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Minnesota Pollution Control Agency
Commissioner Katrina Kessler (katrina.kessler@state.mn.us)
520 Lafayette Road
Saint Paul, MN 55155

RE: Minnesota Clean Water Act Section 303(d) Draft 2024 Impaired Waters List

Dear Commissioner Kessler,

Below, please find WaterLegacy's comments on the Minnesota Pollution Control Agency (MPCA) Draft 2024 Impaired Waters List submitted pursuant to Clean Water Act Section 303(d) and related materials. Our comments can be summarized as follows:

1. MPCA should maintain its identification of 2,395 Minnesota wild rice producing waters and include additional wild rice waters as they are identified.
2. MPCA should add the 20 wild rice producing waters impaired due to sulfate exceedance in its 2024 Draft List to MPCA's Final 2024 Impaired Waters List.
3. MPCA should add Dark Lake to Minnesota's 2024 list of wild rice producing waters impaired due to exceedance of Minnesota's sulfate standard.
4. MPCA should prioritize sulfate waste load allocations and NPDES effluent limits to attain compliance with Minnesota's wild rice standard through discharge permits.
5. MPCA should prioritize mercury reassessment as well as initial assessment and commit to control sulfate, among other factors, to reduce mercury impairments.

1. MPCA Should Maintain its Identification of 2,395 Minnesota Wild Rice Producing Waters and Include Additional Wild Rice Waters as They Are Identified.

WaterLegacy supports MPCA's identification of 2,395 Minnesota wild rice producing waters.¹ MPCA's journey to this point has been complicated. In the past, MPCA has taken a variety of positions to deny or constrain the identification of wild rice producing waters. At times, MPCA argued that only 24 Minnesota waters are identified as wild rice producing waters.² In 2016,

¹ MPCA, Wild Rice Producing Waters, Exhibit 1, last visited Dec. 26, 2023, available at https://public.tableau.com/app/profile/mpca.data.services/viz/wild_rice_v4/Information

² MPCA, Responses to Draft 2012 TMDL Public Comments, Sept. 7, 2012 (excerpt), Exhibit 2.

MPCA staff produced a database with more than 2,300 identified wild rice waters.³ Yet, MPCA only admitted in 2018 rulemaking that there were at least 1,300 wild rice producing waters in Minnesota.⁴

MPCA also adhered to a Minnesota 2015 session law purporting to preclude the agency from listing waters as impaired for the wild rice sulfate standard.⁵ Responding to questions from the U.S. Environmental Protection Agency (EPA), MPCA finally acknowledged in March 2021 that at least a few waters not already specified in Minnesota rules (Minn. R. 7050.0470) “demonstrate the beneficial use” for wild rice “under any reasonable assessment methodology.”⁶ Later in 2021, EPA reversed MPCA’s decision not to list any wild rice waters impaired for sulfate in 2020 and identified 33 waters impaired for the wild rice sulfate standard.⁷ In so doing, EPA also stated that any Minnesota law preventing listing of impaired waters conflicted with and “does not abrogate a state’s obligation to complete a list of impaired waters” under the Clean Water Act.⁸

In addition to breaking the logjam in listing wild rice impaired waters, EPA’s 2021 decision listing Minnesota waters impaired due to exceedance of the wild rice sulfate standard freed MPCA to identify wild rice producing waters based on evidence and tribal consultation. MPCA’s wild rice producing waters list now includes 2,395 wild rice waters.⁹ Consistent with Clean Water Act regulations, MPCA’s listings include “waterbodies that support an existing wild rice beneficial use as well as those that demonstrate the potential to attain the beneficial use in the future.”¹⁰ In each case where WaterLegacy reviewed listed wild rice producing waters, MPCA’s designation of wild rice waters was appropriate and evidence based.

WaterLegacy requests that MPCA

³ MPCA, Wild Rice Waters Database, July 19, 2016, Exhibit 3.

⁴ Report, *In the Matter of the Proposed Rules of the Pollution Control Agency Amending the Sulfate Water Quality Standard* (Minn. Off. Admin. Hr’gs Jan. 19, 2018) OAH 80-9003-34519 at ¶¶ 85, 88, 89, 110, 114, 134, 180, 234, 259, available at https://mn.gov/oah/assets/9003-34519-pca-sulfate-water-quality-standards-wild-rice-rules-report_tcm19-323507.pdf

⁵ MPCA, Responses to 2020 Draft Impaired Waters List Public Comments, Feb. 25, 2021 at 2 (excerpt), Exhibit 4 (citing 1st Special Session, Chapter 4, Article 4, Section 136).

⁶ Letter of MPCA Commissioner Katrina Kessler to EPA Region 5 Water Division Director Tera Fong, Mar. 15, 2021, at 4, Exhibit 5.

⁷ EPA’s Additions to Minnesota’s 2020 Impaired Waters List, Nov. 5, 2021, available at <https://www.epa.gov/tmdl/epas-additions-minnesotas-2020-impaired-waters-list>

⁸ *Id.*, Attachment 2: EPA Additions to the Minnesota’s 2020 Impaired Waters List - Response to Public Comments at 17 (citing 33 U.S.C. § 1313(d), 40 C.F.R. § 130.7).

⁹ MPCA Wild Rice Producing Waters, *supra*, Exhibit 1.

