



# MESERB

Minnesota Environmental Science  
and Economic Review Board

Using science and economics to improve environmental regulations

The Honorable Eric Lipman  
Minnesota Office of Administrative Hearings  
600 Robert Street North  
St. Paul, MN, 55101

**VIA ONLINE SUBMISSION ONLY**  
**OAH Docket No. 8-9003-37102**

February 24, 2021

**Minnesota Environmental Science and Economic Review Board Comments on Planned Amendments to Rules Governing Water Quality Standards, Minnesota Rules, chapters 7050 and 7053; Revisor's ID 4335.**

Dear Judge Lipman,

Thank you for the opportunity to comment on the Minnesota Pollution Control Agency's ("MPCA" or "agency") planned amendments to the rules governing the state's water quality standards for use classifications 3 and 4. The Minnesota Environmental Science and Economic Review Board ("MESERB") is a municipal joint powers organization with more than 50 member cities, sanitary districts, and public utilities commissions in Greater Minnesota that own and operate wastewater treatment plants ("WWTPs") and hold National Pollutant Discharge Elimination System/State Disposal System ("NPDES/SDS") permits that stand to be impacted by the proposed rule amendments. MESERB's mission is to work to protect our state's water resources by ensuring that water quality regulations that impact our communities are scientifically based, have reasonable and cost-effective implementation strategies, and produce meaningful benefits to water quality.

MESERB has long advocated for updates to the class 3 and 4 water quality standards and generally supports the MPCA's planned rule amendments as identified in the proposed rule language, 2020 Technical Support Document ("TSD"), the Statement of Need and Reasonableness ("SONAR") and the Class 3 and Class 4A Narrative Translator Processes ("NTPs"). Based on our review of these documents, the planned amendments are necessary, reasonable, and will protect the state's designated uses as required by state and federal law.

**The proposed amendments to the outdated standards are necessary to prevent the imposition of extreme and unnecessary costs on Greater Minnesota communities and businesses.**

MESERB's primary concern is ensuring that these rules are updated and adopted consistent with the most recent scientific knowledge and our additional comments herein. Should MPCA fail to make the proposed amendments to the class 3 and 4 water quality standards, our members and many cities across the state stand to receive effluent limits for parameters such as hardness and specific conductance based on the outdated standards that exist in the current regulations. Compliance with such limits has the potential to result in wide-spread negative economic and

social impacts for Greater Minnesota communities—without a corresponding environmental benefit.

As discussed throughout both the draft and 2020 TSDs and the SONAR, the scientific data and overall understanding originally used to develop the class 3 and 4 standards is woefully outdated.<sup>1</sup> As a result, the permit limits these existing parameters ultimately set for local governments are overly restrictive, unnecessary to protect water quality, and will continue to frustrate local compliance efforts if left in place. Achieving compliance with permit limits for the class 3 and 4 parameters is generally cost-prohibitive for local governments and can require massive investments in both wastewater and drinking water infrastructure.<sup>2</sup> Permit limits for these parameters also pose the risk of limiting (and in some cases, all-out preventing) economic growth opportunities by creating significant obstacles for businesses that desire to locate or expand in our communities, resulting, in some cases, in critical economic development opportunities leaving Minnesota altogether (*see, e.g.*, the City of Luverne and Tru-Shrimp).<sup>3</sup>

According to the SONAR, there are 161 cities across Minnesota that could be unnecessarily burdened by permit limits based on these outdated standards.<sup>4</sup> MESERB members and our fellow Greater Minnesota communities have a long history of investing in clean water infrastructure to protect the state’s precious water resources and are willing to continue to do so. To continue to impose such costly regulatory requirements on communities based on standards that are known to be outdated and unnecessarily restrictive, however, is unreasonable and stands to waste state and local resources that could be better spent to address other critical environmental issues. MESERB supports MPCA’s effort as necessary to prevent the unreasonable outcomes described above and to ensure that our state’s waters are protected based on the most recent scientific data, as presented in the 2020 TSD, SONAR, and accompanying documentation.

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<sup>1</sup> *See, e.g.*, “Class 3 & 4 Water Quality Standards Revision Technical Support Document”, Minnesota Pollution Control Agency (Jan. 2019) at 6-8, 29-30, 56, 131 (hereinafter “SONAR Exhibit S-7”); “Class 3 & 4 Water Quality Standards Revision Technical Support Document”, Minnesota Pollution Control Agency (Dec. 2020) at 22-23, 52, 116, 118 (hereinafter “2020 TSD”); “Statement of Need and Reasonableness: In the Matter of Proposed Revisions of Minnesota Rule Chapters 7050 and 7053, Relating to Water Quality Standards – Use Classifications 3 and 4; Revisor ID No. 04335”, Minnesota Pollution Control Agency, Environmental Analysis and Outcomes Division (Dec. 14, 2020) at 1-2, 21, 48, 93, 104-105 (hereinafter “SONAR”).

