MESERB
Minnesota Environmental Science and Economic Review Board

Using science and economics to improve environmental regulations

July 31, 2023

VIA ONLINE & EMAIL

Commissioner Katrina Kessler
Minnesota Pollution Control Agency
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Re: Comments on the framework for developing and evaluating site-specific sulfate standards for the protection of wild rice

Dear Commissioner:

Thank you for the opportunity to comment on the MPCA's framework for developing and evaluating site-specific sulfate standards for the protection of wild rice ("framework"). The Minnesota Environmental Science and Economic Review Board ("MESERB") is a municipal joint powers organization that represents the interests of municipally owned wastewater treatment plants ("WWTPs"). Based on the existing CWA section 303(d) impaired waters list, and the state's list of waters used for the production of wild rice ("WUFPOWR") the vast majority of our more than 50 members are potentially impacted by MPCA's implementation of the wild rice sulfate standard. Our members are interested in ensuring they do their part to protect wild rice in a manner consistent with the best available science.

Below are our comments related to the framework published by MPCA:

1. **The wild rice sulfate standard should be revised to reflect the best available science.**

MESERB continues to believe that the best approach to addressing the wild rice sulfate standard would be to update the 10 mg/L standard through the rulemaking process using the best available science. MESERB understands that MPCA already went to great lengths to do this in a previous rulemaking and the proposed rule was rejected by the courts. Nevertheless, MESERB supported key components of MPCA's previously proposed revisions, and we continue to prefer broad rule amendments compared to the administratively burdensome and expensive approach of using variances and site-specific standards. One approach that MESERB would support is to leave the existing narrative rule language in place and develop a narrative translator for determining and implementing a protective sulfate concentration on a case-by-case basis, like what MPCA has done in the recent revisions to the state's class 3 & 4 standards.

2. **In the alternative to state-wide rulemaking, MESERB continues to support the evaluation and development of site-specific standards for the Mississippi River Pools.**

Since the time that MPCA indicated that it would begin implementing the 10 mg/L wild rice sulfate standard, MESERB has expressed support for the development of a site-specific standard for the lower pools of the Mississippi River. As noted in the framework document, several pools in the Mississippi River in southeastern Minnesota are on the state's list of WUFPOWR and are designated as impaired. Because of the size of the watershed, there are hundreds of wastewater treatment facilities throughout the state that discharge upstream of these waters that could receive costly sulfate limits in their permits if MPCA applies the 10 mg/L sulfate standards to those pools.

It is our understanding that MPCA is actively working to collect data, evaluate, and develop site-specific standards for these river pools, we appreciate MPCA's effort to be proactive on this issue and MESERB strongly supports this effort. As indicated in the framework document, existing data indicate that a site-specific standard is appropriate, and that a less restrictive sulfate concentration is protective of wild rice in these river pools. *See* p. 8 – 11 (discussing the altered hydrology of the river impacting the potential for wild rice to grow in the river and its backwater pools and the fact that certain river pools have an abundance of wild rice despite elevated sulfate levels).

As MPCA develops the site-specific standard for the Mississippi River pools, there should also be an interim permit strategy developed to avoid imposing effluent limits based on the 10 mg/L standard in permits while the site-specific standard is under development. One option would be to use the "standalone approach" referenced in the framework document and establish a sulfate concentration that does not cause impairment of the wild rice use in the Mississippi River (i.e., between 30 and 50 mg/L) and tie it to a multi-discharger variance. That way facilities upstream of these river pools would be eligible for a variance from the 10 mg/L standard, pending the completion of a more targeted site-specific standard using MPCA's proposed "weight of evidence" approach.

3. **Specific Comment on MPCA's proposed framework.**

MESERB supports the proposed framework for evaluating and developing site-specific standards as necessary and reasonable, but has the following specific comments and questions:

- The framework document provides a reasonable definition of what constitutes meeting the wild rice beneficial use. This definition – the continued annual long-term growth of wild rice with or without boom-bust cycles – should be the primary basis for determining the attainment of wild rice use. Still, it is unclear how long-term trends will be evaluated year-to-year and account for fluctuations in growth:

  - Can MPCA provide additional information about how use attainment is determined and how long-term trends will be evaluated so that year-to-year fluctuations will not lead to a determination of impairment?
  - How will indigenous knowledge be used in assessing use attainment?

- Wild rice use could be lost due to natural or anthropogenic causes, exclusive of sulfate concentration. Where wild rice was historically present but is now no longer present, it should not be presumed that sulfate is the cause and there should be an assessment to determine whether other known causative factors are responsible for the absence of wild rice (i.e., altered hydrology).
  - Under Minn. R. 7050.0224, certain waterbodies are to be recognized as WUFPOWR. These designations are primarily based on documented wild rice presence, including wild rice inventories, biological monitoring, reports, agency databases, and data supplied by the public. However, due to the cyclical pattern of growth and a high degree of natural variability in population sizes, the MPCA does not require a specific population-size threshold to be met for the purpose of assigning a WUFPOWR designation. Therefore, the wild rice use designation is applied to waters with documented wild rice presence, current or historical, because it shows the use has occurred.