¹⁰ MPCA, Framework for Developing and Evaluating Site-Specific Sulfate Standards for the Protection of Wild Rice, Dec. 2023 (“MPCA Site-Specific Standards Framework”), at 6 (citing 40 C.F.R. §§ 131.2 and 131.3(f)), available at <https://www.pca.state.mn.us/sites/default/files/wq-s6-66a.pdf>

- Maintain the 2,395 Minnesota wild rice producing waters identified through 2023 and include additional wild rice waters as they are identified.
- Prepare an updated map of Minnesota wild rice producing waters on a user-friendly online platform, preferably with layers that identify upstream sulfate dischargers.

2. MPCA Should Add the 20 Wild Rice Producing Waters Impaired Due to Sulfate Exceedance in its 2024 Draft List to MPCA’s Final 2024 Impaired Waters List.

WaterLegacy supports MPCA’s proposal to add the following wild rice producing lakes and stream segments impaired due to exceedance of Minnesota’s sulfate standard to the 2024 impaired waters list:¹¹

Bear Lake (24-0028-00)	Little Rabbit Lake (18-0139-00)
Birch Lake (69-0003-00)	North Twin Lake (31-0190-00)
Buffalo River (09020106-594)	Orwell Lake (56-0945-00)
Cannon River (07040002-501)	Pearl Lake (73-0037-00)
Clearwater River (86-0252-02)	Poplar River (09020305-518)
Dunka River (09030001-987)	Rice Lake (Minnesota R.) (10-0078-00)
Elizabeth Lake (34-0022-02)	Rice Lake (Crow R.) (73-0196-00)
Embarrass River (04010201-B00)	Sturgeon River (09030005-527)
Green Lake (34-0079-00)	Tilde Lake (14-0004-00)
Hill River (09020305-539)	Trout Lake (31-0216-00)

WaterLegacy requests that MPCA:

- Add the 20 wild rice producing waters listed in MPCA’s Draft 2024 Impaired Waters List (above) as impaired due to exceedance of Minnesota’s sulfate standard to Minnesota’s Final 2024 Impaired Waters List.

3. MPCA Should add Dark Lake to Minnesota’s 2024 List of Wild Rice Producing Waters Impaired Due to Exceedance of Minnesota’s Sulfate Standard.

MPCA has recently identified Dark Lake in the Little Fork River watershed (69-0790-000) as a wild rice producing water.¹² The evidence supporting this listing is unequivocal. Despite a long record of degradation and pollution of Dark Lake due to construction and operation of the U.S. Steel Corp. Minntac tailings basin since 1966,¹³ wild rice has persisted in Dark Lake.

¹¹ MPCA Draft 2024 Impaired Waters List, available at <https://www.pca.state.mn.us/air-water-land-climate/minnesotas-impaired-waters-list>, excerpt with all Wild Rice Producing Waters Impaired for Sulfate (2024 Draft) provided in Exhibit 6 (2024 additions highlighted green).

¹² MPCA Wild Rice Producing Waters, Exhibit 1, *supra* at 109.

¹³ See e.g., MPCA Site-Specific Standards Framework, *supra* at 20-21.

Under contract with MPCA to conduct field surveys, the University of Minnesota LacCore Limnological Research Center found wild rice in Dark Lake in 2013.¹⁴ Results were as follows:

The rice observed at this location is just adjacent to the dock. Plants were fully mature, and most seed heads were still holding kernels. While the stand was small in abundance, plants appeared healthy, emerging . . .¹⁵

MPCA staff also documented the findings of wild rice in Dark Lake by Minnesota Department of Natural Resources (DNR) quoting botanist Karen Myhre in 2012, as follows:

I conduct rare aquatic plant searches for the Minnesota Biological Survey of the MNDNR. . . I conducted a rare aquatic plant search in the northeast bay of Dark Lake on 7/30/2012 and recorded that I observed wild rice in the course of the survey. The northeast bay has extensive emergent borders with wild rice as a component of these borders. . . Wild rice was one of the first species that I recorded (looking at the field data), which would indicate to me that it was immediately noticeable at the lake.¹⁶

Barr Engineering also found wild rice characterized as “three single-point locations” in its December 2013 survey of Dark Lake, as illustrated below:¹⁷



¹⁴ MPCA, Statement of Need and Reasonableness for Sulfate Standard, July 2017, at 43-44 (summarizing that in the LacCore surveys Dark Lake “had sparse or limited wild rice plants observed”), available at <https://www.leg.mn.gov/archive/sonar/SONAR-04324.pdf>.

¹⁵ MPCA, Gerald Blaha Emails June 20, 2013 and Sept. 6, 2013 regarding Dark Lake, Exhibit 7 at 1.

¹⁶ *Id.* at 2.

¹⁷ Barr Engineering, 2013 Wild Rice and Water Quality Sampling Report Dark River and Dark Lake prepared for U.S. Steel Corp., Dec. 2013, at 1, 7, C-1, excerpt in Exhibit 8.

Photographs taken for the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) in 2016 also clearly show that wild rice has been present in Dark Lake.¹⁸



The evidence is overwhelming that Dark Lake is impaired for wild rice beneficial use due to sulfate exceeding Minnesota’s wild rice sulfate standard. MPCA’s online surface water data for Dark Lake¹⁹ can be summarized as follows:

WID	Sample	Sample #	# >10 mg/L	% >10 mg/L	% Detect	Min Value	Max Value	Mean mg/L
69-0790-00	All samples	12	11	92	100	8.81	396	144.5
69-0790-00	Highest per date	7	7	100	100	41.1	396	188.7

Confirmation of sulfate concentrations in Dark Lake exceeding Minnesota’s wild rice sulfate standard is provided by U.S. Steel Minntac tailings basin discharge monitoring data at SW003 on the Dark River CR668 between the tailings basin and Dark Lake and at SW004, on the Dark River at CH65.²⁰ In summary,²¹ U.S. Steel’s discharge monitoring at SW003 included 10 sets of

¹⁸ 1854 Treaty Authority, Darren Vogt Email and Dark Lake photos by Scott Cardiff for GLIFWC, Nov. 29, 2016, Exhibit 9.

