (1)(A), (1)(B), (1)(C), and (1)(D) of this subsection. The Administrator shall either approve or disapprove such identification and load not later than thirty days after the date of submission. If the Administrator approves such identification and load, such State shall incorporate them into its current plan under subsection (e) of this section. If the Administrator disapproves such identification and load, he shall

history of EPA's engagement with MPCA regarding the assessment and listing of impaired waters subject to the wild rice beneficial use, see Response 1.a.

2. Comments that EPA should have added Fewer or More Waters to the Minnesota 2020 Impaired Waters List

a. Comments that the Initial 30 Waters Added by EPA do not show wild rice present and/or impairment to wild rice.

[1239 – MPCA]: Several waters EPA has proposed to list –mainly those located outside of the Northern Lakes and Forest and Northern Minnesota Wetlands ecoregions –are located in areas of naturally higher sulfate. This particularly includes those listings on the lower Mississippi River. Even if all upstream dischargers to these listed water sections (referred to as "WIDs") were eliminated, the waters would naturally have sulfate in exceedance of the 10 mg/L sulfate standard. The inclusion of the Mississippi River WIDs as impaired is particularly crucial for implementation, as these two WIDs drain over 59,200 square miles of the state and 833 NPDES-permitted dischargers are located upstream of them. The MPCA asks that EPA consider listing, or allowing MPCA to categorize, these waters in a way that recognizes the higher natural background sulfate levels. MPCA has developed, and previously utilized, a Class 4D categorization that recognizes "natural background" and does not require a TMDL. We also hope to discuss the potential for alternative restoration approaches, rather than TMDLs, given the limited non-point sources of sulfate. MPCA will also likely consider site-specific standards for these reaches, due to the natural conditions.

Response (2.a.1): The waters EPA has added are subject to the wild rice beneficial use and are exceeding the 10 mg/L standard. EPA's impairment determinations were made based on the consideration of existing and readily available sulfate water quality data and the criteria of EPA's Screening Analysis (*See* Response 3.a, 3.b, 3.c), regardless of whether the data reflected background concentrations. EPA's action is consistent with and informed by its guidance on listing waters where exceedances of the applicable criteria may be the result of background or natural conditions.[19] EPA will consider appropriate recategorization requests from MPCA as long as Minnesota provides sufficient explanation and supporting documentation to justify its recategorization request in light of the applicable water quality standards. EPA will review recategorization requests during MPCA's 2022 and subsequent listing cycles.

[1313 – Minnesota Chamber of Commerce]: Furthermore, it is critical for the designation of a wild rice beneficial use for a waterbody or segment of a waterbody to be undertaken on a case-by-case basis with a careful review of the evidence as to whether the wild rice beneficial use has been "actually attained in the water body on or after November 28, 1975" (Citation omitted].

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not later than thirty days after the date of such disapproval identify such waters in such State and establish such loads for such waters as he determines necessary to implement the water quality standards applicable to such waters and upon such identification and establishment the State shall incorporate them into its current plan under subsection (e) of this section.

[19] EPA guidance, *Information Concerning 2014 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions (September 3, 2013)*, p. 4-6, https://www.epa.gov/sites/default/files/2015-10/documents/final_2014_memo_document.pdf, last visited 11/4/2021.

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[1331 - City of Redwing]: Information provided in Appendix 2 of the Decision Document shows that Wild Rice waters in the Mississippi River (AUID 07040003-627; AUID 07060001-509) exhibit mean sulfate concentrations of 36.8 mg/L and 16.6 mg/L, respectively, which EPA claimed served as a sufficient basis for declaring the waters impaired. However, no information is presented to show that wild rice production in these waters is actually adversely affected by the ambient concentration, as is required by the adopted concentration or that the conditions that render the sulfate level non-toxic do not exist at this location. Such a determination should be relatively easy if the 10 mg/L guide concentration is appropriate... Before these waters are listed as impaired for wild rice production, the condition of the wild rice beds should be ascertained to confirm that the 10 mg/L standard is appropriate for determining the suitability of these segments for wild rice production.

[1345 – Coalition of Greater Minnesota Cities]: ". . . the proposed additions include waterbodies for which EPA has not confirmed nor has adequate evidence of harm to the use and production of wild rice resulting from human-caused sulfate concentrations before a waterbody is listed as impaired."

[1389 – PolyMet]: Even if it were appropriate for the EPA to designate beneficial use listings and create new wild rice waters as part of the CWA 303(d) process, the EPA's proposal would over apply the designated use listings and the asserted impairments with respect to at least some of the 30 water bodies proposed for inclusion to the 303(d) List. In particular, the EPA seeks to add entire rivers or streams to the 303(d) List even though wild rice stands only have been found in limited portions of those water bodies. In addition, the EPA appears to have used sulfate data from limited segments of a water body and applied it to the entire water body it's proposing as impaired. As noted above, the sulfate water quality standard in Minn. R. 7050.0224, subpart 2 only applies where wild rice is in production and where actual damage is caused during the growing season. To implement these requirements, Minn. R. 7050.0470 has identified wild rice waters by lake or for streams, by reach. Similarly, in the draft rules proposed by the MPCA in 2017, the agency identified wild rice waters by lake or reach – or in other words – by a smaller unit than an entire water body, consistent with the data showing the presence of wild rice. The EPA's proposed 303(d) List assesses the impairment to an overall water body rather than following the MPCA's practice of breaking them down by reaches where the state agency believed wild rice was present.

[1389 – PolyMet]: Even if the water quality standards for protection of wild rice in Minn. R. 7050.0224 were applicable to the waters in question, the EPA's proposed additions to the 303(d) List are inconsistent with the EPA-approved sulfate standard in Minn. R. 7050.0224, subpart 2. That standard applies only to waters "used for production of wild rice during periods when the rice may be susceptible to damage by high sulfate levels." Id. The 2021 EPA Designation Letter appears to assume that the presence of sulfate over the 10 mg/L at any time would be sufficient to result in a violation or impairment of the sulfate standard. But for there to be an impairment of the wild rice standard as listed in Minn. R. 7050.0224, subpart 2, there must be a showing that (1) elevated sulfate levels occurred in waters designated in Minn. R. as being used for the production of wild rice, (2) that such conditions occurred during periods when wild rice is susceptible to damage – which the MPCA has previously interpreted as during the growing season – and (3) that the elevated levels of sulfate have actually caused damage to wild rice to prevent its production. The 2021 EPA Designation Letter neither recognizes these three criteria nor establishes that they are met in the waters proposed for listing. In fact, the relevant evidence

shows that at least with respect to the water bodies in the immediate vicinity of PolyMet's property – the Embarrass River, the Partridge River, Second Creek, and several lakes – wild rice in several locations has been mapped consistently over a 10-year period, which indicates that the beneficial use has been attained and remains attainable, with no documentation of impairment to the health of the wild rice stands.

Response (2.a.2): EPA acknowledges these comments but disagrees. Please see Response 1.c regarding EPA's role in implementing CWA Section 303(d), in contrast to EPA's role in implementing CWA Section 303(c). Please see response 1.d.2 regarding why EPA chose to rely on MPCA's 1300 Waters List as a factor in the Screening Analysis. Please see Appendix 2 for EPA's analysis of individual waters.

b. Comments that EPA should have Listed additional Waters that are included on the State's List of 1300 Waters

[1344 – Fond du Lac Band of Lake Superior Chippewa; 1337 – WaterLegacy; and 1391 – Joint Tribal Letter]: These commenters suggested approximately 30-40 waters for EPA to consider listing following EPA's initial listing of 30 waters on April 27, 2021.

[157 – Form Letter #2]: Include additional waters on Minnesota 2020 303(d) list where reliable data shows sulfate levels over 10 mg/L, even where there are relatively few samples, to protect wild rice and remove incentive for Minnesota agencies to avoid sulfate monitoring.

[1455 - Minnesota Center for Environmental Advocacy's (MECA)]: MCEA asks that EPA clarify its reasoning for selecting these three particular WQLS (i.e., Perch Lake (WID 69-0688-00), Sturgeon Lake (WID 25-0017-01) and a segment in the St. Louis River Estuary (WID 69-1291-04)) while declining to add others.

Response (2.b.1): EPA acknowledges that the universe of waters potentially subject to the beneficial use may be greater than MPCA's 1300 Waters List, and EPA is taking no action to approve or disapprove any potential wild rice waters or sulfate impaired waters not included in EPA's final list. Rather EPA will continue to share information with the State and coordinate with the State and interested tribes regarding further development of information supportive of the State's continuing efforts to further develop its assessment and listing of such waters.

EPA reviewed individual stream and lake segments suggested by Comments #1344, #1367 and #1391 against EPA's Screening Analysis and found three waters that met the criteria of EPA's Screening Analysis: Perch Lake (WID 69-0688-00), Sturgeon Lake (WID 25-0017-01) and a segment in the St. Louis River Estuary (WID 69-1291-04). These three waters were not part of EPA's initial addition of 30 waters to Minnesota's 2020 Impaired Waters List. Accordingly, following identification of these additions, EPA completed a 30-day public notice period from September 1, 2021 to October 1, 2021. These waters are part of the set of 32 waters EPA transmitted to Minnesota on November 5, 2021.

Other segments suggested by Comments #1367 and #1391 did not meet EPA's Screening Analysis for various reasons that are explained in Appendix 3. EPA believes that the

criteria of the Screening Analysis[20] were reasonable and EPA's use of those criteria to determine whether suggested waters and/or available sulfate data met that criteria was reasonable.

> *[1397 – MCEA]: Minnesota Center for Environmental Advocacy ("MCEA") strongly supports EPA's addition of 30 Water Quality Limited Segments used for the production of wild rice that are impaired for sulfate to Minnesota's list.*
>
> *The Minnesota Pollution Control Agency ("MPCA") has continually failed in its duty to protect wild rice, and as a result, wild rice production is threatened throughout the state. MCEA urges EPA not only to list the additional 30 waters it has identified, but also to work with affected Tribal Nations—which have been instrumental in working for protections for wild rice—to add more waters to this list.*
>
> *While EPA's addition of 30 impaired waters is a laudable step, it is only the first of many that are needed to protect Minnesota's wild rice waters. As EPA's Decision Document notes, in 2017, MPCA created a list of approximately 1,300 waters it planned to identify as wild rice waters in its failed rulemaking, and both MPCA and EPA recognize this list as the minimum universe of waters subject to the wild rice beneficial use. Many more of these waters may violate the Wild Rice Standard—and if so, they must be added to Minnesota's Impaired Waters List.*

Response (2.b.2): EPA held tribal consultations with interested tribes[21] in March and April of 2021 and additionally received comments from tribes during the public comment period(s). EPA has considered the information presented by tribal representatives, including reviewing waterbody and sulfate water quality data in the context of the Screening Analysis and, where appropriate, has added waters to the Minnesota 2020 Impaired Waters List. EPA acknowledges that the universe of waters potentially subject to the beneficial use may be greater than MPCA's 1300 Waters List, and EPA is taking no action to approve or disapprove any potential wild rice waters or sulfate impaired waters not included in EPA's final list. Rather EPA will continue to share information with the State and coordinate with the State and interested tribes regarding further development of information supportive of the State's continuing efforts to further develop its assessment and listing of such waters. Because EPA's action to add waters to the Minnesota 2020 Impaired Waters List is separate from an action to revise the State's water quality standards under CWA Section 303(c), EPA continues to look to MPCA to make beneficial use determinations and to develop its own assessment and listing process. See also Response 5 below.

> *[1451 – Grand Portage Band of Lake Superior Chippewa]: On behalf of Grand Portage, we are again expressly asking that Bob's Bay and Dunka Bay in Birch Lake be included on the 2020 Impaired Waters List.*

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[20] April 27, 2021 Decision Document at 11-15.

[21] Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, https://www.govinfo.gov/content/pkg/FR-2000-11-09/pdf/00-29003.pdf and EPA Policy on Consultation and Coordination with Indian Tribes, May 2011, https://www.epa.gov/sites/default/files/2013-08/documents/cons-and-coord-with-indian-tribes-policy.pdf, last visited 11/4/2021.

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[1454 – WaterLegacy]: We request that EPA add Birch Lake to its list of WQLS impaired due to sulfate in excess of Minnesota's 10 milligrams per liter ("mg/L") wild rice standard. A data-driven analysis demonstrates that EPA should list the western half of Birch Lake, including Bob Bay and Dunka Bay, as impaired due to sulfate pollution.

Response (2.b.3): Existing sulfate water quality data for Birch Lake (69-0003-00) demonstrated that 9 of 41 samples (22%) exceeded the 10 mg/L criterion, the average sulfate concentration was 8.50 mg/L, the Standard Deviation was 4.98, minimum concentration was 3.0 mg/L and the maximum concentration was 32.6 mg/L over the Period of Record (*see* Appendix 6 of this document). Therefore, Birch Lake does not meet the Screening Analysis criteria for designating this segment as impaired.

EPA acknowledges and has reviewed the sulfate water quality data which has been shared with EPA in the first and second public comment periods pertaining to the Bob's Bay and Dunka Bay embayments in Birch Lake. EPA recognizes that sulfate water quality collected in Bob's Bay and Dunka Bay by MPCA and other entities demonstrates sulfate concentrations above the 10 mg/L sulfate criterion.

EPA notes that the Bob's Bay and Dunka Bay embayments have not been delineated by the Minnesota Department of Natural Resources (MDNR) and MPCA as unique embayments of the larger Birch Lake assessment unit ID (AUID) or waterbody ID (WID). Additionally, EPA notes that Bob's Bay and Dunka Bay have not been assigned a unique AUID/WID.

EPA recommends that commenters work with MDNR and MPCA on efforts to delineate embayments in Birch Lake for the 2022 listing cycle. Additionally, EPA recommends that commenters share sulfate water quality monitoring data collected in 2020 and 2021 with MPCA for consideration and/or assessment purposes for the 2022 list and future listing cycles.