- MESERB generally supports the use of the "standalone approach" where WUFPOWR are presently supporting healthy wild rice beds with sulfate concentrations that exceed 10 mg/L. However, outside the scope of such wild rice beds, this approach will not yield a specific science-based impairment threshold and will likely result in a very conservative and potentially overly restrictive site-specific standard.
  - The standalone approach is, by far, the easiest of the two for supporting alternative sulfate criteria but depends upon having long-term data (at least 10 years of data) on wild rice abundance and sulfate concentration. Given the definition of healthy wild rice population discussed above, it is not clear what is meant by multiple metrics. If the long-term growth of wild rice is documented, this should be sufficient to meet the demonstration of healthy wild rice in the specific water body.
  - As for surface water sulfate concentration, increases in concentration over time should not be a basis for excluding this approach, provided that sufficient data are available to show that deleterious effects have not occurred to the wild rice population in response to these increases.
  - This approach appears to require having long-term data (at least 10 years of data) on wild rice abundance and sulfate concentration. If long-term ambient sulfate data are not available, the petitioner should be allowed to substitute modeling results if alternative data on point and nonpoint source loads are available.
  - One option would be to use this approach in conjunction with multi-discharger variances (see comment above regarding the Mississippi River pools) by setting the highest attainable condition based on the existing sulfate concentration that is

not causing impairment, to provide time to use the "weight-of-evidence" approach to develop a more scientifically rigorous numeric criterion that functions as a traditional impairment threshold.

- MESERB would be supportive of modifications to the weight-of-evidence approach discussed by MPCA, which references the four key lines of evidence. The specific requirements set forth for this approach are onerous, and MPCA should amend this approach so that a petitioner need not pursue each line of evidence. In some cases, one line of evidence could be sufficient to support a site-specific standard.
    - The first line of evidence – the use of the proposed equation from the 2017 rulemaking – could be helpful for facilities that do not require a high amount of relief. This approach, if appropriately supported, could be treated as a standalone approach for site-specific standard development rather than simply one potential line of evidence. Further, the suggestion that this approach be paired with "information demonstrating that wild rice has not declined over time" is not necessary. If such data were available, the site-specific criterion could be developed using the MPCA's proposed Standalone Approach.
    - The second literature-based line of evidence is akin to a separate criterion development analysis and could be a stand-alone approach for establishing a sulfate standard for the protection of wild rice as well.
    - The third approach could be useful in determining a concentration of sulfate that does not impair wild rice, but this is not the same as a criterion – the threshold level of sulfate below which harm does not occur. The suggestion that the median sulfate concentration could be used to justify a site-specific standard would only result in a very conservative outcome.
    - The fourth line of evidence approach would be useful in assessing the threshold for sulfide toxicity to wild rice in specific waters and could be used to assess whether other factors are contributing to wild rice impairment if sulfide levels are below the reported threshold for impairment. However, it is not apparent how this approach will help in identifying a criterion for sulfate in the overlying water.

- Although the framework identified numerous potential metrics and evaluations for assessing the health of wild rice, the need for these other measurements is dubious. Spatial extent and stalk density should be sufficient to assess health over time. The framework notes that an application for a site-specific sulfate standard would include long-term data on wild rice stand spatial extent and stalk density paired with sulfate concentrations and water depth, as well as measurements on other variables related to wild rice conditions or productivity.
    - The framework requires population data spanning ten years or two boom-bust cycles, whichever is shorter. If the data exhibit a downward trend in spatial extent, stalk density, biomass, or other indicator of health, a site-specific sulfate standard will not be approved. Such an approach is only appropriate if other factors that would impair wild rice health are not present (see the example of Kettle Lake

where the data on stalk density shows greater variability than the corresponding data on biomass). Again, MPCA should provide additional clarity about how it will assess long-term trends in the data.

- The framework references the fact that many wild rice waters in the southern and western regions of the state have sulfate concentrations that are naturally above 10 mg/L. In situations where baseline levels of sulfate are high, the MPCA should proactively develop a site-specific standard given that water quality standards should not be set lower than natural background concentrations. See 40 CFR § 131.10(g).

Thank you for the opportunity to submit the above comments. If you have any further inquiries or wish to respond to these comments, please don't hesitate to contact Daniel Marx at dmmarx@Flaherty-hood.com.

Sincerely,

MINNESOTA ENVIRONMENTAL SCIENCE AND ECONOMIC REVIEW BOARD

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