<sup>2</sup> *See* Alternatives for Addressing Chloride in Wastewater Effluent: MPCA Analyzes Treatment Options for Salty Parameters, Minnesota Pollution Control Agency (Dec. 2018) at 9, *available at* <https://www.pca.state.mn.us/sites/default/files/wq-wwprm2-18.pdf>; Chloride Work Group Policy Proposal for Minnesota: Recommendations for Addressing Chloride in Municipal Wastewater Effluent, Minnesota Pollution Control Agency (Apr. 2017) at 7, 9, 11-13, *available at* <https://www.pca.state.mn.us/sites/default/files/wq-wwprm2-24.pdf>; *see also* SONAR at 21-24, 99-100, **107-131**.

<sup>3</sup> “Challenges of doing business in Minnesota cited in unraveling shrimp facility in Luverne”, STAR TRIB. (March, 4, 2019), *available at* <http://www.startribune.com/challenges-of-doing-business-in-minn-cited-in-unraveling-of-shrimp-facility-in-luverne/506630352/>; “Tru Shrimp decision to build ‘harbor’ in S.D. was a ‘gut shot’ to Luverne”, STAR TRIB. (Jan. 9, 2019), *available at* <http://www.startribune.com/tru-shrimp-s-decision-to-build-harbor-in-south-dakota-surprises-luverne-state-officials/504080372/>.

<sup>4</sup> SONAR at 121.

**The proposal to replace the numeric standards for the 3 and 4A use classifications with narrative standards and narrative translator processes is necessary and reasonable.**

The proposed rules are needed and reasonable to ensure targeted protection of agricultural and industrial uses in a manner consistent with the most recent scientific data. Both the updated 2020 TSD and SONAR provide substantial evidence demonstrating that the existing numeric standards for the class 3 and 4 use classifications are based on outdated scientific knowledge and that replacing them with the proposed narrative standards and narrative translator processes is necessary to protect the various industrial and agricultural uses throughout the state in a scientifically defensible manner.

The combination of the class 3 subclasses, replacement of the numerical class 3 and 4A standards with narrative standards,<sup>5</sup> and the proposed narrative translator processes for both the class 3 and 4A standards are reasonable in that they allow MPCA to utilize the most relevant, site-specific information to ensure the appropriate level of protection for each water body and its applicable designated uses.<sup>6</sup> This includes implementing the narrative translator processes at locations where the designated uses are being exercised, and tailoring water quality protections as necessary to ensure that crops with differing sensitivities are adequately protected.<sup>7</sup>

This proposed approach in whole diminishes the risk and consequences of costly over-regulation as produced by the current standards and strikes the right balance by ensuring rigorous protection of our water resources, while allowing communities to grow without imposing unnecessary costs. In the alternative, delaying or otherwise failing to complete the rulemaking would be unreasonable, and as previously stated, would result in the imposition of costs and hardship on cities across Minnesota, as the existing rules are based on outdated scientific data and are ambiguous on critical needs for implementation of the standards in the NPDES permits to which municipal wastewater facilities are subject.<sup>8</sup>

**MESERB supports the narrative translator processes as a part of the rulemaking and their incorporation by reference into the rule.**

MESERB supports the proposed class 3 and 4A narrative standards being implemented into NPDES permits through this rulemaking effort and further supports the incorporation of the narrative translator processes (and any related guidance) by reference into the rules. We do not

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<sup>5</sup> MESERB maintains its support for MPCA's original proposition to change numeric standards for boron to narrative standards.

<sup>6</sup> See SONAR at 42-43.

<sup>7</sup> SONAR at 42-47, 82-98; see also SONAR Exhibit S-4 (focuses water quality protection so that levels of specific conductance and sodium adsorption ratio are such as to ensure that crops are exposed to levels of salts in irrigation water that are either directly harmful, or indirectly harmful by contributing to soil salinization). Please note additional concerns and comments on the protective flow rate are addressed further below.

<sup>8</sup> SONAR at 104-106, see also "University of Minnesota Class 3 and Class 4 Water Quality Standards Review: Minnesota Surface Water Quality Investigation – Industrial Supply, Irrigation, and Livestock Uses", Univ. of Minn., Bioproducts and Biosystems Engineering (Nov. 18, 2010).

believe that it is necessary to require a formal rulemaking to make changes to the narrative translator processes (or other guidance documents) that are incorporated into the rules, if MPCA agrees not to make changes to the referenced processes and guidance documents without first providing public notice and an opportunity to comment on any proposed changes in the future.

Further, incorporating the translator processes and related guidance documents into the rules by reference while allowing for changes to be made to the processes and guidance without formal rulemaking will provide certainty to the regulated community, as well as provide reasonable flexibility for the agency to make necessary changes after public notice and comment. Overall, we believe the above approach increases transparency, certainty, and provides adequate flexibility—decreasing the risk of future misunderstanding or conflict related to implementation of the standards through the NPDES permitting process.

