Water quality standards work plan for 2026 to 2028

Overview: As part of the 2025 triennial standards review the Minnesota Pollution Control Agency (MPCA) has developed a work plan for 2026 to 2028. The work plan articulates what the agency sees as priorities for new and revised Water Quality Standards (WQS). MPCA is:

- Prioritizing work on WQS projects in Group 1.
- Working on technical review of WQS projects in Group 2 with the intention to move into Group 1 in the next work plan.
- Evaluating if development of standards in Group 3 is feasible with current scientific understanding and staff time.

A description of each work plan category and project is provided below. Uncertainties including U.S. Environmental Protection Agency (EPA) criteria development, quantity, and quality of available data, shifts in priorities, and amount of staff time or turnover may affect standards moving up in groups at the next triennial review.

Water quality standards work plan for 2026 to 2028

Water Quality Standards – active development	**Water Quality Standards – initial evaluation and development**	
Group 1: Current and active	**Group 2: In technical development**	**Group 3: Tracking and evaluation**
Revisions to lake eutrophication WQS	Perfluorooctane sulfonate (PFOS) and Perfluorooctanoate (PFOA) – aquatic life	Sulfate standard evaluation – wild rice
	Update fish consumption rate – human health	PFOS and mercury in fish tissue – human health
Use Classes 2A (cold water)/2B (cool and warm water) modifications	Imidacloprid and clothianidin - aquatic life	Ion toxicity – aquatic life
Use Class 1 – human health standards for sources of drinking water	Dissolved oxygen (DO) for streams with naturally low DO – aquatic life	Cyanotoxins – recreation
Ammonia – aquatic life	Revisions to total suspended solids (TSS) – aquatic life	Reclassify the wild rice designated use from Class 4A to a Class 2 sub-class
	Aluminum and copper – aquatic life	Cadmium – aquatic life
	Nitrate – aquatic life	

Project descriptions

Group 1

- *Revisions to lake eutrophication WQS* – This draft revision includes several elements needed to update and modernize the eutrophication WQS for lakes. They include: 1) revising the northern lake eutrophication standards by adding standards for a shallow lake type, 2) reviewing protections for cold water fish species including lake trout, lake whitefish, and cisco and developing standards where needed, 3) review and designation of cold water lakes, 4) adoption of a Tiered Aquatic Life Use (TALU) framework for lakes, and 5) minor corrections and housekeeping revisions. A request for comment was published in September 2023. The rule is expected to be finalized in 2026.
- *Revisions to use Classes 2A (cold water)/2B (cool and warm water) modifications* – Revisions to the beneficial use designations of Class 2A and 2B waters are needed to update and align these designations with the improved tools now used by MPCA to assess the condition of Minnesota's waters, including the indices of biotic integrity and other biological criteria. This is the third set of revisions related to implementation of the TALU framework, which added new Class 2 beneficial use tiers for aquatic life. The numerical standards are not changing, but the use designations of a waterbody need to better align with the waterbody classification.
- *Revisions to use Class 1 (human health standards for sources of drinking water)* – Revisions to the Class 1 rules are needed to better define and protect waters used for domestic consumption (drinking water use and food processing) and address the inconsistencies and gaps in Minn. R. chs. 7050 and 7060 (underground waters). In addition, MPCA is considering updating narrative standards and adding close to 100 new and revised numeric Class 1 WQS, including a number of per- and polyfluoroalkyl substances (PFAS), and improving language to address surface water and groundwater interaction. Revisions are underway, in consultation with the Minnesota Department of Health (MDH) and other state agency partners with related authorities. The MPCA published a request for comments in December 2021 and in August 2023.
- *Revisions to ammonia standard to protect aquatic life* – The EPA issued a revised criteria document for ammonia in 2013, and MPCA developed a Technical Support Document (TSD) based on those revised criteria. The revision will bring Minnesota's standards into alignment with current scientific understanding on the sensitivity of freshwater mussels, snails, cold water fish, and other organisms to ammonia. The proposed standards will not be presented as single, fixed numeric values. Rather, they are each composed of a set of numeric values generated from equations, which reflect an understanding that the sensitivity of aquatic organisms to ammonia depends upon the pH and temperature of the water. A request for comment was published in Summer 2022.

Group 2

- *New PFOS and PFOA standards to protect aquatic life* – The EPA recently published aquatic life criteria for PFOS and PFOA. The addition of these standards is needed to maintain the consistency of Minnesota's water quality standards with EPA criteria.
- *Updates to fish consumption rates* – The MPCA has previously identified the need to update fish consumption rates (FCR) related to developmental contaminants that impact people who may become pregnant and developed an interim FCR to address this need. This interim FCR needs updating and formalization. There is also a need to consider FCR of subsistence fishers, whose health risk may be elevated due to additional consumption of contaminated fish. The FCR is an important component in the calculation of any updated fish tissue-based WQS, such as PFOS and mercury. Because of this, MPCA is prioritizing the work of updating the FCR, which needs to be completed prior to development of any new fish tissue WQS.

