Responses to the 2025 triennial standards review public notice comments

The 2025 triennial standards review (TSR) public comment period began December 9, 2024, and ended on February 7, 2025. The Minnesota Pollution Control Agency (MPCA) received 19 written comments total, in addition to comments and questions at the two TSR public meetings held on January 23 and 28, 2025. The MPCA greatly appreciates partner and public engagement on this topic. These comments serve to shape the internal conversations and prioritization work by MPCA leadership and staff now and into the future.

Overall, the comments addressed water quality standards topics included in the draft Water Quality Standards Work Plan for 2026 to 2028.

The comments received are summarized below, along with the MPCA's responses. Comments were submitted by Tribal Nations and organizations, environmental advocacy groups, industrial and municipal organizations, watershed organizations, and individuals.

The 19 written comments, as well as recordings of the public meetings, can be found on the TSR website here: Triennial standards review | Minnesota Pollution Control Agency

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I. Responses to comments on the draft aquatic life nitrate standard

Commenters on this topic include:

- Grand Portage Band of Lake Superior Chippewa
- Minnesota Environmental Science and Economic Review Board
- Minnesota Center for Environmental Advocacy
- Sierra Club North Star Chapter
- Coalition of Greater Minnesota Cities
- Friends of the Mississippi River
- Thomas Kunkel
- Gary Dukes
- Verbal comments at public meetings

Several commenters expressed that establishing an aquatic life nitrate water quality standard is long overdue. .

The need for a nitrate standard is based on documented toxicity and presence of concentrations in surface waters that, in some cases, far exceed values that cause negative impacts on aquatic organisms. An aquatic life nitrate standard is the appropriate and important tool to assess the health of the state's surface waters and help make decisions in efforts to reduce ambient concentrations. Development of this standard will require using the most recent scientific information following U.S. Environmental Protection Agency (EPA) methods and protocols.

A couple of commenters suggested a balanced approach to completing a nitrate standard and that the MPCA must consider costs and benefits for such standards. The development of the nitrate standard through rulemaking includes cost evaluations and explicit steps for public participation and due process. The costs identified by stakeholders are important and will need to be considered in implementation of the standard.

The MPCA, in coordination with its partners, has been pursuing a holistic, stepwise approach to help reduce nitrogen levels statewide prior to adopting a new nitrate aquatic life water quality standard. This includes:

1. Developing a detailed Wastewater Nitrogen Reduction Strategy with targeted actions to reduce nitrogen coming from wastewater treatment plants (WWTPs) to protect drinking water, aquatic life, and meet the Nutrient Reduction Strategy's point source goals.
2. Completing a 10-year revision of the Nutrient Reduction Strategy, updated with enhanced strategies and actions designed to achieve reductions in nonpoint and point sources of nitrogen. This statewide strategic work has been progressing, paving the way to move forward with the nitrate standard.

The schedule for the completion of this rulemaking process has not been determined.

II. Responses to comments regarding PFAS standards

Commenters on this topic include:

- Vermillion River Watershed Joint Powers Organization
- Coalition of Greater Minnesota Cities
- Minnesota Environmental Science and Economic Review Board
- Minnesota Center for Environmental Advocacy
- Great Lakes Indian Fish and Wildlife Commission
- Leech Lake Band of Ojibwe
- Randy Neprash, stormwater organization
- Verbal comments at public meetings

Support was given for the development of aquatic life water quality standards for perfluorooctane sulfate (PFOS) and perfluorooctanoic acid (PFOA). The EPA recently finalized aquatic life ambient water quality criteria (AWQC) for these per-and polyfluoroalkyl substances (PFAS), but there are concerns about the required sampling needed to monitor compliance with these criteria, since they would apply to most waters of the state. The MPCA's staff

currently monitor PFAS and analyze via EPA's Method 1633 in Class 1 waters systematically as part of the Clean Water Fund ambient monitoring through MPCA's watershed approach. Although we are currently not conducting ambient monitoring PFAS in Class 2 waters for aquatic life use, the MPCA is tasked with completing needed statewide assessments of surface water quality and trends according to Minn. Stat. § 114D.20.