**The scope of this rulemaking should be limited to addressing agricultural, industrial, and wildlife uses—the existing class 2 chloride standard ensures adequate protection of aquatic life uses independent of the class 3 and 4 water quality standards.**

The existing purposes of the class 3 and 4 water quality standards are to protect agricultural, industrial, and wildlife uses.<sup>9</sup> We support the agency’s proposal to limit the scope of the proposed amendments to address those use classifications. Specifically, we support the agency’s position that the proposed amendments will not adversely impact the aquatic life designated uses because the amendments do nothing to hinder, and in fact, expressly incorporate, the implementation of the class 2 chloride standard for aquatic life via the narrative translator processes.<sup>10</sup> As MPCA indicates in the 2020 TSD, SONAR, and NTPs, chloride reductions made pursuant to the class 2 standards will also lead to a reduction in ionic parameters covered by the class 3 and 4 standards, such as specific conductance.<sup>11</sup> The proposed amendments do not diminish MPCA’s ability to protect aquatic life through the existing narrative standards for aquatic life or whole effluent toxicity requirements.<sup>12</sup>

It is imperative to note that the proposed rule changes will *not* relax protections for the aquatic life class 2 water quality standards. The Clean Water Act does not allow state agencies to simply “relax” water quality standards because they feel like it;<sup>13</sup> an overwhelming concern raised at the public hearing held on February 4, 2021. The Clean Water Act, does however, require that the “criteria for water quality accurately reflect[] the *latest scientific knowledge*. . .”<sup>14</sup> – the primary purpose behind this rulemaking. As MPCA states in the SONAR, “MPCA’s main goal for this rule

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<sup>9</sup> See Minn. R. 7050.0140, subp. 4, 5; Minn. R. 7050.0223; Minn. R. 7050.0224.

<sup>10</sup> See SONAR Exhibit S-4.

<sup>11</sup> SONAR Exhibit S-7 at 7-9; 2020 TSD at 24, 105; SONAR at 5-7.

<sup>12</sup> SONAR Exhibit S-7 at 7-9; 2020 TSD at 24, 105.

<sup>13</sup> States are required to comply with 40 C.F.R. § 131.12 and maintain an antidegradation policy (Minn. R. 7050.0250-0335). The antidegradation policy requires that all existing beneficial uses are maintained and protected. MPCA has met these requirements in this rulemaking (see SONAR at 10, 49-50).

<sup>14</sup> 33 U.S.C. § 1314(a)(1) (emphasis added).

revision is that the standards reflect the *latest scientific understanding* of how water quality affects the ability to use the water for [ ] industrial and agricultural purposes (or beneficial uses).<sup>15</sup> MPCA itself has even noted that the aquatic life standards are beyond the scope of this rulemaking,<sup>16</sup> and maintains that this rulemaking is tailored to the specific beneficial uses of classes 3 and 4 waters while demonstrably going to great lengths to evaluate and document the tailored approach of the rules to the needs of individual water bodies and communities.

The Clean Water Act does, however, allow for narrative standards, site-specific standards and applications, and rule changes;<sup>17</sup> in other words, what the MPCA is undertaking now, and has undertaken in the past, including processes that have been approved by the U.S. Environmental Protection Agency (“EPA”). These include the chloride linkage permitting program, which allows for a NPDES permit holder to accept a class 2 chloride limit instead of other potential class 3 or 4 parameter limits; this is allowed as chloride limits serve as a good indicator of the impacts of other salty parameters on (and is sufficiently protective of) aquatic life uses *and* irrigation, industrial, and livestock and wildlife watering uses.<sup>18</sup>

Narrative water quality standards have long been used in the state of Minnesota with regard to specific indicia or criteria.<sup>19</sup> The updated standards in this case would operate in a similarly protective manner. In essence, the water quality standards that exist for the protection of the designated uses are driven by the *actual state and needs* of the water body. If a facility discharges effluent has the reasonable potential to “cause or contribute” to a violation of a water quality standard—numeric or narrative—that discharger will receive a permit limit.<sup>20</sup>

The narrative translator processes as proposed by MPCA account for the variabilities in different water bodies, and the dischargers located on them. The NTPs ensure that specific conductance and other class 3 and 4 parameters will be implemented and imposed through limits in permits in a manner consistent with the Clean Water Act and state law because limits will be imposed *in any place that there is any documented use impairment downstream of a discharger*.<sup>21</sup> An example akin to how the NTPs will functionally work is the site-specific standard implemented by MPCA and approved by EPA for the Rock River at the discharge point from City of Luverne’s WWTP.<sup>22</sup>

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<sup>15</sup> SONAR at 1 (emphasis added).

<sup>16</sup> SONAR at 5-7.

<sup>17</sup> 40 C.F.R. 131.11(b)(2).

<sup>18</sup> See SONAR at 83-84, 113 (noting that for the three NPDES permits “for which chloride linkage is not applicable” the individual situations were unique), 120-124.; SONAR Exhibit S-20; “Chloride Work Group Policy Proposal for Minnesota – Recommendations for Addressing Chloride in Municipal Wastewater Effluent”, Minnesota Pollution Control Agency, 9 (Apr. 2017) available at <https://www.pca.state.mn.us/sites/default/files/wq-wwprm2-24.pdf>.

<sup>19</sup> See, e.g., Lake Eutrophication Standards, Minn. R. 7050.0150, subd. 3.