As noted elsewhere, EPA is taking no action to approve or disapprove any potential wild rice waters or sulfate impaired waters not included in EPA's final list—that includes taking no action to approve or disapprove the exclusion of Bob's Bay, Dunka Bay and/or a western portion of Birch Lake on the Minnesota 2020 Impaired Waters List. EPA will continue to monitor sulfate concentrations in Birch Lake and its embayments in the Minnesota 2022 and subsequent listing cycles as well as progress made toward potentially resegmenting Birch Lake where appropriate.

c. Comments that EPA Should have listed Additional Waters that are Not Included on the State's List of 1300 Waters

[1344 – Fond du Lac Band of Lake Superior Chippewa; 1337 – WaterLegacy; and 1391 – Joint Tribal Letter]: Suggested approximately 30-40 waters for EPA to consider listing and further expand its listing of 30 waters from Appendix 2 (4/27/2021)

[543 – Duluth Izaak Walton League]: The MPCA has published a short list of select waters/water segments that are intended to be protective of wild rice using the present 10mg/L standard. We find this list too limiting, and in fact it should be viewed as an abdication of MPCA responsibility to enforce the standard under both Minnesota Rule and the CWA.

First, the true distribution of wild rice waters in northern Minnesota is far more extensive than MPCA's published list. Both the Minnesota Department of Natural Resources (MNDNR) and various Tribal entities, including individual Bands, 1854 Treaty Authority, and Great Lakes Indian Fish and Wildlife Commission (GLIFWC), have lists that are far more inclusive of all the bodies of water that should be included in Minnesota's list of wild rice waters. We believe that all waters that currently or historically supported wild rice should be included in the list of waters protected under the CWA for sulfate. . . .But we cannot be satisfied with just listing the "dirty 30". EPA should use the MNDNR and Tribal lists of wild rice waters, and include all those that are impaired by sulfates, ranking them from the most to least impaired. Waters that historically sustained wild rice but are no longer able to do so as a result of sulfate impairment should be included.

This listing should not exclude waters that are or might someday be impacted by mining or industrial development. We suspect the exclusion of important wild rice waters, including some upper segments of the St. Louis River, would not be happening without the undue influence of industry and our state's recent political makeup.

Response (2.c.1): EPA acknowledges these comments but is limiting analysis of additional waters for this action to MPCA's 1300 Waters List. For EPA's explanation of why we relied on MPCA's 1300 Waters List, please see Response 1.d.2. EPA acknowledges that the universe of waters potentially subject to the beneficial use may be greater than MPCA's 1300 Waters List, and EPA is taking no action to approve or disapprove any potential wild rice waters or sulfate impaired waters not included in EPA's final list. Rather EPA will continue to share information with the State and coordinate with the State and interested tribes regarding further development of information supportive of the State's continuing efforts to further develop its assessment and listing of such waters.

[157 – Form Letter #2]: Include additional waters on MN 2020 303(d) where state, stakeholder or tribal evidence shows that wild rice has grown in those waters at any time since November 28, 1975, whether or not MPCA has listed them.

[1397 – MCEA - section D]: MCEA urges EPA to work closely with interested Tribes to identify more sulfate-impaired wild rice waters for inclusion on the state's list. Only by working together can agencies, Tribal leadership, and environmental advocates secure clean waters where wild rice can thrive for the benefit of all Minnesotans.

Response (2.c.2): EPA acknowledges these comments but is limiting analysis of additional waters for this action to the MPCA 1300 Waters List. For EPA's explanation of why we relied on this list, please see Response 1.d.2 We note that MPCA considered information, including stand density, among other factors, in compiling the 1300 Waters List.[22] Therefore, for the purposes of our Screening Analysis, EPA elected to focus on those waters designated by MPCA to be subject to the wild rice beneficial use as evidenced by their presence on MPCA's 1300 Waters List. EPA acknowledges that the universe of waters potentially subject to the beneficial use may be greater than MPCA's 1300 Waters List, and EPA is taking no action to approve or disapprove any potential wild rice waters or

[22] MPCA, SONAR, *Amendment to the sulfate water quality standard applicable to wild rice and identification of wild rice waters*, July 2017, at 38, 41 and 48.

sulfate impaired waters not included in EPA's final list. Rather EPA will continue to share information with the State and coordinate with the State and interested tribes regarding further development of information supportive of the State's continuing efforts to further develop its assessment and listing of such waters.

Tribes and interested parties, including members of the public, will also have an opportunity to submit data and information directly to MPCA during calls for data and/or public comment periods for future State of Minnesota Water Quality Monitoring and Assessment Reports (Integrated Reports). EPA understands that MPCA will solicit water quality data and information from the public, likely in November 2021, as part its 2022 Integrated Report development process.

3. Comments about EPA's Methodology

a. Comments that EPA could not use its own Methodology to make List Additions

[1313 – Minnesota Chamber of Commerce; and 1377 - USS]: Assessment and listing of impaired waters in Minnesota under CWA Section 303(d) should be in accordance with the MPCA's Guidance Manual for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment, which does not include methodology for assessing sulfate impairments associated with the wild rice beneficial use.

[1239 – MPCA]: MPCA is considering the assessment methodology we may use in the future to assess waters against the wild rice sulfate standard, one that provides confidence the average sulfate concentration from samples collected portrays an accurate picture of what is happening in the water. Initial ideas are to use a method that, rather than just calculating an average and giving a simple yes or no answer to the question of impairment, would use a statistical test to provide a quantifiable and high degree of confidence that the calculated average from the data adequately represents the actual average in the water. Although MPCA would likely have used a different methodology for the sulfate wild rice standard, we agree with EPA's starting point of the universe of waters –namely those waters that MPCA had proposed to place in rule as wild rice waters in the 2017/2018 rule proposal. Our review and analysis of the data available at this time demonstrates that the outcomes of an assessment decision (impaired/ non impaired) would generally align whether using EPA's methodology, or using methods MPCA would have employed.

[1313 – Minnesota Chamber of Commerce; and 1377 - USS]: Assessment and listing of impaired waters in Minnesota under CWA Section 303(d) should be in accordance with the MPCA's Guidance Manual for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment as developed for the 2020 assessment and listing cycle (MPCA 2020 Assessment and Listing Document) [citation omitted]. It is our understanding that this document should have been reviewed and approved by the EPA. The MPCA 2020 Assessment and Listing Document does not include methodology for assessing sulfate impairments associated with the wild rice beneficial use. The EPA Sulfate Impaired Waters Decision Document describes the methodology used by the EPA to assess waters for sulfate impairment [Citation omitted]; however, it is improper to use this methodology as it was not included in the approved MPCA 2020 Assessment and Listing Document.

[1377 - USS]: The MPCA 2020 Assessment and Listing Document does not include methodology for assessing sulfate impairments associated with the wild rice beneficial use. The EPA Sulfate

Impaired Waters Decision Document describes the methodology used by the EPA to assess waters for sulfate impairment; however, it is improper to use this methodology as it was not included in the approved MPCA 2020 Assessment and Listing Document.

[1389 – PolyMet]: The EPA's proposed addition of waters to the 303(d) List is inconsistent with the requirements and standards of the MPCA's Guidance Manual for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment: 305(b) Report and 303(d) List (February 2021) ("MPCA 303(d) Guidance"). This MPCA 303(d) Guidance was developed to define the required data and information and lay out the criteria by which water bodies are assessed to determine if beneficial uses are supported or impaired. The EPA's proposed action for the 303(d) List does not follow this MPCA 303(d) Guidance in that it does not comply with the steps in the assessment process, does not satisfy applicable data collection and review standards, and does not meet the requirements for reporting and public review. Because other designations in Minnesota have followed the MPCA 303(d) Guidance, the EPA's failure to do so would cause inconsistencies in how impaired waters are designated.

[1377 - USS]: The MPCA 2020 Assessment and Listing Document does not include methodology for assessing sulfate impairments associated with the wild rice beneficial use. The EPA Sulfate Impaired Waters Decision Document describes the methodology used by the EPA to assess waters for sulfate impairment; however, it is improper to use this methodology as it was not included in the approved MPCA 2020 Assessment and Listing Document.

Response (3.a): EPA received many general and specific comments regarding the EPA Screening Analysis used in determining those waters to add to the Minnesota 2020 Impaired Waters List. EPA acknowledges these comments and notes that following EPA's partial disapproval of the State's list on March 27, EPA was obligated under the CWA to "identify such waters" to be added to the State's list consistent with CWA Section 303(d)(2). As EPA explained in our April 27, 2021 Decision Document,

> **Since our review of Minnesota's 2012 section 303(d) list, EPA has requested that MPCA develop a methodology for assessing sulfate impairments associated with the wild rice beneficial use [citation omitted]. MPCA has never developed such a methodology [citation omitted].[23]**

While MPCA has not developed an assessment methodology, MPCA recently stated that, "Any formalized methodology would include detailing which waters MPCA considers to be waters used for the production of wild rice and the evaluation of data for comparison to the 10 mg/L sulfate criterion."[24] EPA has explained in our April 27, 2021 Decision Document and in our responses to comments 1.a, 1.b and 1.c why in the context of this action under CWA Section 303(d) EPA must proceed separately from actions that appropriately fall within the scope of CWA Section 303(c). EPA has explained in our April 27, 2021 Decision Document and in Response 1.d.2 why EPA chose to rely on the MPCA 1300 Waters List as a key factor in the Screening Analysis that would begin by identifying those waters subject to the beneficial use. EPA acknowledges that the universe of waters potentially subject to

[23] April 27, 2021, Decision Document at 11.
[24] Letter from Katrina Kessler to Tera Fong, March 15, 2021.

the beneficial use may be greater than MPCA's 1300 Waters List, and EPA is taking no action to approve or disapprove any potential wild rice waters or sulfate impaired waters not included in EPA's final list. Rather EPA will continue to share information with the State and coordinate with the State and interested tribes regarding further development of information supportive of the State's continuing efforts to further develop its assessment and listing of such waters.

In developing CWA Section 303(d) lists, states are required to assemble and evaluate all existing and readily available water quality-related data and information including, at a minimum, data and information regarding the following categories of waters: (1) waters identified as partially meeting or not meeting designated uses or identified as threatened in the states' most recent CWA Section 305(b) report; (2) waters for which dilution calculations or predictive modeling indicate nonattainment of applicable standards; (3) waters for which water quality problems have been reported by governmental agencies, members of the public, or academic institutions; and (4) waters identified as impaired or threatened in any CWA Section 319 nonpoint assessment submitted to EPA.[25] Therefore, as explained in our April 27, 2021 Decision Document:

EPA considered existing and readily available sulfate data from the following sources:

- **EPA's Water Quality Portal (WQP) (https://www.waterqualitydata.us/);**
- **EPA's How's My Waterway (https://www.epa.gov/waterdata/hows-my-waterway);**
- **Minnesota's publicly accessible water quality data from MPCA's Surface Water Data Portal (https://webapp.pca.state.mn.us/surface-water/search) and, MPCA's Surface Water Mapping Tool; (https://mpca.maps.arcgis.com/apps/webappviewer/index.html?id=c3ad23220f60416fadcc117f82ba05e3);**
- **Quality Assured and Quality Controlled (QA/QC'd) data sets from the Metropolitan Council (i.e., Met Council), United States Geological Survey (USGS), and MPCA's TEMPO database (permittee data);**
- **Water quality data shared by tribes with supporting documentation of quality assurance/quality control for the data provided to EPA as listed in Appendix 3;[26] and**
- **Water quality data shared by outside parties, as listed in Appendix 4.[27]**

While EPA did not separately provide the individual sulfate sampling data for each of the 30 waterbodies EPA added to the State's list in the April 27, 2021 Decision Document, EPA

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[25] 40 C.F.R. § 130.7(b)(5).

[26] For EPA's explanation of why and how we solicited information from tribes and that was made public during our public notice period, please see Response 2.b.2.

[27] For EPA's discussion of this unsolicited information and that was made available to the public during our public notice period, please see Response 5.

at the time provided the list of publicly available data sources, as noted above, through which all information we relied upon was available. Sulfate water quality data which EPA analyzed is publicly available and can be downloaded via MPCA's surface water data portal (https://www.pca.state.mn.us/eda-surface-water-data). The information supporting each listing addition made by EPA is set forth in Appendix 2.[28]

As noted above, because MPCA had not developed a methodology for identifying impairments to waters designated for the wild rice beneficial use and the sulfate WQS, in developing our Screening Analysis, EPA considered and addressed four main problems: (1) determining the appropriate period of record for acceptable data; (2) how and whether to account for the seasonality component of the State's sulfate WQS; (3) how to evaluate available water quality data for sulfate; and (4) how to determine impairment. Each of these topics is addressed in detail in EPA's April 27, 2021 Decision Document and in specific response to the comments below.[29]

b. Comments that EPA used outdated data

[1377 – USS; similar to 1458 – USS]: On a final note, some of the data used in the assessment do not represent current water quality conditions (as noted in Table 1). The data set used by the EPA included results from samples collected more than a decade ago. Only current data should be used to adequately characterize the concentrations of sulfate in the waters. Any data older than a decade is not representative of water quality and if EPA chooses to pursue this proposal, they should update their assessment to include only the relevant data. [Citations omitted.]

Response (3.b): Please see Response 3.a regarding general aspects of EPA's Screening Analysis. Regarding the Period of Record used by EPA, as explained in EPA's April 27, 2021 Decision Document,

> **EPA considered sulfate data collected within the 10-year period (2008-2018), specifically during the time period of October 1, 2008 to September 30, 2018. In circumstances when there were minimal sulfate data available between October 1, 2008 to September 30, 2018, EPA reviewed existing and readily available sulfate data collected in the year preceding (2007-2008) and the year following (2019) the October 2008 to September 2018 time period on a case-by-case basis in order to more completely characterize sulfate conditions in lake and stream segments over the previous 10 year period and to assess as many waters used for the production of wild rice as possible. The 10-year period (2008-2018) is consistent with the time period for data that MPCA considered in developing its 2020 list.[30]**

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[28] In certain cases, the summary sulfate water quality values (e.g., average, standard deviation, etc.) in Appendix 2 of the April 27, 2021 Decision Document, have been corrected. Please see Appendix 2 of this Response to Comments document which includes individual sulfate sampling data for the waters added to the Minnesota 2020 Impaired Waters List. In no cases did the corrections that EPA made alter EPA's findings that such waters met EPA's Screening Analysis criteria for listing.