- *New imidacloprid and clothianidin standards to protect aquatic life* – The Minnesota Department of Agriculture (MDA) has named clothianidin and imidacloprid as pesticides of concern in surface waters. This designation means these pesticides were detected at concentrations of concern to aquatic life in rivers and streams relative to a water quality reference value. Most of this occurrence in surface water is due to runoff and nonpoint discharges. Minnesota has made progress towards data collection of toxicological information related to the toxicity of neonicotinoid pesticides to aquatic life. Consideration is needed whether these standards will be developed as separate standards or combined as cumulative impact standards.
- *Revision to dissolved oxygen (DO) standard* – This revision is needed to account for streams that have naturally lower DO concentrations. Currently, the DO standards vary for cold and warm water habitats, but do not take other natural factors (e.g., wetland influence, region of the state, stream gradient, etc.) into consideration. A DO framework that better aligns aquatic communities with various stream types would better serve the assessment process.
- *Revisions to river total suspended solids (TSS) standards to protect aquatic life* – This revision is needed to account for rivers that have naturally high TSS and also high-quality biological communities (e.g., rivers in glacial lake beds where the soil can have high silt and clay content). A thorough review of Minnesota's TSS and biological monitoring data (fish and invertebrates) must be completed prior to moving forward with this project, to ascertain the basis and likely approach for the revision.
- *Revisions to aluminum and copper standards to protect aquatic life* – The EPA developed updated criteria for aluminum and copper that reflect the latest scientific knowledge regarding the toxicity of these pollutants to aquatic life. The new criteria for aluminum incorporate pH, water hardness and dissolved organic carbon; the new criteria for copper are based on a biotic ligand model, which considers the amount of pollutant that is bioavailable and impacts aquatic life. These revisions are needed to maintain the consistency of Minnesota's water quality standards with EPA criteria.
- *New nitrate standard to protect aquatic life* – Technical development for this WQS resulted in a 2022 draft TSD that is available for review: (https://www.pca.state.mn.us/sites/default/files/wqs6-13.pdf). The MPCA, in coordination with its partners, has been pursuing a holistic, stepwise approach to help reduce nitrogen levels statewide prior to proposing 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 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. The schedule for the completion of this rulemaking process has not been determined.

Group 3

- *Standard for sulfate to protect wild rice* – The MPCA is evaluating tools for sulfate standard implementation in consideration of wild rice presence in relationship to sulfate concentrations including, but not limited to, segments of the Lower Mississippi River.
- *New PFOS standard in fish tissue to protect human health* – Development of a statewide, fish-tissue based human health water quality standards (HH-WQS) for PFOS is needed to address the large number of Minnesota waters that are impaired for PFOS in fish tissue. PFOS is an industrial pollutant that builds up (bioaccumulates) in fish and other aquatic life. Minnesota has been monitoring the presence of PFOS in fish tissue for several years. The PFAS Blueprint (February 2021) identified development of this WQS as a long-term need. The MPCA has developed site-specific criteria (SSC) for PFOS in fish tissue for several water bodies, but the new standard would apply statewide. This standard would be moved forward after completion of the update to the fish consumption rate.

- *Revision to mercury standard in fish tissue to protect human health* – The mercury standard for fish tissue is outdated, and Minnesota currently has many impaired waters for mercury in fish tissue. Additionally, climate change may impact mercury accumulation in fish. Review of new research and consideration of fish consumption rates need to be conducted to determine the likely approach for the revision. This standard would be moved forward after completion of the update to the fish consumption rate.
- *Revision of ion toxicity standard(s) to protect aquatic life* – Major geochemical ions like chloride and sulfate have been considered for individual standards, but scientific studies have demonstrated that the interactions of ions (e.g., chloride, sulfate, calcium, and others) should be considered to accurately account for individual and multi-ion toxicity. The EPA has been developing criteria for ions, which would include chloride and sulfate, and had originally expected to issue draft criteria in 2025. It is unclear whether this work will be completed on the original timeline, so the MPCA is evaluating options for addressing ionic toxicity, leaving this standard in Group 3 while options are being evaluated.
- *New cyanotoxin standards to protect recreation* – The EPA has published criteria for microcystins and cylindrospermopsin to protect recreation uses. The addition of these standards is needed to maintain the consistency of Minnesota's water quality standards with EPA criteria. There is also a need to address algal blooms, particularly in oligotrophic waterbodies where eutrophication standards are not exceeded.
- *Reclassify the wild rice designated use from Class 4A to a Class 2 sub-class* – The numeric sulfate water quality standard for the protection of wild rice currently resides within the Class 4A designated use, which is generally meant to protect waters used for agricultural irrigation and to prevent significant damage or adverse effects upon cultivated crops. Because the vast majority of wild rice grows in naturally occurring stands that are not subject to agricultural irrigation, it is more appropriate to assign the sulfate water quality standard to the Class 2 designated use, which is intended to broadly protect aquatic life. This change would not impact the magnitude of the numeric standard (10 mg/L sulfate), the MPCA's list of waters used for the production of wild rice, or the Agency's understanding that the standard is intended to protect both natural and cultivated wild rice.
- *Revisions to cadmium standard to protect aquatic life* – The EPA updated criteria for cadmium that reflect the latest scientific knowledge regarding the toxicity to aquatic life. The new criteria for cadmium incorporate water hardness into the standard. The EPA is currently re-evaluating their 2016 criteria, so MPCA will continue to track updates.