¹⁹ MPCA, Dark Lake Sulfate Data, Exhibit 10 from all Surface Water Data available at <https://webapp.pca.state.mn.us/surface-water/search?searchBy=Assessment&aud=19-0006-51>

²⁰ Location Maps for U.S. Steel Minntac Dark River monitoring sites SW003 and SW004, Exhibit 11.

²¹ U.S. Steel Minntac Permit MN0057207 Sulfate Data for Dark River Sites SW003 and SW004 (2013-2023), Exhibit 12, from MPCA Wastewater Data Browser available at <https://public.tableau.com/app/profile/mpca.data.services/viz/WastewaterDataBrowser/FrontPage>

sulfate data reported for 2018 and 2019. The minimum value reported at SW003 was 196 mg/L, the maximum value reported was 853 mg/L, and the mean was 607.6 mg/L. For monitoring station SW004, downstream of Dark Lake and farther away from the Minntac tailings basin than Dark Lake, 10 sets of data were reported for unique dates in 2018 and 2019. For SW004, the minimum sulfate value reported was 127 mg/L, the maximum value reported was 420 mg/L, and the mean was 280.7 mg/L.

There is no reasonable way to interpret MPCA's surface water data for Dark Lake and discharge monitoring from U.S. Steel both upstream and downstream of Dark Lake other than to conclude that sulfate in Dark Lake exceeds Minnesota's wild rice sulfate standard by at least an order of magnitude. There is no justification for MPCA's failure to list Dark Lake in 2024 as a wild rice producing water impaired due to sulfate exceeding Minnesota's sulfate standard.

In fact, the listing of Dark Lake should have been one of MPCA's highest priorities. The U.S. Steel Minntac tailings basin is the source of the sulfate pollution of Dark Lake, and the Minnesota courts have reversed MPCA's National Pollutant Discharge Elimination System (NPDES) permit for the Minntac tailings basin, ruling that Minnesota's wild rice sulfate standard applies to any surface seepage from the basin²² and to any seepage through groundwater to surface waters that is the functional equivalent of direct discharge.²³ The possible sale of U.S. Steel Corp.²⁴ increases the imperative for regulatory rigor in identifying the impairments resulting from its mine facility pollution.

WaterLegacy requests that MPCA:

- Add Dark Lake (69-0790-000) to Minnesota's Final 2024 list of wild rice producing waters impaired due to exceedance of the sulfate standard.

4. MPCA Should Prioritize Sulfate Waste Load Allocations and NPDES Effluent Limits to Attain Compliance with Minnesota's Wild Rice Standard through Discharge Permits.

All wild rice producing waters identified by MPCA as impaired due to sulfate exceeding Minnesota's standard are identified as EPA Consolidated Assessment and Listing Methodology (CALM) Category 5 and MPCA "Commitment Group 2."²⁵ EPA's CALM Category 5 means:

²² *In re Reissuance of NPDES/SDS Permit to U.S. Steel Corp.*, 937 N.W.2d 770, 787-89 (Minn. App. 2019) *rev'd on other grounds*, 954 N.W.2d 572 (Minn. 2021) (reversal and remand to determine if seepage collection systems prevented *all* discharge to surface water and, if not, to require water quality-based effluent limits—WQBELs—applying the wild rice rule).

²³ *In re Reissuance of NPDES/SDS Permit to U.S. Steel Corp.*, 954 N.W.2d 572, 574 n.1, 583 (Minn. 2021) (remand to MPCA to determine if Minntac seepage through groundwater is equivalent to direct discharge to surface water under the Clean Water Act).

²⁴ *See e.g.*, Isadore, C. (2023, Dec. 18) US Steel, once the world's largest corporation, agrees to sell itself to a Japanese company, *CNN*, Exhibit 13.

²⁵ Wild Rice Producing Waters Impaired for Sulfate (2024 Draft), *supra*, Exhibit 6.

“Impaired and TMDL study has not been approved by USEPA.”²⁶ Other EPA categories allow a state to forego performing a TMDL study either because a TMDL study has been completed or because one is not required. Category 5 has no such exemption.

All wild rice producing waters identified by MPCA as impaired due to sulfate exceeding Minnesota’s standard are classified by MPCA as “Commitment Group 2.”²⁷ This terminology is a misnomer. It does not mean that MPCA has committed to a less imminent date for a TMDL study and implementation, but rather that MPCA has set no TMDL deadline, but intends to re-evaluate the impairment in the future and determine when and if MPCA should move to a TMDL commitment.²⁸

The Clean Water Act requires that states identify impaired waters and the “priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters.” 33 U.S.C. § 1313(d)(1)(A). The state must then establish the total maximum daily load (TMDL) “in accordance with the priority ranking.” *Id.* at § 1313(d)(1)(C). Regulations implementing the Act clarify that states must plan for all impaired waters still requiring wasteload allocations (WLAs), load allocations (LAs) and total maximum daily loads (TMDLs). 40 C.F.R. § 130.7(a). States must “include a priority ranking for all listed water quality-limited segments still requiring TMDLs” based on the “severity of the pollution and the uses to be made of such waters” and must establish TMDLs “in accordance with the priority ranking.” 40 C.F.R. § 130.7(b)(4) and (c)(1). This “priority ranking including waters targeted for TMDL development within the next two years” must be submitted to EPA. 40 C.F.R. § 130.7(d).