<sup>20</sup> 40 C.F.R. § 122.44(d)(1)(i)-(iii).

<sup>21</sup> SONAR Exhibit S-4.

<sup>22</sup> The site-specific standard for specific conductance and sodium adsorption ratio was approved for the Rock River on the segment from the City of Luverne’s wastewater treatment plant discharge to the confluence with Elk Creek by EPA on September 21, 2020. “Site Specific Water Quality Standards: Approved – Rock River” Minnesota Pollution Control Agency, available at <https://www.pca.state.mn.us/water/site-specific-water-quality-standards>.

Put simply, no existing, designated uses are allowed to be impaired, and will not be impaired – not aquatic life uses, not irrigation uses, not industrial uses, and not livestock or wildlife watering uses. Any party concerned that the implementation of the proposed rules through the narrative translator processes will somehow improperly relax aquatic life protections, especially with regard to specific industries will have ample opportunity to raise those concerns through the specific notice and public comment processes that each NPDES permittee is required to complete and comply with.<sup>23</sup>

Waiting to update the class 3 and 4 water quality standards until new aquatic life standards for ionic parameters are developed, as suggested by some, is unnecessary to protect aquatic life and potentially causes economic harm to the regulated community. In fact, updating the class 3 and 4 standards as proposed will likely reduce unnecessary burdens placed on local governments resulting from the outdated standards, which could free up resources to invest in chloride reduction strategies that are specifically intended to protect aquatic life. In essence, “the idea that water quality standards in one use class cannot be changed without changing all other water quality standards would create an absurd situation... if water quality standards were designed to protect all beneficial uses at once, then differentiated use classes would not be needed.”<sup>24</sup> MESERB asks that the rules remain limited in scope, focused on the class 3 and 4 uses, and be updated and implemented as soon as possible.

**Exhibit S-5 “Implementing the Aquatic Life Narrative Standard” is outside of the scope of this rulemaking and should be addressed separately.**

In the SONAR and its attached exhibits, MPCA included Exhibit S-5, “Implementing the Aquatic Life Narrative Standard”. This exhibit appears to lay out a new (and never before seen) “interim approach to protecting aquatic life” that MPCA developed for protecting aquatic life from salty parameters, particularly specific conductance, pending the development of updated class 2 standards. This “interim approach” appears to apply new draft numeric aquatic life water quality standards for specific conductance that MPCA apparently developed behind closed doors with no prior opportunity for public comment.<sup>25</sup> Furthermore, this approach impacts multiple MESERB members and cities throughout Greater Minnesota and could lead to new, more restrictive effluent limits for cities.<sup>26</sup>

MESERB strongly objects to MPCA’s attempt to use this rulemaking, which is limited to addressing agricultural and industrial uses, to develop a new permitting approach to protect aquatic

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<sup>23</sup> See, e.g., 33 U.S.C. §§ 1251(e); 1342(b)(3); 40 C.F.R. § 124.10; Minn. Stat. §§ 14.001 *et seq.*, 115.03, subd. 5a.

<sup>24</sup> SONAR at 5-6.

<sup>25</sup> MPCA is calling these new draft water quality standards “regional benchmarks”. (SONAR Exhibit S-5 at 6).

<sup>26</sup> The exhibit lists what appear to be hundreds of permit holders that discharge upstream of waterbodies or waterbody segments that exceed the new draft regional benchmarks for specific conductance, suggesting that certain permit holder may need additional more restrictive limits or other permit monitoring requirements to address or investigate aquatic life impairments. (SONAR Exhibit S-5 at 16-94).

life uses, and relies upon (and apparently implements) draft water quality standards that have not been vetted or approved in manner consistent with state and federal law.<sup>27</sup>

MPCA expressly states that “[b]ecause this present rulemaking is to revise Class 3 and Class 4 standards to protect industrial consumption and agriculture beneficial uses, the consideration of aquatic life beneficial use protection is not relevant.”<sup>28</sup> MESERB supports this statement, but fails to understand how MPCA can state the above while simultaneously seeking to propose an *entirely new* permitting approach; one that includes implementing new draft water quality standards via an attachment to the SONAR of a completely separate rulemaking process and completely different protected beneficial uses. MPCA’s effort to do so in this case is highly problematic and violates the public participation requirements for the adoption of new rules and new water quality standards that exist under the Minnesota Administrative Procedures Act, the Clean Water Act, and its implementing regulations.<sup>29</sup> By presenting such a complicated, technical, and novel approach to protecting aquatic life uses that stands to tremendously impact many cities in an unrelated rulemaking process, MPCA has effectively failed to give due notice and thus has interfered with the rights of MESERB, our members, and cities across Minnesota to review and comment on the “proposal” in this attachment to the SONAR.

We respect and share the concerns of MPCA, Tribal partners, and other interested groups about ensuring the protection of aquatic life uses in Minnesota. The appropriate place to address those concerns, however, is in a separate rulemaking process, the upcoming Triennial Standards Review process, or during the public comment process with respect to individual NPDES/SDS permits of concern. As a result, we request that MPCA voluntarily withdraw this attachment from the SONAR, or in the alternative, that the Administrative Law Judge (“ALJ”) order MPCA to do so.