[29] April 27, 2021, Decision Document at 11-15.

[30] MPCA, *Guidance Manual for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment: 305(b) Report and 303(d) List, 2020 Assessment and Listing Cycle,* February 2021, at 10 (Period of Record), https://www.pca.state.mn.us/sites/default/files/wq-iw1-04k.pdf, last visited 11/4/2021.

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EPA also explored historical sulfate data (i.e., sulfate data collected outside of the suggested October 1, 2008 to September 30, 2018 time period) in order to understand the sulfate concentration trends over time. While EPA's assessment determinations generally examined existing and readily available sulfate data of the previous 10 year time period, EPA did account for consistent, historical exceedances of the 10 mg/L sulfate criterion in our overall review of water quality conditions for individual lake and stream segments. Where there were historical data for a particular lake or stream segment, this historical consideration involved looking at all of the data for a segment, regardless of year, to better understand the historical water quality conditions.[31]

Thus, EPA believes that our consideration of existing sulfate data within the period of record described in the Screening Analysis was reasonable. Further, it was consistent with the period of record currently used by MPCA to compile information for its CWA Section 303(d) list; thus, EPA believes that the period of record we considered for our Screening Analysis was both reasonable and relevant to assessing impairment.[32]

c. Comments that components of EPA's Methodology are incorrect (e.g., EPA considering sulfate water quality data on an annual scale versus seasonally)

[1313 – Minnesota Chamber of Commerce; and 1377 – U.S. Steel Corporation (USS)]: Furthermore, the methodology used by EPA presents an inconsistency with determining sulfate concentrations. In one scenario, values are averaged while in another, the maximum value is used. Although this inconsistency is an issue, the main concern is the determination to use a maximum sample value to represent sulfate concentrations in waterbodies. This approach could be capturing anomalies in the waterbody with respect to sulfate concentrations. EPA should explain why they used the maximum concentration value observed in certain scenarios, beyond citing a March 15th communication from MPCA (which itself does not provide sufficient justification). In any case, EPA should seek to characterize the average daily conditions of the waterbody when determining appropriate sulfate concentrations for waterbody segments, which will be more indicative of whether sulfate concentration will impact wild rice habitat.

[1345: Coalition of Greater Minnesota Cities]: [EPA's decision] also ignores that the 10 mg/L limit applies only "during periods when the rice may be susceptible to damage by high sulfate levels" by claiming that the data in the 2017 SONAR demonstrates wild rice is vulnerable year-round. [Citation omitted.]

[1345: Coalition of Greater Minnesota Cities]: EPA's reliance on the SONAR of the rejected rule is particularly problematic because the application is selective and ignores the data and overriding conclusion of the rulemaking –that the relationship between wild rice and sulfate is complex and that the 10 mg/L rule will be overprotective in many circumstances. [Citation omitted.] By selectively relying on portions of the SONAR to apply the outdated rule, EPA is being overprotective and declaring waters impaired where the growth of wild rice is supported.

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[31] April 27, 2021 Decision Document at 12-13.

[32] MPCA, *Guidance Manual for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment: 305(b) Report and 303(d) List, 2020 Assessment and Listing Cycle* at 10, https://www.pca.state.mn.us/sites/default/files/wq-iw1-04k.pdf, last visited 11/4/2021.

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[1370 – CCI]: In addition, EPA, also on the basis of aspects of the failed rulemaking, has unilaterally decided a key element of the Sulfate Standards—that the standard only applies "during periods when the rice may be susceptible to damage by high sulfate levels," Minn. R. 7050.0224, subp. 2—is of no consequence. EPA's two-sentence rationale for making this significant change to Minnesota water law is that in MPCA's proposed and abandoned rulemaking, MPCA "found that wild rice is vulnerable to elevated sulfate concentrations year-round, and the existing standards does not specify or define a time when wild rice is susceptible to damage by high sulfate levels." EPA's attempt to pick and choose findings from an abandoned rulemaking process is both arbitrary and unfair to those parties who advocated for different positions in the rulemaking process (positions that might had prevailed had the rule been finalized), but which EPA has chosen not to embrace.

[1377 - USS]: The EPA's assessment has overapplied the wild rice sulfate water quality standard both spatially and temporally. . . . For these reasons, the current wild rice sulfate standard is a seasonal standard, applicable only during the growing season. In the Mesabi Nugget NPDES/SDS Permit M N0067687 (issued December 28, 2012), the MPCA set a precedent for applying the current sulfate water quality standard seasonally when they "concluded that the 10 mg/L sulfate standard is applicable to portions of the Partridge River used for wild rice production April 1 through August 31 ". As the standard is not applicable year-round, waters should not be designated as impaired year-round. [Citations omitted.]

[1405 – MESERB]: Moreover, the rule expressly states that the 10 mg/L sulfate guideline is only applicable "during periods when the rice may be susceptible to damage by high sulfate levels."

Response (3.c): Please see Response 3.a regarding general aspects of EPA's Screening Analysis. Regarding the manner in which EPA considered the issue of seasonality in the State's sulfate criterion, as explained in EPA's April 27, 2021 Decision Document,

> **The sulfate criterion to protect wild rice states that the 10 mg/L criterion is, "applicable to water used for production of wild rice during periods when the rice may be susceptible to damage by high sulfate levels." However, the scientific evaluation of sulfate conducted by MPCA to support its 2017 rule revisions found that wild rice is vulnerable to elevated sulfate concentrations year-round,[33] and the existing standards does not specify or define a time when wild rice is susceptible to damage by high sulfate levels. Therefore, EPA did not exclude sulfate data from consideration based on the season in which the data were collected.**

EPA understands there may be disagreement in the interpretation of certain aspects of the narrative portion of Minnesota's existing, approved sulfate water quality standard. During EPA's development of the Screening Analysis, EPA considered varying approaches for considering the seasonality component of the sulfate standard and whether EPA should exclude certain existing and readily available sulfate water quality data from the Screening Analysis. EPA reasonably decided to use a conservative approach to the available data and to examine this data across the entire water year rather than to exclude existing and readily available sulfate data based on when it was collected. This determination was based

[33] MPCA, SONAR, *Amendment to the sulfate water quality standard applicable to wild rice and identification of wild rice waters*, July 2017, at 81-82.

on MPCA's 2017 SONAR document, which accompanied the rulemaking of which the MPCA 1300 Waters List was a part, and that states, "*The current scientific understanding is that sulfide in porewater affects wild rice health and the creation of this sulfide occurs throughout the year. Based on this understanding, the MPCA now find that the phrase "periods when rice may be susceptible" is no longer scientifically supported. Essentially, wild rice is susceptible at all times.*"[34]

d. Comments on EPA's Evaluation of Sulfate Data

[1345: Coalition of Greater Minnesota Cities]: [EPA's decision] also ignores that the 10 mg/L limit applies only "during periods when the rice may be susceptible to damage by high sulfate levels" by claiming that the data in the 2017 SONAR demonstrates wild rice is vulnerable year-round. [Citation omitted.]

[1345: Coalition of Greater Minnesota Cities]: EPA's reliance on the SONAR of the rejected rule is particularly problematic because the application is selective and ignores the data and overriding conclusion of the rulemaking –that the relationship between wild rice and sulfate is complex and that the 10 mg/L rule will be overprotective in many circumstances [Citation omitted]. By selectively relying on portions of the SONAR to apply the outdated rule, EPA is being overprotective and declaring waters impaired where the growth of wild rice is supported.

[1370 – CCI]: In addition, EPA, also on the basis of aspects of the failed rulemaking, has unilaterally decided a key element of the Sulfate Standards—that the standard only applies "during periods when the rice may be susceptible to damage by high sulfate levels," Minn. R. 7050.0224, subp. 2—is of no consequence. EPA's two-sentence rationale for making this significant change to Minnesota water law is that in MPCA's proposed and abandoned rulemaking, MPCA "found that wild rice is vulnerable to elevated sulfate concentrations year-round, and the existing standards does not specify or define a time when wild rice is susceptible to damage by high sulfate levels." EPA's attempt to pick and choose findings from an abandoned rulemaking process is both arbitrary and unfair to those parties who advocated for different positions in the rulemaking process (positions that might had prevailed had the rule been finalized), but which EPA has chosen not to embrace.

[1377 - USS]: The EPA's assessment has overapplied the wild rice sulfate water quality standard both spatially and temporally. . . . For these reasons, the current wild rice sulfate standard is a seasonal standard, applicable only during the growing season. In the Mesabi Nugget NPDES/SDS Permit M N0067687 (issued December 28, 2012), the MPCA set a precedent for applying the current sulfate water quality standard seasonally when they "concluded that the 10 mg/L sulfate standard is applicable to portions of the Partridge River used for wild rice production April 1 through August 31 ". As the standard is not applicable year-round, waters should not be designated as impaired year-round. [Citations omitted.]

[1405 – MESERB]: Moreover, the rule expressly states that the 10 mg/L sulfate guideline is only applicable "during periods when the rice may be susceptible to damage by high sulfate levels."

Response (3.d): Please see Response 3.a regarding general aspects of EPA's Screening Analysis. Regarding the manner in which EPA considered the issue of seasonality in the

[34] MPCA, SONAR, *Amendment to the sulfate water quality standard applicable to wild rice and identification of wild rice waters*, July 2017, at 20.

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State's sulfate criterion, see Response 3.c. Regarding the manner in which EPA considered the spatial extent and other factors relevant to assessing sulfate and water quality for purposes of assessing impairment to the wild rice beneficial use, as explained in EPA's April 27, 2021 Decision Document, EPA was mindful of the extensive work undertaken by MPCA and others to understand the complex nature of sulfate in relation to wild rice waters.[35] EPA is cognizant that both MPCA and EPA lack a formal assessment methodology for sulfate and wild rice, and therefore many relevant factors may play a role in such an analysis. EPA is additionally mindful that the lack of a formal assessment methodology is not a basis on which either a state or authorized tribe or EPA may fail to list waters, and that the absence of a formal assessment methodology in Minnesota has stymied necessary work to assess and list waters subject to the wild rice beneficial use and the sulfate standard for many years. Our April 27, 2021 Decision Document surveyed different potentially relevant factors for making assessments and selected the following:

- **The number of total observations per assessment unit;**
- **Where multiple samples were collected on the same day at the same sample location, then EPA averaged those samples, consistent with MPCA's communication of March 15, 2021; and**
- **If there were multiple samples collected on the same day, in the same AUID, but at different sampling locations/stations, then EPA used the maximum sample value collected from all the stations in that AUID to represent the sulfate concentration for that AUID, consistent with MPCA's approach outlined in its March 15 communication.[36]**

In conducting statistical analysis for both duration and frequency, EPA incorporated the following calculations:

- **The number of total observations greater than the numeric 10 mg/L sulfate criterion;**
- **A percentage calculation of the number of total observations in that AUID which are greater than the numeric 10 mg/L sulfate criterion;**
- **The calculated mean and the standard deviation of the sulfate data set for that AUID; and**
- **The minimum and maximum values of the sulfate data set for that AUID.[37]**

As EPA noted in our April 27, 2021 Decision Document, "We chose not to focus solely on one component of the screening analysis to determine impairment; rather we took a holistic view of the existing and readily available sulfate concentration data." We also noted that we expected to provide further clarification as needed.[38]

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[35] April 27, 2021 Decision Document at 13-15.
[36] April 27, 2021 Decision Document at 15.
[37] April 27, 2021 Decision Document at 15.
[38] April 27, 2021 Decision Document at 15.

e. Comments that 10 mg/L Sulfate Criterion does not account for Regional Variability in Naturally occurring Sulfate levels and/or is Outdated

[1239 – MPCA]: A key concern is that the 10 mg/L wild rice sulfate standard does not take into account the regional variation in natural sulfate levels across the state, or the differing impacts of sulfate based on very site-specific conditions. These variations and site-specific conditions have ramifications for both permits and TMDLs. It will be important to ensure we are working towards the right water quality goals to best protect the wild rice beneficial use in all locations. It has been clear from the early days of exploring the connection between wild rice and sulfate that Minnesota's climate and geology results in varied regional sulfate concentrations. [Citation omitted.] Dr. Moyle pointed out that sulfate concentrations are naturally low in the arrowhead region, and that sulfate increases by at least an order of magnitude as you move southward and westward from the arrowhead. When the 10 mg/L wild rice sulfate standard was developed in the 1970s, it relied upon scientific literature published by Dr. Moyle that held that the wild rice sulfate predictive relationship was applicable in Northeastern Minnesota. Moyle believed that wild rice did not exist or thrive in Minnesota in areas outside of a western limit running from approximately the Twin Cities and then roughly following the 10 ppm line in the figure above. Thus, Moyle never considered how to protect wild rice in areas where surface water sulfate concentrations are naturally above 10 mg/L.

[1313 – Minnesota Chamber of Commerce]: The EPA's assessment has overapplied the wild rice sulfate water quality standard both spatially and temporally.

[1313 – Minnesota Chamber of Commerce]: It is important to note that many factors impact wild rice abundance other than sulfate. These factors interrelate with whether or not there is appropriate habitat for wild rice. The MPCA asserted during the 2017 proposed rule amendment process (prior to withdrawal of the amendments) that it is not the concentration of sulfate in the water that directly impacts wild rice but rather the concentration of sulfide in the sediment pore water which is depended on both the concentration of sulfate in the overlying water and the concentrations of carbon and iron in the sediment. [Citation omitted.] The MPCA has also previously recognized that many other factors also impact wild rice growth and health, such as water clarity, water level, weather, habitat, invasive species, etc. [Citation omitted.] In addition to these factors, other factors known to affect wild rice abundance include changes in natural hydrology, water level fluctuations, competitive (native) species, human developments and impacts (e.g., shoreline development, boat traffic), disease and diminishing natural generic diversity, climate change, and water level and stream channel alterations due to beaver dam presence and subsequent removal. [Citations omitted.]:

- *There is a significant difference in the abundance of wild rice between the upper and lower portions of the St. Louis, Partridge, and Embarrass Rivers. The transitions between the upper and lower portions of these rivers has been found to correspond to changes in their physical characteristics (morphology). Wild rice is present in the river reaches where water-level bounce appears mitigated by river features and absent where water-level bounce is not as constrained. [Citation omitted.]*
- *A study was undertaken for Little Sandy Lake and Sandy Lake to evaluate factors that have or are influencing wild rice growth and identify opportunities to restore wild rice. [Citation omitted] Multiple adverse influences on wild rice growth and development were identified: 1) general lack of a viable wild rice seed bank in the sediment of the lakes; 2) water depth and fluctuations throughout the lake system is not conducive to wild rice*

growth and development; and 3) competing aquatic vegetation has become established in large areas of the lake system. A fourth likely adverse influence on wild rice growth and development in the lakes system is natural site-specific sediment conditions unrelated to surface water or sediment pore water characteristics.