MPCA has placed no priority on TMDLs for any wild rice producing waters impaired due to sulfate and has proposed no target year for development of any applicable TMDL. MPCA has applied scientific evidence to describe the problem, but has deferred any commitment to complete sulfate load allocations, let alone reduce sulfate loadings. Without a commitment to develop and implement sulfate reduction to attain Minnesota’s 10 mg/L wild rice sulfate standard, MPCA’s draft 2024 impaired waters submittal is inadequate to protect wild rice and inconsistent with the Clean Water Act.

MPCA’s TMDL Prioritization Framework rationalizes the failure to establish sulfate maximum loadings that will restore compliance with Minnesota’s wild rice sulfate standard by stating: “Sulfate impairments are predominantly point source driven, and the MPCA is primarily addressing these impairments through discharge permits.”²⁹ The first part of this statement is correct; but the second is at best aspirational, if not misleading.

²⁶ MPCA Draft 2024 Impaired Waters List, *supra*, EPA Categories tab.

²⁷ Wild Rice Producing Waters Impaired for Sulfate (2024 Draft), *supra*, Exhibit 6.

²⁸ MPCA Draft 2024 Impaired Waters List, *supra*, General Notes tab.

²⁹ MPCA, Minnesota’s TMDL Prioritization Framework 2022-2032, October 2023 Draft (“TMDL Prioritization Framework”) at 12, Exhibit 14.

Minnesota's 55 draft sulfate impaired wild rice producing waters are not just "point source" driven. It is likely that discharges controlled by three mining companies—all of which are regulated by NPDES permits—are the primary if not sole sulfate sources for approximately half of Minnesota's identified wild rice producing waters impaired due to sulfate.³⁰

MPCA has recognized: "Sulfate concentrations in the Northern Lakes and Forest ecoregion are nearly always below 10 mg/L, except for waters flowing from the Iron Range, where taconite mines and tailings basins contribute substantial sulfate loads."³¹ Even in the St. Louis River Estuary, where there might be other sources of sulfate, MPCA has determined that mining point sources are the primary sources of sulfate pollution, as recently summarized:

Sulfate in the St. Louis River Estuary is dominated by loading from mining-influenced water, with upwards of 95% of sulfate loading to the estuary coming from areas containing the mining activity. There are municipal wastewater dischargers in this watershed, but their cumulative effect on sulfate loading is small, making up less than 2% of the total sulfate load. In this watershed, if all loading from point sources was eliminated, the estuary would have a sulfate level of less than 10 mg/L, approximately in alignment with regional baseline sulfate levels.³²

It would be practical, feasible, and plain common sense to prioritize restoration of Minnesota wild rice producing waters impaired due to sulfate exceedances by issuing and enforcing NPDES permits with sulfate limits based on sulfate waste load allocations that attain compliance with Minnesota's sulfate standard. However, MPCA's actual conduct has been just the opposite.

MPCA has neither enforced sulfate water quality-based effluent limits (WQBELs) in existing NPDES permits nor reissued NPDES permits to include sulfate WQBELs. In October 2011, the MPCA approved NPDES permits for the U.S. Steel Keetac mine (MN0031879) and the Keetac tailings basin (MN0055948).³³ After interim periods where only monitoring was required, the Keetac mine permit and the Keetac tailings basin permit set a 14 mg/L average monthly limit for sulfate and a 24 mg/L maximum limit for sulfate.³⁴ U.S. Steel was required to comply with these numeric effluent limits for sulfate by August 17, 2018 for the mine site and by August 17, 2019 for the tailings basin site.³⁵

³⁰ Wild Rice Producing Waters Impaired for Sulfate – Potential Sources. Exhibit 15.

³¹ MPCA Site-Specific Standards Framework, *supra*, at 21.

³² *Id.* at 23.

³³ MPCA Citizens' Board Materials for Authorization to Issue NPDES/SDS Permits for U.S. Steel Keetac Mine and Tailings Basin MN0031879 and MN0055948, Oct. 14, 2011, Exhibit 16.

³⁴ *Id.*, Permit MN0031879 at 7-12; Permit MN0055948 at 7-10.

³⁵ *Id.*, Findings of Fact for Permit MN0031879 at 6, ¶¶39-40; Findings of Fact for Permit MN0055948 at 7, ¶¶39-40.

U.S. Steel filed no administrative appeal challenging these sulfate effluent limits. As shown by MPCA's wastewater discharge monitoring records for the Keetac mine since August 2018 and for the Keetac tailings basin since August 2019, neither the U.S. Steel Keetac mine nor tailings basin have complied with their sulfate permit limits since the dates that those limits became effective.³⁶ Yet, no information suggests that MPCA has penalized or taken enforcement action due to these permit violations.