Analysis cost and laboratory availability to handle this sampling was also brought up as a concern to determine compliance with future Class 2 PFAS standards. Many PFAS compounds are able to be analyzed by commercial laboratories accredited by Minnesota Department of Health's (MDH) Environmental Laboratory Accreditation Program (MNELAP). The MPCA and MNELAP cannot compel commercial laboratories to provide PFAS analyses or seek accreditation, but MPCA has been working with MNELAP to expand the list of PFAS compounds and methods available for accreditation. The MDH also has PFAS analysis capabilities for state agency work at their Public Health Laboratory and have been working on expanding their capacity.

The MPCA was asked whether the Agency was considering using total organic fluorine (TOF) to screen for PFAS. The TOF analysis is useful for determining organic fluorine concentrations, but does not differentiate between compounds. This can be a useful analysis to determine if PFAS are present in a sample, but cannot be used to determine compliance with PFAS standards, which are based on specific PFAS (e.g., PFOA, PFOS, etc.).

Questions were asked regarding EPA's draft December 2024 human health AWQC for PFOS, PFOA and perfluorobutanesulfonic acid (PFBS) and how MPCA might utilize those AWQC. These are draft criteria, for which EPA hasn't addressed public comments (the public comment period ended on April 29, 2025). The EPA has not given a timeline for finalization of these AWQC. The MPCA generally waits for finalization of these AQWC before considering adoption as state water quality standards.

The EPA develops AWQC as recommendations for states or tribes to consider when developing their water quality standards. States or tribes may want to consider state or tribe-specific factors in their standards when utilizing EPA's AWQC. For example, Minnesota residents generally consume more caught fish than other parts of the country, on average. The EPA uses national survey data for fish consumption, which results in a lower fish consumption rate than Minnesota uses for its standards. Minnesota could utilize these AWQC but alter them with a higher fish consumption rate to reflect state-specific conditions. The EPA generally intends for states to develop standards that are at least as stringent as their AQWC, but states or tribes can alter the AQWC with updated science or state-specific considerations.

The MPCA has already developed some human health site-specific criteria for sites with known PFAS contamination that are similarly protective to EPA's AWQC and include three additional PFAS. It is possible that for sites that have the appropriate PFAS data, more PFAS site-specific criteria could be developed until the state is able to adopt state-wide standards for these chemicals.

Another question was raised about the percentage of waters that may exceed the draft AWQC if the AWQC were included in Minnesota. In areas with known PFAS discharges or contamination, it is likely that the draft PFOS and PFOA AWQC would be exceeded. For PFBS, because the draft criterion is relatively higher than current ambient conditions, exceedances of that criterion is anicipated to be rare in Minnesota. It should be noted that much of the PFAS sampling done to date in Minnesota has been focused on areas with known contamination, so fully answering this is challenging, because we know less about areas without known contamination. An additional challenge is that the PFOA and PFOS draft AQWC are both below the concentration at which standard methods can detect these chemicals. Because of this, some waters may have concentrations that exceed the draft AWQC but be below the level of detection. This would result in MPCA determining that there is no exceedance (because the substance was not detected), yet there could be an actual exceedance. One of the reasons MPCA is prioritizing the PFOS fish tissue standard in our TSR is because the protective value in water is well below the detection limit. A fish-tissue based standard can help assess waters based on tissue concentrations, instead of water concentrations.

There were some concerns raised about the implementation of PFAS standards and the costs that municipalities could have to bear, when they are not producers of PFAS. The development of state PFAS standards through rulemaking includes cost evaluations and explicit steps for public participation and due process. At the time proposed standards for PFAS are public noticed, the MPCA will consider ways for stakeholder engagement. The costs identified by municipalities are important and will need to be considered in implementation of the

standard. For additional information on cost evaluation for PFAS removal and destruction from municipal wastewater, please see the following report: https://www.pca.state.mn.us/sites/default/files/c-pfc1-26.pdf

The most strategic approach to managing PFAS is preventing them from entering waste streams in the first place. Many municipal wastewater treatment systems have been proactive at identifying and reducing sources of PFAS entering their systems. Under Minnesota's PFAS Blueprint and PFAS Monitoring Plan, wasterwater treament plants (WWTPs) across the state test for incoming PFAS. The MPCA is actively assisting WWTP operators with identifying and reducing sources of PFAS entering their facilities. Similar efforts in other states have yielded enormous reductions in PFAS. Advancing these efforts now will put domestic WWTPs in the best position when standards are applicable.