**Variations are not a long-term solution and not a replacement for this rulemaking.**

MESERB does not support the use of variations as a replacement for this rulemaking. MESERB has supported all of the chloride variations applied for by publicly owned treatment works (“POTWs”) thus far and supports EPA’s approval of a 15-year variance term for chloride.<sup>30</sup> This 15-year term, however, eventually comes to an end, and at the close of that time period, POTWs will likely be required to meet chloride limits whether or not it is economically feasible for their community rate payers.

Long-term solutions to chloride reduction are being explored where feasible across Minnesota; these include technological upgrades like centralized lime softening for domestic and drinking

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<sup>27</sup> To MESERB’s knowledge, the “regional benchmarks” or draft water quality standards that MPCA proposes to use in its “interim approach” have not been developed consistent with the requirements of Minn. Stat. § 115.03; Minn. Stat. ch. 14; Section 303(c) of the Clean Water Act or 40 C.F.R. part 131.

<sup>28</sup> SONAR Exhibit S-5 at 1.

<sup>29</sup> See, e.g., 33 U.S.C. §§ 1251(e); 1342(b)(3); 40 C.F.R. § 124.10; Minn. Stat. §§ 14.001 *et seq.*, 115.03, subd. 5a.

<sup>30</sup> See “Water Quality Variations: Active Variations - City of Avon Wastewater Treatment Plant”, Minnesota Pollution Control Agency, available at <https://www.pca.state.mn.us/water/water-quality-variations>.

water uses, and reverse osmosis treatment for wastewater. Unfortunately, this is an expensive and technical issue that affects individual communities differently – as do the impacts of the class 3 and 4 parameters. One of the immediate steps being taken to address the unnecessary expense of the salty parameter issue is this rulemaking: the presence of class 3 and 4 salty parameters in water impacts individual water bodies, land uses, and communities differently. Tailoring the application of these standards to fit these differences are a vital first step in overall water protection.

Asking POTWs to be the masters of their own fate as a regulated entity through the use of variances is unreasonable in a rulemaking such as this: POTWs depend on this rulemaking, whether or not variances are a part of the shorter-term compliance package.

### **Specific comments on the proposed changes to class 4A standards.**

MESERB is generally very supportive of the proposed amendments to the class 4A standards. We have the following specific comments, questions, and concerns as identified below:

#### ***Proposed Narrative Rule Language:***

MESERB supports the proposed narrative rule language primarily because of the limited scope of applicability to waters that will potentially be used for irrigation. This is a major improvement from the existing standards, as this proposed language focuses the protective attention of the regulations on the waterbodies and irrigators that stand to employ the uses for which the waters are protected. In particular, MESERB supports that these regulations are inclusive of crops of all sensitivities and that the varying degrees of sensitivity are taken into consideration in context; it is important that a single irrigator is not able to more or less “call the shots” on irrigation practices for a whole river or stream simply because of the presence of one sensitive crop.<sup>31</sup> Related concerns and comments regarding the protective flow rate are addressed further below.

We are concerned over the depth of deference this proposal potentially gives to irrigators. While MESERB respects the livelihood and concerns of downstream irrigators, we want to ensure that one irrigator’s opinion or preference will not unnecessarily prevent growth from occurring in the same watershed based solely on the irrigator’s willingness to accept a water’s given salinity levels. Therefore, MESERB suggests the following changes to the proposed narrative language:<sup>32</sup>

*The narrative water quality standard in this part prescribes the qualities or properties of the waters of the state that are necessary for the irrigation designated public uses and benefits. The quality of Class 4A waters of the state shall be such as to permit their use for irrigation without significant damage or adverse effects upon crops or vegetation grown in the areas that are being irrigated. Substances,*

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<sup>31</sup> See SONAR at 46 (focuses water quality protection so that levels of specific conductance and sodium adsorption ratio are such as to ensure that crops are not exposed to levels of salts in irrigation water that are either directly harmful, or indirectly harmful by contributing to soil salinization); see also SONAR Exhibit S-4.

<sup>32</sup> 2020 TSD at 45.

*characteristics, or pollutants including but not limited to specific conductance, and the calculated sodium adsorption ratio shall be considered when assessing the suitability of waters for irrigation based upon current literature. Assessments of a water's suitability for irrigation must consider: water quality at the location of irrigation water appropriation, sensitivities of crops being irrigated within the context of all crops being grown in the impacted area, suitability of soils to receive irrigation water, soil drainage practices, irrigation practices, rainfall tendency to leach the soil of the parameters of concern, the amount of time a given discharger has been established within the impacted area, and the crop yield losses the farmer is willing to accept to irrigate crops with water of elevated salinity.*

***Proposed changes in rule language impacting the Sulfate Wild Rice Standard:***

MPCA has proposed some rule language changes to Minn. R. 7050.0224, subp. 4 that are outside of the scope of this rulemaking. The pertinent parts of the rule to MESERB's comments are as follows:

The quality of Class 4A waters of the state shall be such as to permit their use for irrigation without significant damage or adverse effects . . . The following standards *shall be used as a guide* in determining the suitability of the waters for such uses. .  
..<sup>33</sup>

Critically, MPCA is proposing the removal of the "shall be used as a guide" language. This is problematic for many cities, as the subpart of this rule includes the consideration of the 10 mg/L sulfate standard that is "applicable to water used for production of wild rice during periods when the rice may be susceptible to damage by high sulfate levels." This "as a guide" language needs to remain in the rule as applied to the 10 mg/L sulfate standards so as to ensure that (a) MPCA comports with its below statement that this rulemaking will not make changes the controversial wild rice sulfate standard, and (b) to preserve the needed flexibility when implementing the standard in local government permits to ensure any sulfate permit limits are necessary to protect an actual wild rice related use. That the 4A standards should be used as guidance is integral to the interpretation of the 10 mg/L sulfate standard.

Furthermore, the removal of this language is beyond the scope of this rulemaking. MPCA went so far as to say in the SONAR that:

[a]lthough the existing water quality standard to protect wild rice from the impacts of sulfate is part of the Class 4A standards, the MPCA has continually expressed that *this rulemaking will not impact the wild rice standard*. Any changes made to

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<sup>33</sup> Draft rule language, Minn. R. 7050.0224, subp. 4 (emphasis added).

the wild rice language are intended solely to accommodate needed language changes to the remainder of the Class 4A standards.<sup>34</sup>

Unfortunately, what MPCA purports in this statement does not align with the practical effect of this proposed language; the removal of the “as a guide” language essentially creates a de facto sulfate standard – something not conceived or anticipated in this rulemaking. We ask that the MPCA retains the “as a guide” language in the rule, and that the ALJ recommends this in the final order.

***Protective Flow:***

MESERB supports the agency’s proposal to use “122-day 10-year low flow” or “122Q<sub>10</sub>” as the protective waterbody flow for application of the class 4A standards. Our reading of the TSD indicates that MPCA intends to derive the 122Q<sub>10</sub> flow by using only flow data from the growing season (i.e., June – September) over the applicable period of record.<sup>35</sup> MESERB supports this approach as necessary and reasonable because it is consistent with the duration and exceedance frequency for the proposed criteria and will ensure adequate protection of downstream uses, while preventing unnecessary and costly over protection.<sup>36</sup> That being said, the definition of the 122Q<sub>10</sub> flow as presented in the 2020 TSD and state regulation leaves some uncertainty regarding how the 122Q<sub>10</sub> flow will be derived when applying the proposed standards. We urge MPCA to provide additional clarity on this issue.<sup>37</sup>

Existing state regulations require MPCA to apply the current class 4A standards using the “seven-day ten-year low flow” or “7Q<sub>10</sub>” as the applicable protective flow.<sup>38</sup> MESERB and its members have raised serious concerns in the past about the reasonableness of using 7Q<sub>10</sub> as the protective flow when applying the class 3 and 4 water quality standards. The 7Q<sub>10</sub> protective flow was

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<sup>34</sup> SONAR at 5 (emphasis added).

<sup>35</sup> See 2020 TSD at 106. This reading is also supported by USGS guidance; see “Methods for Estimated Flow-Duration Curve and Low-Flow Frequency Statistics for Ungaged Locations on Small Streams in Minnesota”, Scientific Investigations Report 2015-1570, U.S. Geological Survey and Minnesota Pollution Control Agency, 6 (2015) <https://pubs.usgs.gov/sir/2015/5170/sir20155170.pdf>.

<sup>36</sup> 2020 TSD at 106.

<sup>37</sup> See 2020 TSD at 106 (“The MPCA is proposing a May to October average duration for the 4A narrative translator. In order to ensure that the effluent limit developed protects the water quality standard at the specified duration and frequency, an appropriately protective stream flow rate must be determined. The flow rate is used for streams and loading to lakes fed by streams. The flow rate defines the critical flow condition, which is then used in the effluent limits calculation.”; “A seasonal 122Q<sub>10</sub> flow rate is protective of the irrigation designated use when calculating the need for a NPDES permit to receive effluent limits. The 122Q<sub>10</sub> flow rate is defined in *Minn. R. 7050.0150* and means the “122-day ten-year low flow” or “122Q<sub>10</sub>” means the lowest average 122-day flow with a once in ten-year recurrence interval. The 122-day length is roughly equivalent to the length of Minnesota summer (June through September).”).

<sup>38</sup> Minn. R. 7050.0210, subd. 7 and Minn. R. 7053.0205, subp. 7.

specifically developed by EPA to protect aquatic life from toxic and other acute pollutant impacts under drought conditions—it was not developed for the protection of agricultural uses.<sup>39</sup>

It is not reasonable to use the 7Q<sub>10</sub> flow when implementing the class 4A standards specifically because the purpose of those standards is to protect agricultural uses from the long-term seasonal impacts resulting from salty parameters on soils and crops, not short-term effects under an area-wide drought.<sup>40</sup> As such, using the 7Q<sub>10</sub> as the protective flow is inconsistent with duration and exceedance frequency for the proposed class 4A standards and can lead to the imposition of costly permit requirements that are not necessary to protect the applicable designated use.