. . . there are multiple factors that should be considered before applying the wild rice sulfate standard to a water segment or lake. Such considerations should be part of any assessment methodology used for listing of waters as impaired for wild rice sulfate.

Response (3.e): EPA acknowledges these comments but disagrees that these are relevant to EPA's addition of waters to the Minnesota 2020 Impaired Waters List. Please see responses 1.b and 1.d.2 for a discussion of EPA's responsibility under CWA Section 303(d)(2) and the applicable criteria for making CWA Section 303(d) assessment and listing decisions. EPA notes that the CWA provides states and authorized tribes with a wide array of options and tools to revise their water quality standards and adopt new or revised water quality criteria that account for local differences in water quality conditions necessary to protect designated uses of surface waters. Minnesota can and should make use of these tools to revise and refine its water quality standards where doing so is scientifically defensible and protective of the use.

4. Comments about data quality/lack of data

a. Comments about Lack of Transparency in EPA's Data Analysis

[1363 – International Union of Operating Engineers]: This is an issue that needs to be decided with the input of all Minnesotans in a transparent and open process. We cherish our native wild rice and want to see it continue to thrive and prosper.

[1377 – USS, similar to 1458 - USS]: ". . . based on the narrative in the EPA Sulfate Impaired Waters Decision Document and comparison of the Appendices 3 and 4 data sets with the data summaries presented in the Appendix 2 table, it appears that the EPA also used other data that are not included with the EPA Sulfate Impaired Waters Decision Document. Without access to the specific sulfate water quality data sets used by the EPA, it is not possible to assess the quality, appropriateness, or completeness of the data. In fact, attempts to reconstruct the assessment and findings failed." [Citations omitted.]

[1377 – USS; similar to 1458, citing the St. Louis River Estuary example]: The seven waters in the vicinity of U. S. Steel operations were used as examples to show that EPA has limited stakeholders' ability to replicate the methodology in determining sulfate concentrations. See Table 1 for the results of the replication attempt compared to EPA's results. Note that the results of only three of the seven waters were successfully reproduced.

[1389 – PolyMet]: The EPA has not provided the specific data sets for sulfate sampling that led to its proposal to add the waters in question to the 303(d) List. This is inconsistent with the MPCA 303(d) Guidance. Furthermore, in the 2021 EPA Designation Letter, the EPA says it is continuing to review data, suggesting that its proposed additions to the 303(d) List may be premature. This lack of complete data makes review and comment or comparison to separate data sets very difficult. Moreover, it appears that at least in some cases, the data obtained for use in the EPA's analysis was not evenly distributed across specific water bodies, resulting in the overapplication of the proposed impairment.

[1389 – PolyMet]: The EPA's Decision Document, Appendix 2 includes a summary of water quality data that were evaluated to determine if the water quality in various water bodies exceeds 10 mg/L (again based on the incorrect assumption that this numeric standard is applicable at all times to all waters even if they do meet the "production of wild rice" requirement); however, it did not include the data used in this analysis. PolyMet has been collecting water quality data in the water bodies upstream and downstream from our project site since 2006. As shown in the analysis above for sulfate data for the Partridge River, the location of the data used is as important as the statistical analysis of the data. It is clear that for the Partridge River, the majority of the data used was for the Lower Partridge River; however, these data apparently have been applied by the EPA to the entirety of the Partridge River. Without the data used by the EPA and the locations of the samples, as required under MPCA 303(d) Guidance, it is impossible to understand the analysis for evaluation and comment and for comparison against a similar dataset. PolyMet asks that the EPA provide the full dataset used as part of the public review process and provide opportunities to comment on that data before any further action to finalize the proposed 303(d) List is undertaken.

[1411 – Iron Mining Association]: In the bigger picture, it is imperative that EPA engage in a more transparent and fact-based process for evaluating this and future water quality policy issues and requirements.

[1449 – Minnesota Chamber of Commerce]: Are the new listings based on monitoring data or does it include anecdotal information/sources? If so can those be made available?...Is there a docket somewhere with this information?

[1450 – Western Lake Superior Sanitary District]: "...we respectfully request that you provide us with the background data utilized by EPA as a basis to propose to add the St. Louis River estuary segment (AUID 69-1219-04) to the Minnesota 2020 303(d) List for sulfate impairment. The information provided in the EPA public notice does not provide the detail necessary to evaluate and comment on this addition."

[1453 – MESERB]: "...we also request that you provide us access to and/or copies to the following: All water quality data and other data and/or analysis that EPA relied upon to support its proposed action to list Perch Lake (AUID 69-0688-00), Sturgeon Lake (WID (25-0017-01) and a St. Louis River estuary segment (WID 69-1291-04) as impaired for sulfate."

[1456 – Minnesota Chamber of Commerce]: EPA has not adequately identified the exact sampling locations of the data used in their determination. This leads to the question of the validity of the data.

[1457 – CCI]: EPA has not made available the dataset which serves as the basis for listing the St. Louis River Estuary as an Impaired Water. The inability to review the accuracy, completeness and appropriateness of the dataset does not provide stakeholders, like Cliffs, a reasonable, meaningful opportunity to evaluate EPA's proposed action.

[1313 – Minnesota Chamber of Commerce]: The EPA Sulfate Impaired Waters Decision Document does not include the specific sulfate water quality data sets used to assess the waters and create the table in Appendix 2: Waters EPA is adding to the Minnesota 2020 303(d) List. Without access to the specific sulfate water quality data sets used by the EPA, it is not possible to assess the quality, appropriateness, or completeness of the data. . . . The EPA Sulfate Impaired Waters Decision Document does not include the specific sulfate water quality data sets used to

assess the waters and create the table in Appendix 2: Waters EPA is adding to the Minnesota 2020 303(d) List. Sulfate water quality data sets received from others are included in Appendix 3 (received from Tribes) and Appendix 4 (received from WaterLegacy); however, based on the narrative in the EPA Sulfate Impaired Waters Decision Document54 and comparison of the Appendices 3 and 4 data sets with the data summaries presented in the Appendix 2 table, it appears that the EPA also used other data that are not included with the EPA Sulfate Impaired Waters Decision Document. Without access to the specific sulfate water quality data sets used by the EPA, it is not possible to assess the quality, appropriateness, or completeness of the data. It falls upon the stakeholders to attempt to reconstruct the data analysis undertaken by the EPA without certainty that they are considering the same data. If the EPA is confident in their assessment of these waters, it would be prudent for them to make the associated data sets available for scrutiny. Furthermore, in limiting access to full and complete sets of data, EPA also failed to provide the equations used to calculate sulfate concentrations. This exacerbates stakeholders' inability to replicate the methodology. EPA should provide the full set of equations and calculations along with the full and complete data sets.

[1377 - USS]: Furthermore, in limiting access to full and complete sets of data, EPA also failed to provide the equations used to calculate sulfate concentrations. This exacerbates stakeholders' inability to replicate the methodology. If the EPA is confident in their assessment of these waters, it would be prudent for them to make the associated data sets and calculations available for scrutiny.

Response (4.a): Please see Response 3.a regarding general aspects of EPA's Screening Analysis. Please see Response 3.d regarding EPA's evaluation of sulfate data. As explained in Response 3.a, while EPA did not separately provide the individual sulfate sampling data for each of the 30 waterbodies EPA added to the State's list in the April 27, 2021 Decision Document, EPA at the time provided list of publicly available data sources through which all information we relied upon was available. This information is further set forth in Appendix 2 of this document.

5. Comments about EPA's Engagement with Stakeholders

[1172 – State Senators]: ". . . EPA must withdraw its decision based on the flawed public involvement process that preceded the decision. We understand that the EPA acted after consulting extensively with a limited group of interested parties while providing no outreach to other stakeholders, including those with active discharge permits to these waters or the general public that use these waters. We expect the EPA to acknowledge that its engagement process for its decision was flawed and request that it undertake more transparent and broad consultation with interested parties in the future."

[1313 – Minnesota Chamber of Commerce]: As part of this CWA 303(d) process, both the EPA and MPCA consulted extensively with Tribal Governments and also considered information submitted by WaterLegacy; however, there was limited to no outreach to other stakeholders, including those with active discharge permits to these waters or the general public that use these waters. . . . As part of this CWA 303(d) process, both the EPA and MPCA consulted extensively with Tribal Governments55 and also consulted with and considered information submitted by WaterLegacy56; however, there was limited to no outreach to other stakeholders. The listing of Minnesota waterbodies as impaired for sulfate will impact many other stakeholders that have active discharge permits to these waters or otherwise use these waters, including municipalities, businesses (including those represented by the

Minnesota Chamber of Commerce), and the general public. We respectfully request that both agencies undertake more transparent and equitable consultation with potentially effected stakeholders.

[1377 – USS, similar to 1458 – USS]: As part of this CWA 303(d) process, both the EPA and MPCA consulted extensively with Tribal Governments and also considered information submitted by WaterLegacy; however, there was limited to no outreach to other stakeholders, including those with active discharge permits to these waters or the general public that use these waters. The lack of transparency with some stakeholders is very concerning.

[148 - Cameron Trembath question 8]: Did the EPA consult with Tribal parties but deny consultation with other parties during it's review of the 303(d) list?

Response (5): EPA acknowledges these comments but disagrees. Pursuant to EPA's *Policy on Consultation and Coordination with Tribes*, EPA consults on a government-to-government basis with federally recognized tribal governments when EPA actions and decisions may affect tribal interests. EPA's policy complies with the Presidential Memorandum issued November 5, 2009, directing federal agencies to develop a plan to implement fully Executive Order 13175. The EPA *Policy on Consultation and Coordination with Indian Tribes* establishes clear EPA standards for the consultation process. It defines when and how consultation takes place, designates EPA consultation contacts to promote consistency and coordination of the process and establishes management oversight and reporting to ensure accountability and transparency. Pursuant to the Consultation Policy, EPA invited tribal consultation on our review of the Minnesota 2020 Impaired Waters List. This consultation process is further explained in our March 26, 2021 Decision Document.[39]

During consultation, Minnesota tribal representatives expressed concern that the State's decision not to assess waters for sulfate impairment to wild rice -- a judicially affirmed, treaty reserved right that exists within specific ceded territory within the State of Minnesota -- was resulting in injury to the tribes' reserved rights.

The CWA and its implementing regulations do not require EPA to consult with state or local governments, nor members of the public, prior to making a determination to add waters to a state or authorized tribe's impaired waters list that is submitted to EPA. During the period during which EPA was consulting with tribes, however, EPA received unsolicited comments from WaterLegacy, an environmental advocacy group within Minnesota, providing information regarding data WaterLegacy asserted was relevant to an assessment of sulfate impairments to waters where wild rice was present. While there is no role for the solicitation of data from outside parties during EPA's review of a state's or authorized tribe's CWA Section 303(d) list, in an effort to be wholly transparent and comprehensive, EPA included this information in the April 29, 2021 publication of 30 waters EPA was adding to the MPCA 2020 CWA Section 303(d) list. The CWA and its implementing regulations require EPA to publish a notice of availability of the additions to the list. 33 U.S.C. 1313(d), 40 C.F.R. 130.7(d)(2). See also Response 2.b.2. EPA has

[39] March 26, 2021 Decision Document at 18-19.

considered all input received during two public comment periods in connection with making this listing of 32 waters.

6. Comments that EPA should not have listed specific waters

6.1. Sandy Lake (69-0730-00)/Little Sandy Lake (69-0729-00)

6.1 [1377 - USS]: Some of the 30 waters the EPA is proposing to add to the Minnesota 2020 Section 303(d) list include segments with no wild rice or wild rice habitat. An example is the previously discussed Little Sandy Lake (AUID 69-0729-00) and Sandy Lake (AUID 69-0730-00), which the EPA has included on their list of waters to be added to the Minnesota 2020 Section 303(d) list as impaired for sulfate.38 As discussed, a 1987 MDNR game lakes survey observed that wild rice was "absent from both lakes",[Citation omitted.] 2006 and 2012 wild rice surveys observed sparse to no wild rice stands, [Citation omitted.] and studies have indicated a lack of wild rice seed bank in the sediment, which precludes wild rice growth. [Citation omitted.] Because Little Sandy and Sandy Lakes have been documented to contain minimal wild rice stands and minimal potential for wild rice to grow naturally (due to lack of seed bank), it is not appropriate to apply the wild rice beneficial use and associated sulfate water quality standard to these waters . . . . A study was undertaken for Little Sandy Lake and Sandy Lake to evaluate factors that have or are influencing wild rice growth and identify opportunities to restore wild rice. [Citation omitted.] Multiple adverse influences on wild rice growth and development were identified: 1) general lack of a viable wild rice seed bank in the sediment of the lakes; 2) water depth and fluctuations throughout the lake system is not conducive to wild rice growth and development; and 3) competing aquatic vegetation has become established in large areas of the lake system. A fourth likely adverse influence on wild rice growth and development in the lakes system is natural site-specific sediment conditions unrelated to surface water or sediment pore water characteristics.