Apart from the Keetac mine sources, no other MPCA NPDES permits for taconite or other metallic mining facilities contain WQBELs for sulfate to comply with Minnesota's wild rice sulfate standard. The Minnesota Supreme Court reversed MPCA's NPDES permit for the U.S. Steel Minntac tailings basin and its NPDES permit for the proposed PolyMet NorthMet mine.³⁷ Neither permit contained any WQBELs limiting sulfate to comply with the wild rice sulfate standard. Since the Minntac tailings basin permit was reversed by the Minnesota Supreme Court in 2021, MPCA has not reissued a notice for the permit addressing the Court's concerns or the need to protect wild rice.

Despite various agreements with the EPA for more than a decade to jointly prioritize reissuance of taconite mining permits that are long expired and administratively extended, MPCA has failed to do so.³⁸ Although MPCA authorized transfer of the Cliffs Erie Hoyt Lakes permit (MN0054089) to PolyMet in 2018, MPCA did not update permit provisions or establish WQBELs limiting sulfate to comply with the wild rice sulfate standard. MPCA has not updated or issued a notice attempting to update any of the taconite mining permits identified with EPA as joint priorities. Other than the Keetac permits, the terms of which have been violated for several years with no apparent consequences, no taconite mine permits contain effluent limits for sulfate to comply with the wild rice sulfate standard. MPCA has developed no waste load allocations to attain Minnesota's 10 mg/L wild rice sulfate standard whether in waters downstream of existing taconite mine permitted facilities or for the proposed PolyMet copper-nickel mine.

Its poor track record demonstrates that MPCA has not "addressed" sulfate impairments in wild rice waters. It has ignored, neglected, or passively observed them. However, MPCA now has the opportunity to make a different choice consistent with the Clean Water Act, the effective protection of wild rice, and the use of wild rice producing waters for exercise of treaty-reserved rights as well as for fishing, recreation, and wildlife.

MPCA should revise its Draft 2024 Impaired Waters List and TMDL submittal to prioritize sulfate waste load allocations and NPDES effluent limits driven by mining point source sulfate discharge. WaterLegacy requests that MPCA:

³⁶ U. S. Steel – Keetac (MN0031879) and U.S. Steel Keetac Tailings Basin (MN0055948) Sulfate Data downloaded from MPCA Wastewater Data Browser, Exhibit 17.

³⁷ See fn. 23, *supra* and *Matter of Denial of Contested Case Hearing Requests*, 993 N.W.2d 627, 635 (Minn. 2023) (reversal of NorthMet NPDES permit approval as "arbitrary and capricious).

³⁸ MPCA and EPA Mining Permits [Schedule] Oct. 1, 2012- Sept. 30, 2016 and FFY 2014 Report on the 2012-2016 Mining Permits [Schedule], Exhibit 18, also available at <https://www.epa.gov/mn/npdes-petition-program-withdrawal-minnesota>

- Commit to prompt and effective enforcement of the sulfate effluent limits in the U.S. Steel Corp. Keetac mine and tailings basin NPDES permits.
- Categorize all sulfate impaired wild rice producing waters where a mining NPDES point source is the predominant or sole source of sulfate pollution as Commitment Group 1A.
- Commit to determine between 2024 and 2026 the waste load allocation for sulfate that will achieve compliance with Minnesota’s wild rice standard³⁹ for each Group 1A sulfate impaired waterbody.
- Commit that no new NPDES mining permit predicting sulfate discharge upstream of any Group 1A sulfate impaired waterbody will be issued without a sulfate load allocation and sulfate WQBELs for concentration and load to attain compliance with Minnesota’s wild rice standard.
- Commit to reissue from 2024 through 2028 every existing NPDES mining permit causing or contributing to a Group 1A wild rice waters sulfate impairment, with Clean Water Act limits including sulfate WQBELs for concentration and load to attain compliance with Minnesota’s wild rice standard.

5. MPCA Should Prioritize Mercury Reassessment as well as Initial Assessment and Commit to Control Sulfate, Among Other Factors, to Reduce Mercury Impairments.

WaterLegacy’s review of MPCA’s Draft 2024 Impaired Waters list and supporting narrative materials revealed inadequacies in each of the following areas: A) MPCA’s insufficient commitment to complete mercury TMDL studies to remove aquatic consumption impairments due to mercury exceeding Minnesota standards; B) MPCA’s insufficient reassessment as well as assessment of mercury impairments; and C) MPCA’s failure to address the relationship between sulfate and mercury impairments.

A. MPCA’s Insufficient Commitments to Mercury TMDL Study Completion.

MPCA’s Draft 2024 Impaired Waters has 425 waterbodies impaired for aquatic consumption due to mercury in the water column or in fish exceeding Minnesota’s water quality standards on its “TMDL List.”⁴⁰ Each of these waterbodies are in EPA CALM Category 5, meaning that the water body is impaired and no TMDL study has been approved by EPA. Of these 425, there are 75 waterbodies that the MPCA identifies as Commitment Group 1 priority, which MPCA

³⁹ MPCA commitments should be made in tabbed notes to the Final 2024 Minnesota Impaired Waters List and detailed in a revised final TMDL Prioritization Framework.

⁴⁰ MPCA Draft 2024 Impaired Waters List, *supra*, all Mercury Impaired Waters on MPCA’s “2024 TMDL List” (“Mercury TMDL Waters”), Exhibit 19.

explains means that “MPCA commits to having in-progress TMDLs during the next two-year period (October 1, 2024–September 30, 2026).”⁴¹

MPCA’s General Notes make no commitment as to when these TMDL studies will be completed. The document MPCA cites in these General Notes only states the following for each “TMDL Commitment”: “In development.”⁴² WaterLegacy reviewed MPCA’s Impaired Waters Lists from 2016 through 2022; each had a column for the proposed “TMDL completion year.” MPCA’s Draft 2024 Impaired Waters List has no column with completion dates for any TMDL.