Another suggestion made during the comment period encouraged MPCA to consider adding a fish tissue standard for PFOA, along with the fish tissue standard for PFOS, due to the toxicity, persistence, and occurence of PFOA in Minnesota waters. Perfluorooctanoic acid (PFOA) is not often detected in fish tissue, and detections are generally centered around sources of contamination, making a state-wide tissue value less useful than a PFOS value. The MPCA will consider the addition of PFOA and other bioaccumulative PFAS compounds found in fish tissue when the tissue standards are further prioritized.

As discussed in Section III, MPCA has decided to prioritize an update to the fish consumption rate (FCR), which is a necessary component of calculating fish tissue standards. Because of that, MPCA is moving the PFOS tissue standard to Group 3 (Tracking and evaluation). During the time that the work on the FCR is being completed, MPCA will have collected addtional fish tissue data to help inform and develop PFAS fish tissue standards, which could include contaminants other than PFOS.

III. Response to comments regarding mercury

Commenters on this topic include:

- Fond du Lac Band of Lake Superior Chippewa
- White Earth Nation
- Leech Lake Band of Ojibwe
- Great Lakes Indian Fish and Wildlife Commission
- NewRange Copper Nickel LLC
- Verbal comment at public meeting

Several commenters supporting an update to the mercury fish tissue standard added thoughts related to updating the FCR. Updates to the mercury fish tissue standard were seen as needed due to the number of impairments in northern Minnesota, where there are several Tribal communities that utilize aquatic resources more frequently than in other communities. Commenters emphasized the increased exposure risk associated with individuals who consume more fish than the current FCR, such as subsistence fishers. This is an important issue that MPCA acknowledges, and because of these comments MPCA has decided to prioritize an update of the FCR, separate from the fish tissue standards. This will allow us to focus on the FCR alone, rather than additional issues that arise from introducing a new or revised water quality standard. After the FCR has been updated, development of fish tissue standards for mercury should be more straightforward and take less time. The FCR work needs to be completed first to address the fish consumption component of future standards for both mercury and PFOS. The MPCA is adding the revision of the FCR to Group 2 (In technical development) of the Work Plan and is keeping the mercury fish tissue standard in Group 3 (Tracking and evaluation), with the intent to move the standard forward after the FCR is updated.

IV. Responses to comments regarding the wild rice designated use and associated sulfate standard

Commenters on this topic include:

- White Earth Nation

- Grand Portage Band of Lake Superior Chippewa
- Fond du Lac Band of Lake Superior Chippewa
- Great Lakes Indian Fish and Wildlife Commission
- MiningMinnesota
- Verbal comment at public meeting

Several commenters, namely Tribal Nations and affiliated groups, advocated for reclassifying the wild rice designated use from Class 4 (agriculture) to Class 2 (aquatic life). Commenters argue that moving the wild rice use to the aquatic life use better reflects the role that wild rice plays ecologically as an indicator of the health of aquatic systems across Minnesota. They also highlight that this change would provide wild rice with additional protections by allowing MPCA to apply Class 2 narrative standards to better protect wild rice from stressors beyond sulfate. This reclassification would encompass the wild rice use under the Clean Water Act Section 101(a)(2) rules, which affords additional antidegradation Tier 2 protections. Additionally, a couple of commenters recommended that this action should be not only included in MPCA's Work Plan but also should be placed high on our priority list. The MPCA acknowledges that the crux of this comment has been a recurring, long-term request from our Tribal Nation partners. The MPCA is adding this item to Group 3 (Tacking and evaluation) in our Work Plan for 2025-2027 and will be exploring the potential of reclassifying the designated wild rice use from Class 4 to Class 2.

MiningMinnesota asked MPCA to reevaluate the sulfate water quality standard to protect wild rice. They also requested that our current rule language of "water used for production of wild rice", found at Minn. R. 7050.0224, subp. 2, be further defined in rule. Given that this language is already in rule, MPCA is pursuing implementation of the sulfate water quality standard to waters that fit a plain text reading of the rule. Thus, waters of the state identified as "waters used for production wild rice" are subject to the 10 milligrams per liter (mg/L) sulfate standard. This comment is out of concern for the economic costs to permittees given the currently available treatment technologies for addressing sulfate. The MPCA acknowledges the potential substantial costs for treating sulfate to meet effluent limits for permittees and is actively working on developing permitting tools and associated guidance that will provide time and expertise to help them make incremental progress to attain their effluent limits.