We urge the agency to expressly adopt the June through September, 122Q<sub>10</sub> flow as the protective flow for application of the class 4A standards and to ensure that all relevant state regulations are updated appropriately to reflect that change.<sup>41</sup>

***Expression of Limits – Sodium Adsorption Ratio and Specific Conductance:***

MPCA proposes to express limits for sodium adsorption ratio (“SAR”) and specific conductance as monthly average concentration limits applicable May through October, not to be exceeded more than once a year.<sup>42</sup> Given the proposed duration (growing season) and exceedance frequency (once per year) for the standards, MESERB would prefer to see limit applicable May – September, which is the typical growing season in Minnesota. Such a seasonable period is reasonable so long as the calendar month average limits are scaled up to reflect a growing season average in a manner consistent with U.S. EPA’s Technical Support Document for Water Quality-Based Toxics Control (“EPA TSD”).<sup>43</sup> If MPCA fails to scale up the calendar month average limits to reflect a growing season average, the limits will likely be unnecessarily restrictive.

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<sup>39</sup> See NPDES Permit Writers’ Manual, U.S. Environmental Protection Agency (Sep. 2010) at 6-18, *available at* [https://www.epa.gov/sites/production/files/2015-09/documents/pwm\\_2010.pdf](https://www.epa.gov/sites/production/files/2015-09/documents/pwm_2010.pdf).

<sup>40</sup> In fact, irrigation during the 7Q<sub>10</sub> protective flow is often expressly prohibited. Minnesota law (Minn. Stat. § 103G.285, subd. 2) requires the DNR to limit consumptive appropriations of surface water under specific low flow conditions. These conditions are applied at the annual Q<sub>90</sub> exceedance flow value. When the flow is at or below the Q<sub>90</sub> rate for 120 hours, all applicable appropriations for that waterbody are suspended. When looking at Q<sub>90</sub> rates when compared with the 7Q<sub>10</sub> rates for a specific water body segment, the Q<sub>90</sub> rates generally exceed the 7Q<sub>10</sub> rates, meaning that the water appropriations are actually suspended before the low flow rates meet the 7Q<sub>10</sub> threshold. In effect, the water being protected for irrigation uses can’t be withdrawn from the water and used to irrigate. See “Guidelines for Suspension of Surface Water Appropriations Permits, Minnesota Department of Natural Resources Ecological and Water Resources” (Revised Jan. 2012) at 2, 4; *available at* [https://files.dnr.state.mn.us/natural\\_resources/climate/drought/drought\\_permit\\_suspension.pdf](https://files.dnr.state.mn.us/natural_resources/climate/drought/drought_permit_suspension.pdf).

<sup>41</sup> See e.g., Minn. R. 7050.0150, subp.4(A); Minn. R. 7053.0255, subp. 2(A); Minn. R. 7050.0210, subd. 7 and Minn. R. 7053.0205, subp. 7.

<sup>42</sup> SONAR Exhibit S-7 at 122-127; Class 4A Narrative Translator at 10.

<sup>43</sup> Technical Support Document for Water Quality-Based Toxics Control, U.S. Environmental Protection Agency (Mar. 1991), *available at* <https://www3.epa.gov/npdes/pubs/owm0264.pdf>.

For example, if the criterion is a May-October (184-day) average, the statistical techniques presented in the EPA TSD<sup>44</sup> can be used to determine an equivalent limit for a shorter monitoring period, such as a maximum monthly average based on two samples. First, the wasteload allocation (“WLA”) necessary to comply with the criterion is calculated as follows:

$$WLA_{184} = \frac{C_{WQS}(122Q_{10}+Q_E)-122Q_{10}C_B}{Q_E} \quad [1]$$

where:

$WLA_{184}$  = effluent wasteload allocation necessary to comply with water quality standard (WQS)

$C_{WQS}$  = water quality standard (WQS), mg/L or other concentration

$C_B$  = average background concentration of parameter in river under 122 $Q_{10}$  conditions

122 $Q_{10}$  = minimum river flow for compliance with WQS, cfs

$Q_E$  = effluent average dry weather design flow, cfs

The  $WLA_{184}$  is then converted into an equivalent long-term average (“LTA”) concentration using the methods in the EPA TSD.

$$LTA_{184} = WLA_{184} \times EXP(0.5\sigma^2 - z\sigma) \quad [2]$$

$$\sigma_N^2 = \ln\left(\frac{CV^2}{N} + 1\right) \quad [3]$$

where:

$\sigma_N$  = standard deviation based on “N” sample average

CV = coefficient of variation for the effluent

N = 184, the number of days in the averaging period

Z = z statistic (2.326 for 99<sup>th</sup> percentile probability)

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<sup>44</sup> See *id.*, Box 5-2 at 100.