Clean Water Act regulations require states to provide the priority ranking for TMDLs “including waters targeted for TMDL development within the next two years.” 40 C.F.R. § 130.7(b)(4). In Section 130.7, paragraph (c) is entitled “Development of TMDLs and individual water quality based effluent limitations.” This paragraph entails *establishment* of TMDLs “at levels necessary to attain and maintain applicable narrative and numerical WQS with seasonal variations and a margin of safety.” 40 C.F.R. § 130.7(c) (emphasis added). “Development” in Clean Water Act regulations doesn’t mean just *starting* a TMDL process.

The difference between starting and completing a TMDL is not academic. A St. Louis River mercury TMDL study was funded and well underway by 2011 with the participation of EPA, Minnesota, Wisconsin, and Fond du Lac Band of Lake Superior Chippewa regulators, but was terminated by MPCA in 2013 due to a disagreement about modeling. Even if the MPCA now has sole control of upcoming mercury TMDLs, there is still a risk of delay or termination if controversy arises.

If MPCA intended that its Commitment Group 1 language be interpreted to require completion of the listed TMDLs by September 30, 2026, the text needs to be clarified; otherwise target completion dates should be provided. WaterLegacy requests that MPCA:

- Clarify in its General Notes that 2026 is MPCA’s targeted TMDL completion date for all of its Group 1 priority waters, or
- Revise MPCA’s Draft 2024 Impaired Waters List to include specific prompt TMDL completion target dates for Group 1 priority mercury impaired waters.

The second gap in MPCA’s commitment to mercury TMDL completion is that 82% (350 out of 425) of Minnesota mercury impaired waters on MPCA’s draft TMDL list are in “Commitment Group 2.”⁴³ As explained *supra* at page 7, “Group 2” means that MPCA has committed to nothing more than that a potential TMDL process will be considered in the future. All mercury TMDLs in the following watersheds are Group 2, so MPCA has set neither a start date nor a target completion date for *any* mercury TMDL in the following major watersheds:

⁴¹ MPCA Draft 2024 Impaired Waters List, *supra*, General Notes tab.

⁴² Minnesota’s TMDL Commitments October 2023 Draft Federal Fiscal Year 2025-2026, available at <https://www.pca.state.mn.us/sites/default/files/wq-iw1-83.pdf>

⁴³ Mercury TMDL Waters, Exhibit 19.

Minnesota River Red River of the North Upper Mississippi River
Rainy River St. Croix River

Waters in these watersheds that are threatened by proposed new sulfide mining and discharge of sulfate should be prioritized for a mercury TMDL. These include Round Lake (01-0070-00) in the Upper Mississippi River basin and Birch Lake (69-0003-00) in the Rainy River basin. Both of these lakes have been listed as impaired due to mercury in fish tissue since 1998 and are threatened by proposed sulfide ore mining.

WaterLegacy requests that MPCA:

- Add both Round Lake (01-0070-00) in the Upper Mississippi River and Birch Lake (69-0003-00) in the Rainy River basin to MPCA's TMDL Group 1 priority mercury impaired waters.
- Set a target date no later than 2026 for mercury TMDL completion for Round Lake (01-0070-00) and Birch Lake (69-0003-00).

B. MPCA's Insufficient Reassessment and Assessment of Mercury Impairments.

WaterLegacy is concerned that MPCA's Draft 2024 Impaired Waters List reflects insufficient reassessment as well as insufficient mercury assessment to protect public health and environmental justice.

MPCA's Draft 2024 Impaired Waters List identifies 1,274 mercury-impaired waters categorized under EPA's CALM Category 4A, so that no TMDL specific to that waterbody is required.⁴⁴ This exclusion is based on a prediction by MPCA and EPA based on fish tissue mercury at the time of assessment that compliance with Minnesota's statewide mercury air emissions TMDL will result in attainment of mercury standards for fish tissue in that waterbody by 2025.⁴⁵ More than half (649) of Minnesota's Category 4A waters for which no waterbody-specific TMDL needs to be done were first listed in 1998, a quarter of a century ago.⁴⁶

⁴⁴ Draft 2024 Impaired Waters List, *supra*, EPA Categories tab (EPA CALM Category 4A means that no TMDL is required because "a TMDL has been approved by USEPA") and worksheet in 2024 Mercury TMDL App A ("Mercury 4A Waters"), Exhibit 20.

⁴⁵ Draft 2024 Impaired Waters List, *supra*, General Notes tab. If average fish tissue mercury exceeded 0.2 mg/kg and was equal to or less than 0.572 mg/kg when the fish was tested, a waterbody would require no mercury TMDL other than the statewide air emissions TMDL. The prediction for mercury compliance in these waters is stated in the MPCA TMDL Prioritization Framework, Exhibit 14 at 11 and MPCA's Assessment Manual Guidance for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment ("MPCA Assessment Manual") Nov. 2023, available at 46, <https://www.pca.state.mn.us/sites/default/files/wq-iw1-04m.pdf>.

⁴⁶ Mercury 4A Waters, sorted by date listed as impaired, at 14-27, Exhibit 20.