The MPCA remains committed to protecting wild rice, along with its cultural and historical significance, within Minnesota's boundaries. Agency decisions are grounded in science, data and the law to drive our decisions and policies. We are dedicated to working with others to continue to review new science and data as it becomes available. While the impact of sulfate and sulfide on ecosystems is well documented in published science, many have expressed concerns over the age of the sulfate standard, which was adopted in the 1970s. Additionally, data suggests that naturally occurring sulfate levels vary across Minnesota.

In partnership with independent researchers, the MPCA is beginning an evaluation of new peer-reviewed science to validate the impacts of sulfate on wild rice. At the same time, the MPCA will work with academic experts to understand and document the variation in naturally occurring sulfate levels across the state.

V. Responses to comments regarding Tribal Reserved Rights

Commenters on this topic include:

- Grand Portage Band of Lake Superior Chippewa
- Fond du Lac Band of Lake Superior Chippewa
- White Earth Nation
- Leech Lake Band of Ojibwe
- Great Lakes Indian Fish and Wildlife Commission

Under the Protection of Tribal Reserved Rights (TRR) rule (40 C.F.R. § 131.9; 89 FR 35717), which became effective on June 3, 2024, federally recognized Tribes may assert their reserved rights when states establish water quality standards. Tribal reserved rights are defined as "any rights to CWA-protected aquatic and/or

aquatic-dependent resources reserved by right holders, either expressly or implicitly, through Federal treaties, statutes, or Executive orders." [40 C.F.R. § 131.3(r)] When a state receives a written assertion, it must:

- take into consideration the use and value of its waters for protecting the Tribal reserved right in adopting or revising designated uses;
- take into consideration the anticipated future exercise of the Tribal reserved right unsuppressed by water quality in establishing relevant water quality standards; and
- establish water quality criteria to protect the Tribal reserved rights where the state has adopted designated uses that either expressly incorporate protection of Tribal reserved rights or encompass the right.

The TSR provides a venue for Tribal Nations to assert these rights. Through this TSR, the MPCA received written comments from the following federally recognized Tribal Nations:

- Grand Portage Band of Lake Superior Chippewa
- Fond du Lac Band of Lake Superior Chippewa
- White Earth Nation
- Leech Lake Band of Ojibwe

In addition, comments supporting TRR were submitted by the Great Lakes Indian Fish and Wildlife Commission (GLIFWC), an intertribal agency.

On April 3, 2025, MPCA met with Tribal Nations to discuss the assertions and MPCA subsequently incorporated changes to the work plan to balance assertions with state capacity. Responses to specific comments received from Tribes are provided in other sections of this document.

In September 2025, the EPA indicated that they would not continue to defend the TRR Rule. In accordance with Minn. Stat. § 10.65, MPCA will continue to consult in government-to-government relationships regarding water quality standards that have Tribal implications.

VI. Responses to comments regarding aquatic life pesticide standards

Commenters on this topic include:

- Minnesota Department of Agriculture
- Sierra Club North Star Chapter
- White Earth Nation
- Lee Ann Landstrom
- Robert Shimek
- Verbal comment at public meeting

Four comments were received regarding development and promulgation of water quality standards for the neonicotinoid pesticides imidacloprid and clothianidin. Of great interest was development of standards that provide for better regulatory control compared to EPA benchmark values. It was pointed out that these pesticides persist in the environment and are very toxic to aquatic organisms, especially invertebrates. Development of aquatic life standards for imidacloprid and clothianidin will remain in Group 2 (In technical development) of the Work Plan.

Two additional comments were received regarding concerns of the pesticide atrazine. This pesticide does have an existing standard in Minn. R. ch. 7050 and is monitored throughout the state in surface water samples collected by the Minnesota Department of Agriculture (MDA).