Response (6.1): EPA acknowledges the information presented by the commenter but disagrees that it was inappropriate to add this water to the Minnesota 2020 Impaired Waters List. Please see Response 3.a for an overview of EPA's Screening Analysis. Both Little Sandy Lake (69-0729-00) and Sandy Lake (69-0730-00) are listed on the MPCA 1300 Waters List. For a discussion of why EPA considered this List a key factor in the Screening Analysis, please see Response 1.d.2. Compilation of data that EPA reviewed for these two WQLS is found in Appendix 2.

Existing sulfate water quality data for Little Sandy Lake (69-0729-00) demonstrated that all 18 of 18 total samples exceeded the 10 mg/L criterion. The average sulfate concentration was 220.22 mg/L, the maximum concentration was 475.0 mg/L, and the minimum concentration was 87.0 mg/L over the Period of Record (*see* Appendix 2 of this document). Therefore, Little Sandy Lake meets the Screening Analysis criteria to designate this segment as impaired.

Existing sulfate water quality data for Sandy Lake (69-0730-00) demonstrated that 24 of 25 samples exceeded the 10 mg/L criterion. The average sulfate concentration was 150.84 mg/L, the maximum concentration was 310.0 mg/L, and the minimum concentration was 3.05 mg/L over the Period of Record (*see* Appendix 2 of this document). Therefore, Sandy Lake meets the Screening Analysis criteria to designate this segment as impaired.

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In certain cases, the summary sulfate water quality statistics (e.g., number of samples, number of samples exceeding the 10 mg/L, average and Standard Deviation, etc.) in Appendix 2 of the April 27, 2021 Decision Document have been corrected. This was the case for the Sandy Lake sulfate water quality statistics. Please see Appendix 2 of this document which include individual sulfate sampling data for the waters added to the Minnesota 2020 Impaired Waters List. The corrections do not alter EPA's original decision to add Sandy Lake (69-0730-00) to the List.

6.2 Sand River 09030002-501)

[1377 - USS]: Regarding Sand River, none of the values matched. Notably, EPA used 46 data points in their assessment; however, the data supplied in Appendix 3 only contained 29 data points for the AUID and period of review. The minimum and maximum values are largely different, verifying that a different set of data was used by EPA than what is available to stakeholders. Likewise, the results for nearly all parameters were unable to be reproduced for Sandy Lake and Pike River (only the maximum values match). There are discrepancies between the number of data points used in EPA's assessment versus those available in the appendices: for Sandy Lake, 29 versus 18, respectively; for Pike River, 18 versus 16, respectively.

Response (6.2): EPA acknowledges the information presented by the commenter but disagrees that it was inappropriate to add this water to the Minnesota 2020 Impaired Waters List. Please see Response 3.a for an overview of EPA's Screening Analysis. The Sand River segment (09030002-501) is listed on the MPCA 1300 Waters List. For a discussion of why EPA considered this List a key factor in the Screening Analysis, please see Response 1.d.2. Compilation of data that EPA reviewed for this WQLS is found in Appendix 2 of this document.

Existing sulfate water quality data for this Sand River segment demonstrated that 33 of 34 samples exceeded the 10 mg/L criterion, the average sulfate concentration was 103.60 mg/L, the maximum concentration was 286.0 mg/L, and the minimum concentration was 7.69 mg/L over the Period of Record (see Appendix 2 of this document). Therefore, this Sand River segment meets the Screening Analysis criteria to designate this segment as impaired.

In certain cases, the summary sulfate water quality statistics (e.g., number of samples, number of samples exceeding the 10 mg/L, average, Standard Deviation and minimum, etc.) in Appendix 2 of the April 27, 2021 Decision Document have been corrected. This was the case for this Sand River segment's sulfate water quality statistics. Please see Appendix 2 of this document which include individual sulfate sampling data for the waters added to the Minnesota Impaired Waters List. The corrections do not alter EPA's original decision to add Sand River (09030002-501) segment to the List.

6.3 Swan Lake (37-0067-03)

[1377 - USS]: Several challenges barred a successful replication attempt of the Swan Lake results. It appears that the AUID listed in EPA's Appendix 2 no longer exists. EPA listed Swan Lake (SW Bay), AUID 37-0067-03. However, MPCA's surface water data tool (Environmental Quality Information System (EQulS) via Environmental Data Access (EDA)) lists Swan Lake (West Bay), AUID 37-0067-01 and Swan Lake (Main Basin), AUID 37-0067-02. Likewise, data

for Swan Lake (SW Bay), AUID 37-0067-03 does not exist in Appendix 3. Since AUID's 31-0067-01 and 31-0067-02 do exist in the appendices, their data was first used to try and reproduce the results. This did not work, however, as there were 13 data points for AUID 31-0067-01 and 14 data points for AUID 31-0067-02. EPA only used six data points in their assessment. Data was then downloaded from MPCA's surface water quality tool for both alternative AUID's. The data for Swan Lake (Main Basin) contained 19 data points and thus was not used in the replication effort. The data for Swan Lake (West Bay) only contained six data points, which matched the number of observations that EPA evaluated and thus was used in the replication effort. Assessment of the surface water quality data for AUD 31-0067-01 produced matching results for four of the seven parameters. The mean, standard deviation and maximum values did not match, meaning this was not an accurate set of data and cannot be used for replication.

Response (6.3): EPA acknowledges the information presented by the commenter but disagrees that it was inappropriate to add this water to the Minnesota Impaired Waters List. Please see Response 3.a for an overview of EPA's Screening Analysis. Swan Lake (SW Bay) (31-0067-03) is listed on the MPCA 1300 Waters List. For a discussion of why EPA considered this List a key factor in the Screening Analysis, please see Response 1.d.2. Compilation of data that EPA reviewed for this WQLS is found in Appendix 2.

The location of Swan Lake (SW Bay) (31-0067-03) can be verified by the MNDNR Lake Finder webpage (https://www.dnr.state.mn.us/lakefind/lake.html?id=31006703) and also via the MPCA Surface Water GIS Online Tool (https://mpca.maps.arcgis.com/apps/webappviewer/index.html?id=c3ad23220f60416fadcc117f82ba05e3). Water quality data for Swan Lake (SW Bay) can be downloaded at (https://webapp.pca.state.mn.us/surface-water/search).

Existing sulfate water quality data for the Swan Lake (SW Bay) (31-0067-03) segment demonstrated that 3 of 6 samples exceeded the 10 mg/L criterion. The average sulfate concentration was 19.50 mg/L, the maximum concentration was 42.50 mg/L, and the minimum concentration was 6.90 mg/L over the Period of Record (see Appendix 2 of this document). Therefore, Swan Lake (SW Bay) (31-0067-03) meets the Screening Analysis criteria to designate this segment as impaired.

In certain cases, the summary sulfate water quality statistics (e.g., number of samples exceeding the 10 mg/L etc.) in Appendix 2 of the April 27, 2021 Decision Document have been corrected. This was the case for the Swan Lake (SW Bay) sulfate water quality statistics. Please see Appendix 2 of this document which include individual sulfate sampling data for the waters added to the Minnesota Impaired Waters List. The corrections do not alter EPA's original decision to add Swan Lake (SW Bay) (31-0067-03) to the List.

6.4 Mississippi River Segments (07030003-627 & 07060001-509)

[1331 – City of Red Wing]: Water quality data collected by the USGS for the Mississippi River and several of its major tributaries indicates that sulfate conditions in the river are a result of natural conditions. The Minnesota Department of Natural Resources reports that high concentrations of sulfate in ground water in the west part of the State are probably caused by leaching of sulfate-rich minerals, such as gypsum and iron sulfide

from the drift section. In addition, sodium sulfate waters occur in the Cretaceous sediments southwest of the Minnesota River. Such information indicates that wild rice growing in such areas would be resistant to elevated sulfate –or it would not exist in these areas. The Mississippi River waters that support Wild Rice production are located near the Winona, MN gaging station. These waters have elevated levels of sulfate that are derived from tributaries originating in Minnesota, particularly the Minnesota River. . . . The Clean Water Act does not consider water quality due to natural conditions to be regulated under the Act. (40 CFR Part 131). Under the Act and its implementing regulations (as well as Minnesota's adopted standards), natural conditions define acceptable, not unacceptable water quality. Where natural conditions preclude attainment of a numeric water quality objective, that natural water quality becomes the default standard.

Response (6.4): For EPA's discussion on natural background conditions, please see Response 2.a.1. EPA acknowledges the information presented by the commenter but disagrees that it was inappropriate to add these two Mississippi River segments (07040003-627 and 07060001-509) to the Minnesota Impaired Waters List. Please see Response 3.a for an overview of EPA's Screening Analysis. Both segments are listed on the MPCA 1300 Waters List. For a discussion of why EPA considered this List a key factor in the Screening Analysis, please see Response 1.d.2. Compilation of data that EPA reviewed for these two WQLS is found in Appendix 2.

Existing sulfate water quality data for Mississippi River segment (07040003-627) demonstrated that that 44 of 45 samples exceeded the 10 mg/L criterion. The average sulfate concentration was 37.26 mg/L, the maximum concentration was 65.60 mg/L, and the minimum concentration was 9.17 mg/L over the Period of Record (see Appendix 2 of this document). Therefore, this Mississippi River segment meets the Screening Analysis criteria to designate this segment as impaired.

Existing sulfate water quality data for Mississippi River segment (07060001-509) demonstrated that that 4 of 5 samples exceeded the 10 mg/L criterion. The average sulfate concentration was 16.65 mg/L, the maximum concentration was 30.85 mg/L, and the minimum concentration was 9.25 mg/L over the Period of Record (see Appendix 2 of this document). Therefore, this Mississippi River segment meets the Screening Analysis criteria to designate this segment as impaired.

In certain cases, the summary sulfate water quality statistics (e.g., number of samples, number of samples exceeding the 10 mg/L, average, Standard Deviation and minimum, etc.) in Appendix 2 of the April 27, 2021 Decision Document have been corrected. This was the case for the Mississippi River (07040003-627) segment's sulfate water quality statistics. Please see Appendix 2 of this document which include individual sulfate sampling data for the waters added to the Minnesota Impaired Waters List. The corrections do not alter EPA's original decision to add Mississippi River (07040003-627) segment to the List.

EPA's impairment determinations were made based on the consideration of existing and readily available sulfate water quality data and the criteria of EPA's Screening Analysis (Response 3.a, 3.b, 3.c), regardless whether the data reflected background concentrations. EPA's action is consistent with and informed by guidance on listing waters where exceedances of the applicable criteria may be the result of background or natural conditions.[40] If the commenter believes that background or natural conditions warrant the development of site-specific standards that account for those conditions, EPA encourages the commenter to engage with MPCA regarding the development of such standards.

EPA notes that the CWA provides states and authorized tribes with a wide array of options and tools to revise their water quality standards and adopt new or revised water quality criteria that account for local differences in water quality conditions necessary to protect designated uses of surface waters. Minnesota can and should make use of these tools to revise and refine its water quality standards where doing so is scientifically defensible and protective of the use.

6.5 Embarrass River Segment (04010201-B00)

> *[1313 – Minnesota Chamber of Commerce]: For example: The EPA has included the lower portion of the Embarrass River from Esquagama Lake to St. Louis River (WID/AUID 04010201-B00, formerly part of WID/AUID 04010201-577) on their list of waters to be added to the Minnesota 2020 Section 303(d) list as impaired for sulfate. This Embarrass River segment (WID/AUID 04010201-B00) was not included on the MPCA's 2017 proposed list of wild rice waters and was not included on the 1854 Treaty Authority List of Wild Rice Waters, in the Minnesota Department of Natural Resources' (MDNR's) Wild Rice Harvester Survey Report, or in the MDNR's Natural Wild Rice in Minnesota – A Wild Rice Study. Furthermore, a wild rice survey completed in 2017 by Barr Engineering Co. found that wild rice is not present on this segment of the Embarrass River and is unlikely to be present in the future due to a lack of habitat conducive to wild rice growth. This lower portion of the Embarrass River (WID/AUID 04010201-B00) is a clear example of a water included on the EPA's list of waters to be added to the Minnesota 2020 Section 303(d) list that should not be designated with a wild rice beneficial use and thus should not be listed as impaired for sulfate. This example calls into question the entire list of water segments that the EPA is asserting the wild rice beneficial use applies to.*

Response (6.5.a): EPA acknowledges that the Embarrass River (04010201-B00) segment was not included in MPCA's 1300 Waters List and therefore does not meet EPA's Screening Analysis. As discussed in Response 1.d.2, EPA considered this list to represent those waters specifically designated by MPCA as subject to the wild rice beneficial use. Therefore, EPA removed the Embarrass River (04010201-B00) segment from our additions to the Minnesota 2020 Impaired Waters List.

EPA acknowledges that the universe of waters potentially subject to the beneficial use may be greater than MPCA's 1300 Waters List, and EPA is taking no action to approve or disapprove any potential wild rice waters or sulfate impaired waters not included in EPA's

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[40] EPA guidance, *Information Concerning 2014 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions (September 3, 2013)*, p. 4-6, https://www.epa.gov/sites/default/files/2015-10/documents/final_2014_memo_document.pdf, last visited 11/4/2021.

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final list. Rather EPA will continue to share information with the State and coordinate with the State and interested tribes regarding further development of information supportive of the State's continuing efforts to further develop its assessment and listing of such waters.

[1389 – PolyMet]: Included in the EPA's Decision Document, Appendix 1 is the MPCA's list of approximately 1,300 proposed wild rice waters (updated April 2021) from the 2017 proposed rule. The MPCA's list included two segments of the Embarrass River (04010201-579 and 04010201-A99), but did not include 04010201–B00. EPA has arbitrarily extrapolated the MPCA's proposed inclusion of the two Embarrass River segments to also include 04010201–B00 in Appendix 2, as listed in Footnote 2. There is no data or justification in the EPA's Decision Document for inclusion of this segment of the Embarrass River on the 303(d) List.'