WaterLegacy reviewed several mercury impaired waters in the Tamarack region seeking information on recent mercury fish tissue assessments. For Mille Lacs, Lake Minnewawa, and Big Sandy Lake, MPCA’s online Surface Water Data provided a single year when Aquatic Consumption assessment was done—1998.⁴⁷ No public record suggests that these lakes or other lakes listed as impaired 25 years ago have been reassessed since then. No publicly available data verifies the assumption that Minnesota’s statewide air emissions TMDL will result in compliance with fish tissue mercury standards in all Category 4A mercury impaired waterbodies by 2025. MPCA’s lack of reassessment data for mercury in fish tissue undermines the premise for exemption of 1,274 mercury-impaired waters from a waterbody specific TMDL.

The current TMDL status of identified mercury impaired waterbodies is summarized below:

Category or Description	Mercury Impaired Waterbodies	No Waterbody Specific TMDL	Yes Waterbody Specific TMDL	Commitment to Begin a Waterbody TMDL	No Date Even to Begin a Waterbody TMDL
EPA Category 4A	1274	1274	0	0	1274
EPA Category 5	425	0	425	75	350
TOTAL Number	1699	1274	425	75	1624
Percent	100%	75%	25%	4%	96%

In addition, it is often assumed that the Impaired Waters List is a comprehensive analysis of all mercury impairments. But that is not the case. MPCA’s Assessment Manual explains that the list only includes “water bodies from which the fish have been tested and found to exceed the impairment thresholds.”⁴⁸ The Manual provides an “important caveat” that “one cannot assume, because a particular water body does not appear on the IWL [Impaired Waters List], the fish in that water body are safe for unlimited consumption. Most likely, it means the fish from that water body have not been tested.”⁴⁹

WaterLegacy reviewed MPCA data for the water bodies into which Talon Metals has proposed to discharge wastewater from its sulfide ore mine, should it be permitted: the Tamarack River between the Little Tamarack and the Prairie River (07010103-758) and the Unnamed Creek tributary to this Tamarack River segment (07010103-735). MPCA’s Surface Water Data contain no sampling for mercury at any time for either this Tamarack River segment or its Unnamed Creek tributary.⁵⁰ MPCA’s Assessment Data indicate both the 7.25 mile Tamarack River

⁴⁷ MPCA Surface Water Data, *supra*.

⁴⁸ MPCA Assessment Manual, *supra*, at 50.

⁴⁹ *Id.*

⁵⁰ MPCA Surface Water Data, *supra*, for Tamarack R. (07010103-758) and Unnamed Creek (07010103-735).

segment and the 3.5 mile Unnamed Creek have “a thriving community of fish and other aquatic organisms,” but aquatic consumption use was “not assessed” for either waterbody.⁵¹

The importance of mercury assessment cannot be overstated. As MPCA explained in its Assessment Manual:

Why is it important to assess for mercury?

Mercury is the classic example of a bioaccumulative element; it never degrades and it can bioaccumulate through the food chain to reach toxic levels in many fish species, which if eaten in high amounts, can lead to serious health effects. Neurodevelopmental effects to children exposed during gestation are of most concern.⁵²

Mercury reassessment is needed to determine if individual waterbody specific TMDLs are required, particularly where there is a likelihood that waterbodies have natural or anthropogenic factors that could exacerbate the impacts of mercury air deposition. New mercury assessments should prioritize watersheds where existing or proposed sources of sulfate could cause or contribute to mercury impairments.

WaterLegacy requests that MPCA:

- Conduct a reassessment of mercury in fish tissue in Category 4A mercury impaired waters by 2025: 1) selecting waters with likely exacerbating factors, including sulfate, and also 2) randomly sampling to test the assumption that the statewide air deposition TMDL will result in mercury standard compliance by 2025.
- Assess the Tamarack River segment (07010103-758) and its tributary Unnamed Creek (07010103-735) for mercury in fish tissue and mercury in the water column in 2024 and subsequent years.

C) MPCA’s Failure to Address Relationships Between Sulfate and Mercury Impairments.

WaterLegacy is not only concerned that MPCA’s Draft 2024 Impaired Waters List excludes the vast majority of mercury impaired waters from an individual waterbody specific TMDL. It is also problematic that MPCA’s TMDL Prioritization Framework attributes mercury in fish tissue solely to mercury “emitted into the atmosphere [that] deposits in lakes and streams and accumulates in fish” and assumes that limiting mercury air emissions without addressing other exacerbating factors will result in mercury water quality standards attainment by 2025.⁵³

⁵¹ MPCA Surface Water Data, *supra*, Tamarack River segment and tributary assessment, Exhibit 21. (Note that the Tamarack River segment is impaired for E. coli bacteria).

⁵² MPCA Assessment Manual, *supra*, at 45.

⁵³ MPCA TMDL Prioritization Framework, Exhibit 14 at 11.