VII. Responses to comments regarding Class 1 Revisions and drinking water

Commenters on this topic include:

- Vermillion River Watershed Joint Powers Organization
- Grand Portage Band of Lake Superior Chippewa
- Verbal comments at public meetings

Comments were made in support of our statewide drinking water protections for groundwater. The MPCA concurs with this and will continue efforts to protect groundwater in the state as a source of drinking water. Plans for the Class 1 revision include clarifying rule language to ensure that the domestic consumption water quality standards clearly apply to all groundwater. One commenter went further to say that any waters that have the potential to support a community drinking supply should be protected as such. Identifying and expanding the Class 1 designation to any waterbody that could potentially support a community system is beyond the scope of this rule revision. However, MPCA is evaluating surface waters that should be designated as Class 1 to protect downstream domestic supplies and groundwater. Comments from the Vermillion River Watershed Joint Powers Organization follow a similar train of thought, questioning how the Class 1 rule revision will identify waterbodies requiring Class 1 designations to address surface water – groundwater interactions. The MPCA is still in the early stages of developing these efforts and our current assessments concentrate on where data are available demonstrating contributions from surface waterbodies to groundwater with known drinking water sources. We are working with our counterparts at MDH, MDA, Minnesota Department of Natural Resources, and MPCA's own remediation program to identify these areas so we can better protect known domestic drinking water supplies.

Another component of the Class 1 rulemaking is that MPCA plans to revise the numeric and narrative water quality standards for Class 1 waters. This includes updating existing standards to be more health protective and adding water quality standards for some emerging pollutants of concern. Those emerging pollutants of concern may include PFAS, pesticides (including neonicotinoids), pharmaceuticals, algal toxins, disinfection by-products, and/or additional industrial chemicals. Currently, EPA's maximum contaminant levels (MCLs) and secondary standards are incorporated by reference as the Class 1 standards. These values are not updated often and consider treatment technology and costs, so the values may not be entirely health protective. We would like to maintain MCLs and secondary standards, except for where there is more recent science to replace them. Final decisions have not been made about what pollutants will be added or updated, but many pollutants that have recent MDH Health Risk Limits are being considered because they have human health toxicity data available as well as have been detected in Minnesota waters. As MPCA makes progress on this project, a Technical Support Document (TSD) will be published with another request for comments. Additional details about MPCA's plans will be provided in the TSD, with the chance to provide comments on that document and MPCA's plans. To stay up to date with MPCA's progress on this project, you can visit the Class 1 Rulemaking webpage, where relevant documents will be published, and you can sign up to receive email updates.

VIII. Responses to comments on specific conductance and ion standards

Commenters on this topic include:

- Grand Portage Band of Lake Superior Chippewa
- Fond du Lac Band of Lake Superior Chippewa
- Great Lakes Indian Fish and Wildlife Commission
- NewRange Copper Nickel LLC
- Verbal comments at public meetings

All comments received expressed a need for MPCA to develop and promulgate aquatic life water quality standards for major geochemical ions, especially for sulfate and chloride. Some commenters recommended

adoption of specific conductance standard, similar to that promulgated by two Tribal Nations within state boundaries. Also pointed out was the need to consider a multi-ion standard that accounts for the interactive effects of sulfate, chloride and other associated ions commonly present in surface water (e.g., hardness ions). The EPA has been developing criteria for major geochemical ions, which would include chloride and sulfate, and had originally expected to issue draft criteria in 2025. It is unclear what timeline this work will be completed by EPA, so the MPCA is evaluating options for addressing ionic toxicity, leaving this standard in Group 3 (Tracking and evaluation) while options are being evaluated. The MPCA will be assessing priorities for future rulemaking efforts including consideration of standards developed for specific conductance or other multi-ion approaches.

IX. Responses to comments regarding Class 2A/2B designated uses

Commenters on this topic include:

- Vermillion River Watershed Joint Powers Organization
- Minnesota Center for Environmental Advocacy
- NewRange Copper Nickel LLC
- Verbal comments at public meetings