PolyMet's own wild rice analyses provide specific examples of the EPA's misinterpretation of the sulfate numeric and narrative standards if, as is not the case for the reasons already discussed, those standards were applicable to waters not designated as wild rice waters. PolyMet completed wild rice surveys in the water bodies upstream and downstream from our project site for 10 consecutive years between 2009 and 2018. Annual surveys have documented the locations of wild rice stands and categorized the relative wild rice density along the riverbanks and lake shores. We also collected water quality data at the wild rice stands during these surveys. We have a report that consolidates the data collected between 2013 through 2018 by water body, with total stand size and the bounds of fluctuation (standard deviation, minimums and maximums of stand size). This included ten water bodies that the EPA proposes to add to the 303(d) List, as discussed in the EPA's Decision Document, Appendix 2: "Waters EPA is adding to the Minnesota 2020 303(d) List (April 28, 2021)."

The data we have shows that at least four of these ten water bodies cannot arguably be classified as "waters used in the production of wild rice," as shown on the following table. A number of other water bodies identified by the EPA are also questionable based on this data, depending on what definition of the term "waters used in the production of wild rice" is used.

Name	*AUID16*	*AUID16*
Embarrass River	*04010201-A99*	*There was a very small stand noted over the 10 years, with an average size of 0.055 acres; this is of questionable value for harvest or wildlife.*
Embarrass River	*04010201-B00*	*This AUID was not included in MPCA's 1,300 proposed wild rice waters and appears to be arbitrarily added by the EPA to their list.18 There was no wild rice mapped in this stretch in the 10 years of wild rice surveys.*
Wynne Lake	*69-0434-02*	*There was no wild rice mapped in this stretch in the 10 years of wild rice surveys.*
Embarrass Lake	*69-0496-00*	*There was no wild rice mapped in this stretch in the 10 years of wild rice surveys.*

In EPA's Decision Document, Appendix 1 is the MPCA's list of approximately 1,300 proposed wild rice waters (updated April 2021), which includes two segments of the Embarrass River (04010201-579 and 04010201-A99) but does not include 04010201-B00. EPA arbitrarily extrapolated the MPCA's inclusion of the Embarrass River to also include 04010201-B00 in Appendix 2, as listed in Footnote 2. There is no data or justification included on why this segment was included.

These 10 years of surveys show that wild rice is relatively abundant in the Upper St. Louis River (upstream of the Partridge River confluence), the Lower Partridge River (downstream of Colby Lake), and a few of the lakes included in the Embarrass River Chain of Lakes. Conversely, wild rice is either not present or present in fewer locations at much lower densities in the Upper Embarrass River (upstream of Wynne Lake) and Second Creek. The changes in the presence or absence of wild rice correlate well with the changes in river morphology and the landforms through this area, which are tied to the landscape type associations (LTA) in the area.

This figure [omitted, p. 10 of 12 in PM comments] shows how the Partridge River is split between LTA, too. In the 10 years of surveys conducted by PolyMet, wild rice has only been found in the lower Partridge River, immediately upstream of but mostly downstream of Colby Lake, with no wild rice found upstream of river mile 14 (which occurs midway between Wyman Creek and Longnose Creek). However, the EPA proposed listing of the Partridge River in the 303(d) List would designate the entirety of the Partridge River (all approximately 38 river miles) as impaired for the wild rice standard, including the 24-plus river miles that do not have any documented wild rice.

Thus, in addition to it being inappropriate to designate these waters as wild rice waters without going through the appropriate federal and state rulemaking processes, these PolyMet studies show that if certain waters were to be listed as impaired pursuant to those processes, the impairment should not include the entirety of the water body. Since the MPCA's 2017 rulemaking process, the segments or reaches of streams appear to have been further administratively segmented by the MPCA, as shown in the EPA's Decision Document, Appendix 1, which is listed as having been updated April 2021. In review of this updated list of water bodies upstream and downstream of the PolyMet project site, it appears the AUIDs, each of which identifies a specific reach of a stream, have been further and more discretely segmented from what was evaluated in the MPCA 2017 Wild Rice SONAR. This additional segmenting appears to reflect MPCA efforts to align stream segments more closely with the criteria in Minn. R. 7050.0224, including those criteria relating to the production of wild rice.

A final example of the overly broad application of this impairment findings is in the sulfate data referenced in the EPA's documentation. The EPA's Decision Document, Appendix 2 includes a summary of water quality data that were evaluated to determine if the 10 mg/L wild rice standard is being exceeded; however, the EPA does not include the data used in this analysis or the location of where this data was collected. For the Partridge River, for example, it lists 53 observations of water quality data used in the analysis, with 96% of the data being above 10 mg/L, with a mean of 92.8 mg/L, a minimum of 6 mg/L, and a maximum of 883 mg/L. Figure 4.2.2-3 in PolyMet's Final Environmental Impact Statement ("FEIS") shows the variability of sulfate from 2009-2013 in water bodies upstream and downstream of the PolyMet's site, with a summary of the data on FEIS Table 4.2.2-3. FEIS Figure 4.2.2-3 and Table 4.2.2-3 are included as Attachment 2 to this comment letter. The sulfate data shown on Figure 4.2.2-3, as listed in Table 4.2.2-3, for the Lower Partridge River (below Colby Lake) ranges from 17-411 mg/L and the Upper Partridge River (above Colby Lake) ranges from 5-21 mg/L sulfate. Based on FEIS Figure 4.2.2-3, there are no sulfate readings above 10 mg/L upstream of approximate river mile 14, which occurs midway between Wyman Creek and Longnose Creek. Therefore, even if the numeric sulfate limit were applicable, it would be inappropriate to designate the Partridge River as impaired above this point in the river.

In summary, if the current 303(d) listing process by the EPA were to proceed notwithstanding its inconsistency with federal and state law, it should at least be refined to correspond to the requirements in the Minnesota rules that the wild rice/sulfate water quality standards be applied only to "waters used in the production of wild rice," rather than to include the full water body or segments of the water body beyond where wild rice is readily mapped. Based on the surveys completed by PolyMet, most of the streams in the proposed 303(d) List within the PolyMet area do not have wild rice along the entirety of the identified segment, as discussed above. Furthermore, the EPA's proposed inclusion of streams near the PolyMet project is not consistent with the river segment already listed by the MPCA as a wild rice water in Minn. R. 7050.0470, where wild rice is present throughout the segment. Similarly, under Minn. R. 7050.0224, subpart 2, the numeric sulfate standard is only applicable where and when wild rice is in production and should only be applied in those areas, rather than being applied to the entire water body or reach of the streams as proposed in the EPA's 303(d) List. If any segment of stream is going to be considered impaired for the wild rice standard, it should be the segment where the wild rice stand is located.

Response (6.5.b): EPA acknowledges these comments but confirms the listing decision. Please see Response 3.a for an overview of EPA's Screening Analysis. For an explanation of why EPA relied on MPCA's 1300 Waters List as a key factor in our Screening Analysis, please see Response 1.d.2. EPA notes that the Embarrass River (04010201-A99), Wynne Lake (69-0434-02) and Embarrass Lake (69-0496-00) segments are all included on this List.

Existing sulfate water quality data for the Embarrass River (04010201-A99) segment demonstrated that 3 of 3 samples exceeded the 10 mg/L criterion. The average sulfate concentration was 22.13 mg/L, the maximum concentration was 26.70 mg/L, and the minimum concentration was 16.30 mg/L over the Period of Record (*see* Appendix 2 of this document). Therefore, the Embarrass River (04010201-A99) segment meets the Screening Analysis criteria to designate this segment as impaired.

Existing sulfate water quality data for Wynne Lake (69-0434-02) demonstrated that 6 of 7 samples exceeded the 10 mg/L criteria. The average sulfate concentration was 19.45 mg/L, the maximum concentration was 69.35 mg/L, and the minimum concentration was 2.20 mg/L over the Period of Record (see Appendix 2 of this document). Therefore, Wynne Lake (69-0434-02) meets the Screening Analysis criteria to designate this segment as impaired.

Existing sulfate water quality data for Embarrass Lake (69-0496-00) demonstrated that 11 of 11 samples exceeded the 10 mg/L criterion. The average sulfate concentration was 20.97 mg/L, the maximum concentration was 37.30 mg/L, and the minimum concentration was 11.90 mg/L over the Period of Record (see Appendix 2 of this document). Therefore, Embarrass Lake (69-0496-00) meets the Screening Analysis criteria to designate this segment as impaired.

In certain cases, the summary sulfate water quality statistics (e.g., number of samples, number of samples exceeding the 10 mg/L, average, Standard Deviation, etc.) in Appendix 2 of the April 27, 2021 Decision Document have been corrected. This was the case for the Wynne Lake and Embarrass Lake sulfate water quality statistics. Please see Appendix 2 of this document which include individual sulfate sampling data for the waters added to the

Minnesota 2020 Impaired Waters List. The corrections do not alter EPA's original decision to add Wynne Lake (69-0434-00) and Embarrass Lake (69-0496-00) to the List.

6.6 Perch Lake (69-0688-00)

[1457 – CCI]: EPA lacks authority under the CWA to List Perch Lake as impaired for the sulfate standard because Perch Lake has not been designated as a "water of the United States" (WOTUS). This is because it is unclear whether Perch lake is a WOTUS, and unless and until Perch Lake has been determined to be a WOTUS be, e.g., a jurisdictional determination by the US Army Corps of Engineers, EPA should refrain from including the lake on Minnesota's Section 303(d) list.

Whether Perch Lake falls within the scope of "navigable waters"[Citation omitted.] as defined by EPA pre-2015 and interpreted by the United States Supreme Court is unclear and yet to be determined. Perch Lake is not a traditional navigable water; to the contrary it is a wholly intrastate water that is not currently used, was not used in the past, and is not susceptible to use in the future in interstate or foreign commerce. See Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159, 166 (2001) (declining to find CWA jurisdiction over ponds in an abandoned sand-and-gravel mine, which the court described as "non-navigable, isolated, intrastate waters"). In addition, Perch Lake has not been documented through the jurisdictional determination process to possess a "significant nexus" to waters that are or were "navigable." See Rapanos v. United States, 547 U.S. 715, 719 (2006) (Justice Kennedy's concurring opinion). Perch Lake is miles away from any traditional navigable water body.

Response (6.6): EPA acknowledges the comment and notes that under CWA Sections 303(d) and 305(b) it falls to the states and authorized tribes to identify in the first instance which waters are subject to the CWA. EPA notes that Minnesota has included Perch Lake (69-0688-00) on its 1300 Waters List and EPA believes the State considers this WQLS subject to regulation under the Clean Water Act.[41] Absent evidence to the contrary, which could include a negative jurisdictional determination from the US Army Corps of Engineers, EPA has no basis to conclude that Perch Lake should not be included on the Minnesota 2020 Impaired Waters List for the reasons suggested by the commenter.[42]

6.7 St. Louis River Estuary (AUID 69-1291-04)

[1458 – USS]: ". . . EPA listed a AUID of 69-1291-04 for the St. Louis River Estuary in Appendix 2a . . . However, that AUID is not listed in the data provided in Appendix 3 and Appendix 4 of the EPA Sulfate Impaired Waters Decision Document. Attempts to identify the sampling locations associate[d] with the 26 observations noted on Appendix 2a resulted in additional questions regarding the validity of the data. According to the MPCA's lakes and streams water quality dashboard [Citation omitted.], there are four former identification numbers associated with this stream segment, only three of which are included in EPA's Appendix 3 and Appendix 4 data: AUIDs 04010201-513, 04010201-532, and 04010201-533. In turn, these former AUIDs are associated with five sampling locations. One of these sampling locations, S007-507, is marked on

[41] See e.g., MPCA, SONAR, *Amendment to the sulfate water quality standard applicable to wild rice and identification of wild rice waters*, July 2017, at 196-98.

[42] U.S. Army Corps of Engineers and EPA, Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States, December 2, 2008, https://usace.contentdm.oclc.org/utils/getfile/collection/p16021coll5/id/1411, last visited 11/4/2021.

MPCA's lakes and streams water quality dashboard as being near Fairfax, MN, approximately 190 miles southwest of the St. Louis River Estuary. Another sampling location, S007-512, appears to be located outside of the AUID segment . . . while a third, S007-516 appears to be located within the border of the state of Wisconsin. As demonstrated, EPA has not adequately identified the exact sampling locations of the data used in their determination."

[1458 – USS]: The St. Louis River Estuary, which is downstream of U.S. Steel operations, was used as an example to show that EPA has limited stakeholders' ability to replicate the methodology in determining sulfate concentrations. see ***Error! Reference source not found*** *[emphasis in original]. Below for the results of the replication attempted compared to EPA's results. Note that the results were not successfully reproduced. Only 21 qualified sample results were identified in the replication attempt. The minimum and maximum values matched however, none of the other statistics were replicated. . . .*

Table 1: Comparison of EPA's Results to Replication Results [citations omitted]

St. Louis River Estuary	*EPA Results*	*Attempted Replication Results*
Total Observations per AUID	*26*	*21*
Number of Observations greater than 10 mg/L	*20*	*18*
Percent Observations above 10 mg/L	*77%*	*86%*
Mean	*15.14*	*16.33*
Standard Deviation	*5.32*	*4.99*
Minimum	*5.78*	*5.78*
Maximum	*23.80*	*23.80*

Response (6.7): Please see Response 3.a for an overview of EPA's Screening Analysis. For an explanation of why EPA relied on the State's 1300 Waters List as a key factor in our Screening Analysis, please see Response 1.d.2. Please see Appendix 2a of this document for a summary of the sulfate data considered for the St. Louis River Estuary segment (69-1291-04).

7. Comments about Economic Impact of addition of waters added to the Minnesota 2020 Impaired Waters List.

[9 - Form Letter #1]: "This decision has broad economic implications for Minnesota communities, governments, and the hardworking men and women across the state. . . . The approach being taken may not do anything to support our wild rice, yet it could have significant negative impacts on our economy and jobs. Please reconsider."

[148 – Cameron Trembath question 1]: What would the economic impact of listing these water be on Minnesota's economy?

[148 – Cameron Trembath question 2]: What would the impact be to local communities and their municipal services such as water treatment plants now and in the future if the proposed list of 30 waters are designated as impaired?

[1363 – International Union of Operating Engineers]: This decision has broad economic implications for Minnesota communities, governments, and the hardworking men and women across

the state. . . . The approach being taken by the EPA may not do anything to support our wild rice, yet it could have significant negative impacts on our economy and jobs. We ask that you please reconsider.