The weight of scientific evidence demonstrates that other factors, including sulfate pollution, must also be controlled to prevent mercury bioaccumulation in fish. Sulfate discharge increases both mercury release from sediments and wetlands and the methylation that allows for bioaccumulation. In 2006, MPCA recognized the need to minimize sulfate to reduce impairments due to methylmercury in fish tissue:

It is important to minimize the effect of sulfate on MeHg [methylmercury] and P [phosphorus] because Minnesota's water quality is threatened by these chemicals state-wide. Federal NPDES permitting regulations prohibit the authorization of wastewater discharges that may cause or contribute to water quality impairments. Numerous water bodies in the state are listed as impaired because the MeHg concentrations in fish tissues make the fish unsuitable for frequent human consumption. Similarly, numerous water bodies are impaired because of excess P concentrations.⁵⁴

Since 2006, the strength of the scientific evidence that sulfate increases mercury release from wetlands and sediments and mercury methylation has only increased.⁵⁵ In 2022, EPA cited scientific evidence of the relationship between sulfate and mercury exceedances of water quality standards in determining that the proposed PolyMet NorthMet Clean Water Act Section 404 permit would contribute to violations of mercury water quality standards. EPA explained that “wetland alterations, in addition to the loading of sulfates from the construction and operation of the NorthMet project, will both enhance methylation of mercury already present in the wetlands affected by the proposed mine and mobilize both total and methylmercury” resulting in export and exceedance of downstream mercury standards.⁵⁶

MPCA's failure to address the relationship between sulfate loading and impairment of aquatic consumption due to mercury has understated the need for individual waterbody specific TMDLs for mercury impairments. Failure to recognize this relationship will undermine the scientific validity of any mercury TMDL that reflects this bias and prevent development of implementation plans that attain compliance with Minnesota water quality standards.

WaterLegacy requests that MPCA:

- Revise MPCA's TMDL Prioritization Framework to explicitly recognize that mercury impairments result from mercury air deposition exacerbated by other factors, including sulfate pollution.

⁵⁴ MPCA Strategy to Address Indirect Effects of Elevated Sulfate on Methylmercury Production and Phosphorus Availability, Final, Oct. 19, 2006 at 1, Exhibit 22.

⁵⁵ See e.g., Peer-reviewed Articles in Exhibit 23.

⁵⁶ EPA Clean Water Act Section 401(a)(2) Evaluation and Recommendations with respect to the Fond du Lac Band's Objection to the Proposed Clean Water Act Section 404 Permit for the NorthMet Mine Project, Apr. 29, 2022, at 16, available at <https://www.epa.gov/mn/polymet-northmet-mine#materials>.

- Model, study, and implement controls on sulfate loading among other contributing factors to attain compliance with mercury water quality standards in any TMDL study or implementation plan developed by MPCA in a watershed affected by sulfate discharge.

CONCLUSION

Based on the cited and attached references, WaterLegacy requests that MPCA take the following actions in connection with Minnesota's Draft 2024 Impaired Waters List and related documents:

- Maintain the 2,395 Minnesota wild rice producing waters identified through 2023 and include additional waters as they are identified.
- Prepare an updated map of Minnesota wild rice producing waters on a user-friendly online platform, preferably with layers that identify upstream sulfate dischargers.
- Add the 20 wild rice producing waters listed in MPCA's Draft 2024 Impaired Waters List as impaired due to exceedance of Minnesota's sulfate standard to Minnesota's Final 2024 Impaired Waters List.
- Add Dark Lake (69-0790-000) to Minnesota's Final 2024 List of wild rice producing waters impaired due to exceedance of the sulfate standard.
- Commit to prompt and effective enforcement of the sulfate effluent limits in the U.S. Steel Corp. Keetac mine and tailings basin NPDES permits.
- Categorize all sulfate impaired wild rice producing waters where a mining NPDES point source is the predominant or sole source of sulfate pollution as Commitment Group 1A.
- Commit to determine between 2024 and 2026 the waste load allocation for sulfate that will achieve compliance with Minnesota's wild rice standard⁵⁷ for each Group 1A sulfate impaired waterbody.
- Commit that no new NPDES mining permit predicting sulfate discharge upstream of any Group 1A sulfate impaired waterbody will be issued without a sulfate load allocation and sulfate WQBELs for concentration and load to attain compliance with Minnesota's wild rice standard.
- Commit to reissue from 2024 through 2028 every existing NPDES mining permit causing or contributing to a Group 1A wild rice waters sulfate impairment, with

⁵⁷ MPCA commitments should be made in tabbed notes to the Final 2024 Minnesota Impaired Waters List and detailed in a revised final TMDL Prioritization Framework.

Clean Water Act limits including sulfate WQBELs for concentration and load to attain compliance with Minnesota's wild rice standard.

- Clarify in its General Notes that 2026 is MPCA's targeted TMDL completion date for all of its Group 1 priority waters, or revise MPCA's Draft 2024 Impaired Waters List to include specific prompt TMDL completion target dates for Group 1 priority mercury impaired waters.
- Add both Round Lake (01-0070-00) in the Upper Mississippi River and Birch Lake (69-0003-00) in the Rainy River basin to MPCA's TMDL Group 1 priority mercury impaired waters.
- Set a target date for mercury TMDL completion for Round Lake and Birch Lake no later than 2026.
- Conduct a reassessment of mercury in fish tissue in Category 4A mercury impaired waters by 2025: 1) selecting waters with likely exacerbating factors, including sulfate, and also 2) randomly sampling to test the assumption that the statewide air deposition TMDL will result in mercury standard compliance by 2025.
- Assess the Tamarack River segment (07010103-758) and its tributary Unnamed Creek (07010103-735) for mercury in fish tissue and mercury in the water column in 2024 and subsequent years.
- Revise MPCA's TMDL Prioritization Framework to explicitly recognize that mercury impairments result from mercury air deposition exacerbated by other factors, including sulfate pollution.
- Model, study, and implement controls on sulfate loading among other contributing factors to attain compliance with mercury water quality standards in any TMDL study or implementation plan developed by MPCA in a watershed affected by sulfate discharge.

Thank you for the opportunity to provide our comments. Please contact us if you have any questions or would like additional information.

Sincerely yours,



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