Once the target effluent LTA is determined, the maximum monthly permit limit can be calculated using the following formula:

$$AML = LTA_{184} \times EXP(z\sigma_N - 0.5\sigma_N^2) \quad [4]$$

where:

N = the number of samples collected in the monthly averaging period

For example, if the class 4A water quality standard for specific conductance is 1,500  $\mu\text{S}/\text{cm}$ , the background stream concentration is 250  $\mu\text{S}/\text{cm}$  under low flow conditions, the 122Q<sub>10</sub> = 30 cfs, and the design effluent flow is 10 cfs, then the resulting WLA = 5,250  $\mu\text{S}/\text{cm}$ . (Equation [1]).

If the coefficient of variation for the effluent is 0.6, the corresponding LTA = 4,742  $\mu\text{S}/\text{cm}$ . (Equation [2]). If a facility collects 2 samples per month, the monthly average effluent limit would be 11,246  $\mu\text{S}/\text{cm}$ . (Equation [4]).

While MPCA notes that the 184-day average is too long and refuses to include May because it is typically a higher flow month and thus less protective of irrigation than a 122Q<sub>10</sub>,<sup>45</sup> MPCA should clarify why limits are to be imposed May through October when the proposed duration of the criteria is a growing season and the protective flow is the June through September 122Q<sub>10</sub>.<sup>46</sup> Ideally, the criteria duration and frequency would be consistent with the protective flow and applicable period for effluent limits. If individual effluent limits for permitted discharges are determined necessary and justified, the seasonal limits should be applied during the actual growing season – May through September – and such a decision should be implemented on a site-specific basis along with the other provisions of the rule changes, versus an overly-conservative, statewide manner.

#### ***Average Wet Weather Design Flow:***

MESERB is concerned about the MPCA's proposed use of the 70<sup>th</sup> percentile of the average wet weather design flow ("70% AWWDF") for municipal WWTPs to assess the need for and derive permit limits for the class 4A standards.<sup>47</sup> The 70% AWWDF may not always be an accurate predictor of current or future flows from an individual WWTP under the applicable protective flow condition (e.g., growing season, 122Q<sub>10</sub>) and could lead to unnecessary and costly overregulation. At minimum, MPCA should provide sufficient flexibility in rule or guidance to allow WWTPs to provide data showing the relationship between the 70% AWWDF and the growing season 122Q<sub>10</sub> to demonstrate whether an alternative WWTP flow will provide for additional flexibility and adequately protect the applicable agricultural use of concern.

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<sup>45</sup> 2020 TSD at 106; SONAR at 44.

<sup>46</sup> Methods for Estimated Flow-Duration Curve and Low-Flow Frequency Statistics for Ungauged Locations on Small Streams in Minnesota, Scientific Investigations Report 2015-1570, U.S. Geological Survey and Minnesota Pollution Control Agency (2015) at 6, <https://pubs.usgs.gov/sir/2015/5170/sir20155170.pdf>.

<sup>47</sup> 2020 TSD at 107; SONAR at 96-97.

### **Comments on the proposed changes to the class 4B standards.**

MESERB is also largely supportive of the proposed changes to the Class 4B standards. There are only a few comments that we have regarding the total dissolved solids (“TDS”) and sulfate standards.

The TDS standards are currently proposed to protect the most sensitive group of livestock.<sup>48</sup> This standard should be modified so that if a sensitive livestock group is not present, less stringent standards are applied. This is particularly necessary if the water source being used (and thus requiring protection) is not a surface water. Furthermore, the need for a TDS standard is questionable if the cause of toxicity to the water body primarily stems from chloride, sulfate, and sodium—parameters which most TDS studies are based on. In other words, if these components are not present in the water, a TDS limit should be unnecessary, and thus should not be applied, or, if no Combined Animal Feeding Operation (“CAFO”) is present, no limit should be required.

With regard to sulfate, there appears to be a lack of information regarding the averaging period. This issue should be addressed by expressing the WLA as a monthly, 30-day average.

### **Conclusion**

Cities across Minnesota, including some of our member cities, have been waiting eagerly for these rules to be updated. There are critical projects that need permitting, and cities at large need to be assured that they will not be required to invest scarce public resources to protect agricultural and industrial uses where the site-specific data and updated scientific knowledge at large clearly indicate no such regulation is necessary for environmental protection. It is imperative that this rulemaking is not delayed and thereby cause harm to public utilities by conflating this rulemaking with aquatic life standards. In short, we support every group and individual’s right to participate in these processes as our members do, but this is not the right process to raise unrelated concerns, no matter how important.

This rulemaking is of the utmost importance to MESERB and its members, and we are very pleased that the MPCA has made it a priority. MESERB is very supportive of this rulemaking and generally supports MPCA’s plans to implement these updated rules. Thank you for the opportunity to submit these comments, and for taking the time to consider them.

Respectfully submitted,

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<sup>48</sup> 2020 TSD at 121-124; SONAR Exhibit S-7 at 137.

Honorable Eric Lipman  
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MESERB Comments  
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Andy Bradshaw  
Operations Manager  
Wastewater/Stormwater Services Division  
City of Moorhead, MN Engineering Department  
President, Minnesota Environmental Science and  
Economic Review Board