Response (7.a): EPA acknowledges the commenters' concerns but disagrees that these concerns provide a basis under the CWA for EPA to forbear listing impaired waters. CWA Section 303(d) listing decisions are based on an impairment to the applicable water quality standards, which are water quality data driven decisions and are independent of socioeconomic impacts. EPA notes that the CWA provides states and authorized tribes with a wide array of options and tools to revise their water quality standards and adopt new or revised water quality criteria that account for local differences in water quality conditions necessary to protect designated uses of surface waters. Minnesota can and should make use of these tools to revise and refine its water quality standards where doing so is scientifically defensible and protective of the use. In accordance with CWA Section 303(c) and EPA's water quality standards implementing regulations at 40 C.F.R. Part 131, under certain circumstances States and authorized tribes may consider social and economic impacts when considering if a designated use in attainable. EPA does not take economic impacts into account when establishing water quality criteria or conducting water quality assessments.

[805 – RAMS]: What RAMS cannot support is the economic hardships that will be forced upon our small rural communities if they are mandated to try and treat their wastewater discharges down to the existing standard of 10 mg/L. Reverse osmosis is the only known method of treatment that will assure compliance with the current sulfate standard. The construction and operation of RO plants is millions of dollars and they are energy inefficient which means they are costly and bad for the environment. RO also results in the production of a brine that at this time is an underdetermined quality. Does it contain high levels of concentrated chemicals that make it a biohazard? Again, this is undetermined, but we all know if that is the case, the cost of disposal increases dramatically and only perpetuates the potential pollution dangers that proponents of enforcement of this standard advocate for. It just doesn't add up.

[805 – RAMS]: What will happen to our region's economy if these companies are forced to invest hundreds of millions of dollars to meet a standard that is not supported by science and does not actually benefit wild rice growth? As a community organization, we are greatly concerned that these companies will close their plants and instead import iron ore from countries that do not have the rigorous environmental standards we have in Minnesota. . . . For communities with limited property tax values, little to no industry tax base, the affordability of new and expanded wastewater treatment facilities would be crippling. User rates would often triple making it unaffordable for our senior dominated population, all for the sake of wild rice."

[1239 – MPCA]: If the EPA's proposed additions to the 2020 Impaired Waters List are finalized it will be critical to ensure implementation is done in a way that ensures communities throughout the state will continue to thrive while protecting resources, such as wild rice, vital to the state['']s economy, culture, and unique environment."

[1239 – MPCA]: Beyond the big picture geography of sulfate, the MPCA's more recent research shows that sulfate's impacts on wild rice are based on the conversion to sulfide and dependent on the organic carbon and iron in the sediment where the rice roots. The MPCA anticipates that

there will be interest, particularly in the ecoregions where sulfate concentrations are naturally 10 mg/L and below, in developing site-specific standards based on this relationship. Where data is available to adequately characterize conditions, it is appropriate to make the best use of the extensive science developed during the 2011 –2018 study and rulemaking process.

[1239 – MPCA]: Initial analysis shows that 863 of Minnesota's 1102 NPDES wastewater permits (78%) are upstream of at least one of the 30 waters EPA has proposed to list, primarily due to the inclusion of the Mississippi River reaches. Only 175 of these permittees currently monitor for sulfate, so the addition of monitoring requirements will be a first step. However, to evaluate even 175 permittees is intensive. The MPCA will need to explore multiple options for phased permitting approaches and use of innovative permitting tools. Sulfate is a conservative pollutant, and may persist long-distances downstream. Due to internal capacity, MPCA will need to make reasonable choices about how far upstream to evaluate dischargers for reasonable potential and the need for effluent limits. (This may be a phased approach, with the distance increasing over time.)

[1239 – MPCA]: Where effluent limits are needed, there will be a large demand for variances. MPCA has provided multiple analyses of the costs of sulfate treatment over the past few years, and those costs and considerations have not changed. Sulfate treatment is generally unaffordable for municipal wastewater plants, particularly those in small municipalities. Variances will be needed, and will improve the environment by requiring sulfate reductions through minimization plans. MPCA anticipates building on the tools developed for municipal chloride variances, which has included extensive collaboration with Region 5. This will likely require developing new variance frameworks, including waterbody variances or multi-discharger variances that include mechanisms for wild rice restoration. Wild rice ecology is threatened by numerous complex causes ranging from climate change to landscape alteration and addressing these concerns could benefit the overall health of wild rice. Additionally, we do expect applications for industrial variances, and will need to work with EPA to ensure appropriate consideration of economic impacts, given that guidance on this topic is limited (as compared to municipal dischargers).

[1331 - City of Redwing]: The Mississippi River segments with the AUID of 07040003-627 and AUID 07060001-509 should not be listed for a sulfate impairment for wild rice waters due to the inappropriate application of the 10 mg/L sulfate standard. Listing these water body segments may render the City of Red Wing incapable of providing safe, effective, and economically feasible treatment to comply with environmental regulations in the future and the expense of numerous resources that will not result in any water quality improvement.

[1345 – Coalition of Greater Minnesota Cities]: ". . . we are concerned that EPA's proposed action could force cities to make expensive infrastructure upgrades that are not necessary to protect wild rice or wild rice waters. Therefore, we urge you to withdraw your proposed additions and work with the state of Minnesota, the impacted Tribal Nations, and other stakeholders to develop a better mechanism for protecting wild rice."

[1345 - Coalition of Greater Minnesota Cities]: Adding a water body to the impairment list when it is unnecessary to protect water quality is not without consequences. Placement on that list may result in load allocations in our wastewater facilities' NPDES permits, which in turn could require expensive upgrades. . . . The burden of replacing aging water infrastructure and upgrading to meet an ever-growing list of regulatory changes is high, and our communities'

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resources must be invested wisely. Requiring a facility to comply with stringent sulfate requirements could hamper the facility's ability to address other pollutants.

[1377 - USS]: The economic costs for compliance with the 10 mg/L wild rice sulfate standard are substantial and not economically feasible. . . . A financial analysis using guidance provided by EPA, demonstrates that achieving full compliance with the groundwater quality standards would lead to substantial economic hardship to U.S. Steel. In addition, the MPCA, in a study of wastewater treatment options for sulfate, has concluded that existing treatment technologies are too expensive. The proposed action to list waters would have devasting economic impacts to communities without a corresponding environmental benefit due to other factors impacting potential wild rice waters. [Citations omitted.]

[1405 – MESERB]: Our members take their role as stewards of Minnesota's waters seriously, but our resources are limited. Adding these waters, and potentially others, to the impaired waters list for sulfate impairment could result in permit limits requiring municipalities, taxpayers, and the state to spend tens or hundreds of millions on unnecessary treatment — scarce resources that could be deployed for other important purposes, such as addressing other challenging water quality problems in our communities.

[1405 – MESERB]: Creating a sulfate TMDL and imposing permit limits based on the wasteload allocations could divert resources from other problems that are causing greater harm to human or aquatic health. The technology to remove sulfate at the wastewater level is prohibitively expensive.

[1405 – MESERB]: As discussed below, the potential costs and consequences that result from adding waterbodies to the Impaired Waters List are significant and our cities are concerned that we may be forced to spend millions of dollars to solve for listed wild rice-sulfate impairments that in fact do not exist. EPA's action will lead to significant litigation, expense, and a waste of limited resources, all of which could be better spent on protecting the environment and developing and implementing a more targeted approach to protecting wild rice. Our cities and our state do not have unlimited resources to address the myriad of water quality issues that we face currently, therefore, we should be focusing efforts to protect clean water resources where the science clearly indicates those efforts are necessary to protect water quality and designated uses.

[1405 – MESERB]: In the comments MESERB submitted during the 2017 rulemaking process, we explained in detail how enforcing a strict 10 mg/l standard could impact cities and their ability to address water quality problems. Communities that receive permit limits for sulfate will likely require additional treatment processes (e.g., reverse osmosis, membrane separation, evaporation/crystallization of brine). The capital and operation and maintenance costs associated with reverse osmosis and evaporation and crystallization treatment processes are extreme and can range between $10 million and $100s of millions, depending upon the size and unique characteristics of a given wastewater treatment facility. In addition, the secondary costs and negative environmental externalities associated with energy use and the salty brine that results from the treatment process are also significant. The MPCA went so far as to recognize "municipal sulfate treatment is likely to be unaffordable for greater than 97% of municipalities based solely on projected costs."

[1405 – MESERB]: This challenge is compounded by the other overwhelming infrastructure needs in greater Minnesota. Our communities must address the challenges of aging infrastructure, requirements to remove pollutants and nutrients such as phosphorus, chloride,

mercury, and nitrogen, emerging chemicals, and pollutants such as PFAS and microplastics, and the destruction created by increasing numbers of extreme weather events. The most recent 20-year estimates by the EPA and MPCA for drinking water and wastewater needs are $7.522 billion and $4.1223 billion, respectively. These estimates likely underestimate the total need because they do not include stormwater needs and they rely on self-reporting and therefore may not capture the true cost to meet new and evolving regulation.

[1405 – MESERB]: Adding these 30 waters, and potentially more, to the impaired waters may unnecessarily divert resources away from other more pressing water quality priorities.

[1411 – Iron Mining Association]: EPA is taking the ill-informed step of enforcing an obsolete water quality standard that will cost local communities, the mining industry, and other Minnesota companies and stakeholders hundreds of millions of dollars, using technologies that may have their own environmental impacts.

Response (7.b): EPA acknowledges these comments but disagrees that the CWA Section 303(d) listing process is the appropriate regulatory context to address these concerns. See EPA's Response 7.a for details on socioeconomic considerations in the context of CWA Section 303(d).

[148 – Cameron Trembath]: This decision has broad economic implications for Minnesota communities, governments, and the hardworking men and women across the state. This is an issue that needs to be decided with the input of all Minnesotans in a transparent and open process. We cherish our native wild rice and want to see it continue to thrive and prosper. The approach being taken by the EPA may not do anything to support our wild rice, yet it could have significant negative impacts on our economy and jobs. EPA's actions will create an undue burden on local industry as well.

There are several issues I have that I would like to understand regarding implementation of this rule:

1. What would the economic impact of listing these water be on Minnesota's economy?
2. What would the impact be to local communities and their municipal services such as water treatment plants now and in the future if the proposed list of 30 waters are designated as impaired?

[782 – Iron Range Mayors]: As mayors of communities located across the Iron Range of Northeastern Minnesota, we are compelled to comment on the decision of the Environmental Pollution Agency (EPA) to circumvent the Minnesota Pollution Control Agency's regulatory process by adding 30 sulfate impaired waters to the Minnesota Clean Water Act Section 303(d). This Decision if allowed to stand, resulting in the enforcement of the only wild rice/sulfate standard in the country at the controversial 10 mg/L level will have a devastating impact on our communities and the region.

We respectfully request careful and sincere reconsideration of the decision to add sulfate impaired waters to the MPCA list and recognize the financial devastation the enforcement of this standard will have on our region.

[782 – Iron Range Mayors]: The enforcement of the wild rice/sulfate standard that even our MPCA has stated needs further study and clarification will require millions of dollars of

investment for wastewater treatment enhancements that our region and our residents simply cannot afford.

[782 – Iron Range Mayors]: Unfortunately, the enforcement of the ridiculous, one size fits all standard of 10 mg/L, the wild rice/sulfate requires construction of Reverse Osmosis (RO) treatment plants that are simply unaffordable for our small rural communities. RO is extremely expensive to operate, creates a brine that may be considered a biohazard and potentially results in even more long-term pollution that a discharge with a higher sulfate level would cause. Many of our communities are also facing expensive upgrades to their wastewater plants due to mercury mitigation requirements recently enacted by the MPCA.

[782 – Iron Range Mayors]: As mayors we believe there is a common-sense solution to this issue. A task force that includes tribal representation, scientist, local officials, industry, and regulatory personnel should convene and work out a solution that provides for an investment in wild rice growth and preservation while also factoring in the incredible expense associated with enforcement of an outdated, unfounded wild rice/sulfate standard.

Response (7.c): EPA acknowledges these comments. The CWA and its implementing regulations specify those actions regarding assessing and listing impaired waters that must involve public notice and comment, and EPA encourages all interested parties who may be affected by future actions taken to restore impaired wild rice waters to participate in such processes.

EPA's listing action begins a process under which Minnesota will decide the appropriate methods for restoring the impaired waters via developing, through a public notice and comment process, appropriate Total Maximum Daily Loads (TMDLs) for such WQLS.

Once a waterbody has been added to a state's or authorized tribe's list of impaired waters, it is up to the state or authorized tribe to develop a TMDL and submit it to EPA for approval. State processes for developing TMDLs generally include processes for both stakeholder input in planning and public notice and comment. Implementing a TMDL for an impaired water body involves applying the pollution control practices necessary to reduce the pollutant loads to the extent determined necessary identified in the TMDL. These practices usually consist of point source control permits and/or non-point source control BMPs. While EPA oversees states' TMDL development, EPA is not required to and does not approve TMDL implementation plans.

EPA's listing action is consistent with the requirements of the CWA and 40 C.F.R. § 130.7, which do not authorize EPA to consider economic impacts of impaired waters listings or the state's eventual development and implementation of a TMDL. When Minnesota begins its process of TMDL development, stakeholders will have opportunities to present information about potential impacts, which may be addressed through the TMDL development process.

See also EPA's Response 7.a for details on socioeconomic considerations in the context of CWA Section 303(d).

[1456 - Minnesota Chamber of Commerce]: The St. Louis River Estuary is an interstate water bordering Minnesota and Wisconsin. This leads to several concerns associated with the proposed inclusion of the St. Louis River Estuary on the Minnesota 2020 Section 303(d) list.