The Vermillion River Watershed Joint Powers Organization (VRWJPO) requested that the MPCA consider revising the native coldwater taxa metrics in the index of biological integrity (IBI) models to account for the lack of native coldwater taxa in the watershed. This issue has been under consideration by the MPCA and the VRWJPO and as a result of our work, no short-term solution has been identified. The issue is that the Class 2A reaches in the Vermillion River differ from many of the streams used to develop the IBI model for southern coldwater streams. Specifically, the possible lack of a historical presence of native coldwater fish species (e.g., brook trout, mottle sculpin) in the Vermillion watershed. The MPCA recognizes that this is a potential issue that makes the biological criteria more difficult to attain in this watershed. There are other streams in Minnesota without native coldwater fish species that attain the biocriteria, but the bar is higher for attainment due to this assemblage characteristic. Recognizing this possible limitation in the Vermillion River, the MPCA considered revising the IBI for this watershed, but a major challenge to this approach is determining the biocriteria for a watershed-specific tool. The process of developing biocriteria requires reference sites (i.e., sites that meet biological goals) which represent attainment of the biocriterion. The condition of these reference sites is used to determine if the biological condition at a site with an unknown condition meets goals. Without these reference sites, it is difficult to implement a watershed-specific assessment tool. There are also issues with making ad hoc modifications to an IBI model without fully testing its performance along a stressor gradient – something that is difficult if the conditions of sites are relatively homogeneous within the watershed. However, there are some possible solutions to these issues which may not be available at this time and can be considered in the future. With additional sampling in the Vermillion River watershed and improvement of the biological condition at some sites, it may be feasible to develop a reference condition to assess other sites. Another approach that is more time consuming is to develop a new coldwater stream class and IBI model. This could be a model applicable to "prairie coldwater streams." However, the development of such a model has challenges including identification of streams of this type that are attaining biological goals. The MPCA will continue to work with the VRWJPO in an effort to determine solutions that ensure appropriate and protective tools are used to assess streams in this watershed.

The Minnesota Center for Environmental Advocacy (MCEA) argued that the MPCA must protect the highest attainable uses in water and cannot downgrade designated use based on insufficient data. The MPCA agrees with this comment and has followed these requirements when reviewing beneficial uses and will continue to do so. The MPCA has adopted three rules in the last decade with use designations based on a review of aquatic life using modern biological assessment tools (e.g., IBIs, biological condition gradient, biocriteria). All of these rules were adopted following state and federal requirements which do not allow inappropriate downgrading of beneficial uses. As part of this review, the MPCA does make determinations of the timing of stream channel alterations. This information is publicly available through online tools such as the U.S. Geological Survey's (USGS's) EarthExplorer tool (https://earthexplorer.usgs.gov/) and the Altered Watercourse Project (https://www.arcgis.com/home/item.html?id=6a5c38a39fa44ef1b1811b17cd5215f1). Summaries of this and other information is provided as part of rule making.

NewRange Copper Nickel LLC requested that the MPCA review the use designation for Wyman Creek (04010201-942) and consider changing the aquatic life use designation from Class 2A to Class 2B. The MPCA reviewed the available information from this stream in 2019 and determined there was not sufficient evidence to support a use designation change. The MPCA must ensure that sufficient evidence demonstrates that changing this stream to a Class 2B will not result in the removal of an existing use (i.e., a use that was attained on or after November 28, 1975, as required by the Clean Water Act). This determination needs to follow state and federal regulations and requires approval from the EPA. This is especially important when changing a stream from a Class 2A to a Class 2B because the Class 2B carries with it less stringent standards. The available data does not meet this threshold, and a timeline to revisit this use designation is not currently available.

X. Responses to comments on revisions to the aquatic life ammonia standard

Commenters on this topic include:

- Sierra Club North Star Chapter
- Fond du Lac Band of Lake Superior Chippewa
- Gary Dukes
- Abi Parker
- Grand Portage Band of Lake Superior Chippewa

The MPCA received four written comments and one verbal comment pertaining to its intent to revise ammonia water quality standards for the protection of aquatic life.

The Fond du Lac Band of Lake Superior Chippewa expressed support for MPCA's active development of a revised ammonia standard and for keeping it in Group 1 (current and active) of the Work Plan. The Band also noted that it has promulgated a new ammonia standard for the protection of aquatic life that is similarly based on EPA's (2013) recommended water quality criteria for ammonia.

The Grand Portage Band of Lake Superior Chippewa requested that MPCA proceed in adopting EPA's (2013) recommended water quality criteria for ammonia and that it do so within the present triennial review period. The MPCA anticipates the completion of its rulemaking to adopt revised ammonia water quality standards during the present triennial review period (2025-2027).