First, numerous tributaries and dischargers contribute to the quantity and quality of the water in the St. Louis River Estuary. Many of these discharges are beyond the control of the MPCA because they are located outside of their jurisdiction. This will result in undue burden on dischargers within the state of Minnesota. They will be solely responsible for the quality of the water within the St. Louis River Estuary, regardless of their contributions of pollutants. In essence, Minnesota dischargers could potentially be penalized for pollution caused by dischargers in Wisconsin. This is unreasonable and unfair. . . . Third, the Chamber is concerned with future implementation of TMDLs associated with the proposed inclusion of the St. Louis River Estuary on the Minnesota 2020 303(d) list. We disagree that Minnesota dischargers will potentially be required to meet additional restrictions associated with the impairment listing while Wisconsin dischargers will not be required to do anything. Again, it is unreasonable for EPA to expect that Minnesota dischargers bear the burden of improving water quality when there are contributors from beyond the jurisdictional border of the state.

[1458 – USS]: The St. Louis River Estuary is an interstate water with tributaries from another state and adding the water to the Minnesota 2020 Section 303(d) list places an unreasonable burden on dischargers in Minnesota. . . . Many of these discharges are beyond the control of MPCA because they are located outside of their jurisdiction. This will result in undue burden on dischargers within the state of Minnesota. . . [who] will be solely responsible for the quality of water within the St. Louis River Estuary, regardless of their contributions of pollutants. In essence, Minnesota dischargers will be penalized for pollution caused by dischargers in Wisconsin. This is unreasonable and unfair.

[1458 – USS]: . . . We disagree that Minnesota dischargers will potentially be required to meet additional restrictions associated with the impairment listing while Wisconsin dischargers will not be required to do anything. Again, it is unreasonable for EPA to expect that Minnesota dischargers, and U.S. Steel, bear the burden of improving water quality when there are contributors from beyond the jurisdictional border of the state.

Response (7.d): EPA acknowledges this comment but disagrees. Please refer to Response 7.c for a discussion of the TMDL development and implementation process. Further, please note that as provided at 40 C.F.R. § 130.7(c)(1), when establishing a TMDL, Minnesota must consider "seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality." Accordingly, Minnesota should complete a comprehensive evaluation of all point and nonpoint sources that are contributing to the impaired segment.

Minnesota and Wisconsin have collaborated to develop multijurisdictional TMDLs to address impairments in interstate waters (e.g., the Lake Pepin and Mississippi River Eutrophication TMDL[43] (April 2021)) and, more recently, have collaborated on early TMDL developmental efforts in the St. Louis River Watershed to address mercury

[43] MPCA website, https://www.pca.state.mn.us/sites/default/files/wq-iw9-22e.pdf, last visited 11/4/2021.

impairments.[44] In a multijurisdictional TMDL, all pollutant sources throughout the entire multijurisdictional watershed that are causing or contributing to the impairment for which the TMDL is being developed would need to be considered by the TMDL writers.[45]

8. Comments that implementation of the sulfate criterion will exacerbate climate change

[1377 - USS]: The indirect emissions resulting from generating the electrical power required to operate the water treatment system required to conform with the 250 mg/L groundwater quality standards previously discussed will release significant amounts of greenhouse gases and other pollutants. The water treatment system required for strict conformance with the standard, as previously described, is estimated to have an electrical power demand of nearly 12 megawatts. This is the equivalent of the electrical power consumed by 4,400 to 9,900 households. Indirect greenhouse gas emissions from coal required to generate 12 MW, exceed 100,000 tons per year CO2 equivalent. There is an increased public and societal sensitivity to carbon emissions. Minnesota has placed carbon emissions as a goal to reduce as a state. As a company, U.S. Steel has announced carbon reduction goals and is leading the industry to reduce carbon emissions. Increased greenhouse gas emissions likely exacerbate climate change. Wild rice is sensitive to climate change. The following hazards resulting from climate change will harm wild rice: spreading of wild rice diseases (e.g., brown spot), extreme precipitation events leading to increased water depths, excessive warmth and decreased cold dormancy necessary for germination, and increased invasive carp populations. While a discharge of sulfate to a specific waterbody may have potential to negatively affect wild rice within that waterbody, exacerbation of climate change could negatively affect wild rice throughout Minnesota and beyond. [Citations omitted.]

[1411 – Iron Mining Association]: EPA is taking the ill-informed step of enforcing an obsolete water quality standard that will cost local communities, the mining industry, and other Minnesota companies and stakeholders hundreds of millions of dollars, using technologies that may have their own environmental impacts.

Response (8): EPA acknowledges these comments. EPA's role under CWA Section 303(d) and the implementing regulations is to review whether states and authorized tribes have applied the existing, EPA-approved water quality standards to identify waters where "controls are not stringent enough to implement any water quality standard applicable to such waters." CWA Section 303(d)(1)(A) and 40 C.F.R. § 130.7. In this case, that means applying Minnesota's 10 mg/L sulfate standard to waters the State has designated as subject to the wild rice beneficial use and does not include consideration of other environmental or socioeconomic impacts. EPA's listing actions are consistent with this requirement and within the boundaries of its authority. The State may take other considerations into account in establishing new or revised water quality standards under CWA Section 303(c).

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[44] MPCA website, https://www.pca.state.mn.us/water/st-louis-river-watershed-mercury-tmdl, last visited 11/49/2021.

[45] EPA, Considerations for the Development of Multijurisdictional TMDLs (draft, March 22, 2012), https://www.epa.gov/sites/default/files/2015-10/documents/draft-mjtmdl_032212.pdf, last visited 11/4/2021.

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Further, EPA does not concur that listing waterbodies for sulfate impairment will necessarily lead to increased greenhouse gas emissions or other environmental impacts. As noted in our Introduction (pp. 1-2) of this document and our Response 7.c, once a waterbody has been added to a state's or authorized tribe's list of impaired waters, it is up to the state or authorized tribe to develop a TMDL and submit it to EPA for approval. It is up to Minnesota to determine the appropriate measures for the TMDL and, subsequently, any permit limitations or requirements that may stem from the TMDL, so it is premature to conclude that a future TMDL or future permitting actions to be developed by Minnesota would lead to increased greenhouse gas emissions or other environmental impacts from any particular source. Please see the Introduction and Response 7.c for further discussion of the TMDL development and implementation processes.

9. Comments on Wild Rice as an Existing Use

[164 – Howard Markus]: Does wild rice have to be present after 1975 to make the river eligible for wild rice designation if it (I.e., wild rice) was polluted out of existence before 1975?

Response (9.a): The federal regulations at 40 C.F.R. § 131.3 define the term "existing use" as "those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards." Under the CWA, states and authorized tribes have the primary responsibility for developing and adopting water quality standards. States and authorized tribes make the determination of the use.

[2 - Howard Markus]: EPA or MPCA should move the current sulfate/wild rice water quality standard from Class 3 to Class 2.

[543 – Duluth Izaak Walton League]: Unfortunately, MPCA has relegated it to a class of water that is only suitable for irrigation and livestock drinking water, which we see as unimaginable and wrong. Incorrectly classifying wild rice waters in this way disregards their importance and is a capitulation to industry. We recommend that wild rice waters should be included under Class 1 – Domestic Consumption, or Class 2 – Aquatic Life and Recreation. As a sentinel species for high water quality, Class 1 and 2 are more appropriate.

Response (9.b): Under the CWA, states and authorized tribes determine how to classify waters and their uses. The CWA requires that such jurisdictions review their water quality standards every three years and amend and update those water quality standards as necessary. MPCA completed its most recent triennial standards review in 2020-2021. Accordingly, this input should be presented to the MPCA Water Quality Standards group as part of its triennial standards review process.

10. Comments on the future actions of EPA

[1 – Bois Forte Band of Chippewa]: EPA should coordinate and lead a scientific oversight panel to investigate the interaction of sulfate on wild rice (e.g., wild rice germination and growth).

Response (10.a): EPA will continue to closely follow Minnesota's efforts regarding proposed changes to the sulfate standard and/or additional scientific studies to improve overall understanding of the interaction between sulfate and wild rice in surface waters.

EPA encourages MPCA to continue to work with public, state, tribal and federal partners and stakeholders to further investigate ways to protect wild rice.

> *[1391 – Joint Tribal Letter]: Tribes request that MPCA be required to do additional monitoring and assessment of waters outlined in tribal letter (Appendix D.1, pp. 15-20 of 31 of pdf) prior to the next 303(d) listing cycle.*

Response (10.b): EPA acknowledges that the universe of waters potentially subject to the beneficial use may be greater than MPCA's 1300 Waters List, and EPA is taking no action to approve or disapprove any potential wild rice waters or sulfate impaired waters not included in EPA's final list. Rather EPA will continue to share information with the State and coordinate with the State and interested tribes regarding further development of information supportive of the State's continuing efforts to further develop its assessment and listing of such waters.

> *[543 – Duluth Izaak Walton League]: We believe that the list of wild rice waters throughout Minnesota must include all waterbodies that currently or in the past supported healthy stands of wild rice. We also must be careful to not assume that the wild rice/aquatic conditions of today, reflect the wild rice/aquatic conditions of the past. Many waters have for decades suffered from the impacts of pollution and degradation from multiple sources, and these may no longer sustain once thriving populations of wild rice. We must not grandfather in past sulfate pollution, especially if it results from past lax MPCA oversight.*

Response (10.c): The federal regulations at 40 C.F.R. § 131.3 define the term "existing use" as "those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards." Under the CWA, states and authorized tribes have the primary responsibility for developing and adopting water quality standards. The CWA and federal regulations establish the minimum requirements for water quality standards that EPA uses in its review of new and revised water quality standards to determine whether to approve or disapprove the water quality standards. States and tribes are always free to adopt standards that apply protection more broadly or that have more stringent requirements than the minimum requirements specified in the CWA and federal regulations.

11. Comments on Relationship of Listing Decision to Mining Industry

[148 – Cameron Trembath question 11]: Does the EPA recognize that the list of 8 waters in the decision document section II, B are waters specifically located near mining projects, and that the Tribal entities are generally anti-mining and coached by environmental lawyers that profit from their fearmongering to the Tribes?

[148 – Cameron Trembath question 12]: As these 8 waters are specifically surrounding mining projects is the EPA promoting an anti-mining position, even after thorough environmental review and approval processes have taken place?

Response (11): EPA acknowledges these comments but disagrees that the presence of any particular set of dischargers to a waterbody is relevant to the listing of such waterbody. CWA Section 303(d) does not provide a waiver for listing waterbodies to which selected

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industries or entities discharge nor waive a state's or approved tribe's obligation to list where a WQLS fails to meet the applicable, federally approved WQS.

12. Comments requesting EPA extend the second public comment period to 60 days

[1450 – Western Lake Superior Sanitary District]: I am writing on behalf of the Western Lake Superior Sanitary District (WLSSD) to request that EPA extend the public comment period in the above captioned matter from 30 to 60 days so that the public comment timeframe for the new proposed additions to Minnesota's 2020 303(d) List is consistent with the 60 public notice timeline required under Minn. Stat. sec. 114D.25.

[1453 – MESERB]: I am writing on behalf of the Minnesota Environmental Science and Economic Review Board ("MESERB") to request that EPA extend the public notice period from 30 to 60 days on EPA's proposal to add Perch lake (WID 69-0688-00), Sturgeon Lake (WID 25-0017-01) and a St. Louis River estuary segment (WID 69-1291-04) to Minnesota's 2020 List of Impaired Waters for sulfate impairments.

Response (12): EPA did not extend the second public comment period (September 1, 2021 to October 1, 2021) because the second public notice narrowly focused on soliciting comments pertaining to EPA's listing of three specific waters. EPA sent a follow-up email explaining our position to the Western Lake Superior Sanitary District and MESERB on September 23, 2021. These emails are found in Appendix 5.

13. Comments requesting EPA to share comments received during the public comment periods

[1449 – Minnesota Chamber of Commerce]: The Minnesota Chamber of Commerce is requesting the following: Access to comments received on previous public notice.

[1450 – Western Lake Superior Sanitary District]: ...we would also like a copy of any comments that EPA received from the public that served as a basis for EPA to propose to Add (AUID 69-1291-04) to the impaired waters list.

[1453 – MESERB]: ...we also request that you provide us access to and/or copies to the following: The comments received by EPA in response to the initial 60-day public comment period for EPA's previous additions to Minnesota's 2020 List of Impaired Waters (4/29/21 to 6/30/21) that EPA relies upon as support for the proposed listing of the three additional waters;

[1456 – Minnesota Chamber of Commerce]: Additionally, the EPA has not made available the comments received during first public comment period or their responses to such comments; this lack of transparency makes its difficult for affected parties to provide meaningful comments to the EPA during this second public comment period.

[1458 – USS]: . . . the EPA has not made available the comments received during [the] first public comment period . . . or their response to such comments. [Citation omitted.] It is difficult for affected parties to provide meaningful comments to the EPA during this second public comment period when the EPA has not shared: 1) the specific comments that lead to them proposing to add these three additional waters; and 2) their response to the affected parties' previous comments on the overarching issues that apply to all or the majority of WQLS the EPA is proposing to list. We also respectively request that EPA undertake a more transparent process that would allow for more meaningful stakeholder engagement and public comments.

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Response (13): EPA has included copies of comments received in the first public comment period (April 29, 2021 to June 30, 2021) and the second public comment period (September 1, 2021 to October 1, 2021) in Appendices 1, 1A, 1B and 1C of this document.

Appendices

Appendix 1: Comments Received By U.S. EPA On EPA's Additions to Minnesota's 2020 Impaired Waters List

Appendix 1A: Individual Comments Received by U.S. EPA, First public comment period: April 29, 2021 to June 30, 2021 and Second public comment period: September 1, 2021 to October 1, 2021

Appendix 1B: Attachments to Comment #772

Appendix 1C: Attachments/Exhibits to Comment #1367

Appendix 2: Data Summaries For Individual Waters of Appendix 2 (4/27/21)

Appendix 2a: Data Summaries For Individual Waters: (Perch Lake (69-0688-00), Sturgeon Lake (25-0017-01) and St. Louis River Estuary (69-01291-04))

Appendix 3: Individual Waters Suggested By Commenters To Add To The Minnesota 2020 303(d) List

Appendix 4: Individual Waters Suggested By Commenters To Remove From The Minnesota 2020 303(d) List

Appendix 5: Informational emails sent by EPA during the public comment periods

Appendix 6: Data Summary for Birch Lake (69-0003-00)

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