Commenter Gary Dukes recollected fishing for trout during his boyhood and lamented that trout and other fish may be more threatened by ammonia and other forms of nitrogen pollution today. Gary Dukes expressed particular concern for the potential adverse effects of high levels of ammonia originating from farm manure and fertilizers. The North Star Chapter of the Sierra Club similarly expressed concern that ammonia levels can be particularly high in surface waters near sources of animal waste and adversely impact aquatic life. The MPCA appreciates concerns from commenters regarding how ammonia may be impacting aquatic life. Sierra Club's North Star Chapter additionally indicated that it supports and encourages the promulgation of revised ammonia water quality standards that follow EPA recommended criteria and are based in careful scientific evaluation.

The MPCA received a verbal comment from Abi Parker, who inquired if the revised ammonia standards (and new nitrate standards) would "apply to the monitoring of lakes and rivers". Ammonia (and nitrate) standards to protect aquatic life apply (and/or will apply) to Class 2 waters, which includes all lakes and rivers that are waters of the state. These standards are (and/or will be) informed by water quality monitoring that occurs in lakes and rivers throughout the state, and water quality data yielded from monitoring efforts is (and/or will be) used to assess whether the standards are achieved (i.e., whether waterbodies are impaired).

XI. Responses to comments on dissolved oxygen standards

Commenters on this topic include:

- Leech Lake Band of Ojibwe
- NewRange Copper Nickel LLC

The MPCA received two comments related to revisions to Minnesota's dissolved oxygen standards. One comment from NewRange Copper Nickel LLC indicated support for this effort. A second comment from the Leech Lake Nation indicated interest in following and possibly collaborating with the MPCA on the revisions. As this rule revision effort moves through the development process, the MPCA will provide updates and seek feedback and collaboration opportunities with Leech Lake Nation and others interested in developing protective and appropriate dissolved oxygen standards to support beneficial uses.

XII. Responses to comments regarding site-specific sulfate standard

Commenters on this topic include:

- Minnesota Environmental Science and Economic Review Board
- Coalition of Greater Minnesota Cities
- Fond du Lac Band of Lake Superior Chippewa
- Verbal comment at public meeting

Comments were received regarding MPCA's efforts to develop a site-specific sulfate standard (pertinent to wild rice protection) for the lower Mississippi River. The MPCA is currently evaluating water column sulfate data and its relationship to wild rice presence in the state, including, but not limited to, the Mississippi River pools 4-8 where there is also a large quantity of wild rice data. The Agency seeks to determine if the wild rice beneficial use, described as "production of wild rice" in Minnesota rule language (7050.0224), is being met, with the understanding that the term "production" refers to ecological production (generation of biomass) and not commercial harvesting. If the beneficial use is deemed to be met, MPCA will determine whether it is appropriate to assign a single site-specific standard (SSS) to the entire stretch of river (from approximately the Chippewa-Mississippi confluence downstream to the Iowa border) or instead apply multiple unique SSSs (each assigned to a shorter river segment that appears distinct in character).

Collection and analysis of data is being coordinated with external partners – U.S. Geological Survey, Metropolitan Council, Prairie Island Indian Community, and others – to improve data coverage and facilitate knowledge sharing regarding present and historical river conditions. Comments received include support for MPCA proceeding in developing a sulfate SSS for this area of the river, as well as a specific request to move this work to Group 2 (in technical development).

The MCPA is evaluating tools for standard implementation in consideration of wild rice presence in relationship to sulfate concentrations including, but not limited to, segments of the Lower Mississippi River.

XIII. Responses to comments on revisions to the aquatic life aluminum standard

Commenters on this topic include:

- NewRange Copper Nickel LLC

The MPCA received a verbal comment as well as written comments from NewRange Copper Nickel LLC pertaining to the Agency's intent to revise its aquatic life aluminum water quality standard (Group 2 – In technical development). NewRange noted that aluminum can occur at naturally elevated levels – concentrations exceeding the current water quality standard – in some northern Minnesota waters, and it asked how MPCA will take this into account when revising the standard. Minnesota rules account for natural water quality (Minn. R. 7050.0170), including a provision which specifies that natural background concentrations may be substituted as numeric water quality standards in instances where natural background levels exceed the applicable standards.

NewRange indicated that it supports the adoption of EPA's recommended water quality criteria for aluminum yet also expressed concern that revision of state water quality standards to match updated EPA criteria could result in "overprotective" numeric standard values for some locations in northern Minnesota due to high concentrations of dissolved organic carbon (DOC). The EPA's recommended water quality criteria for aluminum are chemistry-dependent, calculated using equations that incorporate pH, hardness, and DOC as input parameters. Each of these parameters influences aluminum bioavailability (toxicity to aquatic life). Because

aluminum becomes less bioavailable at high DOC concentrations, NewRange suggests that calculated aluminum standards could become too stringent when DOC concentrations exceed the range used by EPA (0.08-12.0 mg/L) in its aluminum toxicity model and criteria calculations. The MPCA intends to examine the range and variability of all relevant parameters – measured and/or predicted concentrations – when revising aluminum standards. The EPA recommends that aluminum standards be derived in a manner that will protect aquatic life across the full range of chemical conditions encountered at each site, specifically including those conditions under which aluminum is most bioavailable (toxic).

XIV. Response to comment regarding revisions to the aquatic life total suspended solids standard

Commenters on this topic include:

- Verbal comment

One commenter (Howard Markus) asked for clarification regarding what will be proposed as part of revisions to the total suspended solids (TSS) standard. The MPCA does not know the exact scope of any possible revisions to the TSS standard at this time because this is still under review. However, the impetus for the review is the finding that there are some habitats which perform well biologically, meeting the Exceptional Use in some cases, but do not attain the current TSS standard. This includes some rivers flowing through proglacial lake beds in northern Minnesota and coldwater streams in southeastern Minnesota. The MPCA is exploring possible solutions that will maintain protections for Minnesota streams from sediment pollution and acknowledge natural conditions in some regions. This could involve the development of site-specific standards, modifications to the regional framework for Minnesota's TSS standards (https://www.pca.state.mn.us/sites/default/files/wq-s6-18.pdf), or the development of new standards for these stream types.

XV. Responses to comments regarding the triennial standards review and timelines

Commenters on this topic include:

- Verbal comments at public meetings

Three comments were received at public meetings regarding the TSR process and timelines. Friends of the Mississippi River asked if there are estimated completion dates for items in Group 1 (current and active) and inquired about how previous TSRs aligned with actual outcomes and any lessons learned that informed MPCA's approach this time. The MPCA has made progress on items from previous TSRs as articulated in MPCA's reports to the Minnesota Legislature, the latest of which is the December 2025 Water Quality Standards project report. Our approach to TSRs remains consistent by gathering and considering public input on water quality standards development. Estimated timelines for completion of individual standards development efforts may shift due to unforeseen shifts in priorities and staff resource allocations. This has been true in working through previous Work Plans.

Water Legacy suggested the TSR communication could be improved, including more detail in the work plan projects, and lengthen the comment period. The MPCA appreciates need for better communication and continually looks for ways to improve the public's understanding of our standards work. One good source of information is MPCA's water quality standards webpage. Work Plan project descriptions are intended to strike a balance between being concise (providing enough information for the public to comment on) and not presenting overly lengthy technical descriptions. Additional information on active water quality standards projects may be found at the proposed rules webpage. Requests for Comments are published in the *State Register* for individual proposed water quality standards rulemakings. Should questions arise regarding standards work, staff are available to answer questions from the public. Regarding the length of the public comment period, the TSR was public noticed on December 9, 2024, and ended on February 7, 2025, for a total of 61 days. Public meetings were held on January 23 and 28, 2025, one meeting was held during work hours and the other after work hours to accommodate peoples' schedules. The MPCA exceeded public participation requirements (40 C.F.R. § 131.20 and 40 C.F.R. pt. 25) and believes that public comment period was sufficient.

XVI. Response to comment on identifying use classes

Commenters on this topic include:

- Verbal comment at public meeting

Water Legacy commented that the public cannot find the different class listings (e.g., Class 2B vs. 2Bd) and this information needs to be more transparent. The MPCA recognizes that the recording of use designations in Minn R. 7050 may not be user friendly. However, information on Class 2 designations can be obtained from the Surface Water Data access webpage (https://webapp.pca.state.mn.us/surface-water/search). Waterbodies can be searched on this webpage using either text- or map-based searches. The MPCA is also developing a beneficial use tool that will be more specific to the need described by the commenter. Use class changes are further being updated on the MPCA's water quality standards webpage for ease of searchability.