REGION 5
CHICAGO, IL 60604

March 5, 2024

Mr. Todd Biewen, Director
Environmental Analysis and Outcomes Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Dear Mr. Biewen:

The U.S. Environmental Protection Agency has conducted a complete review of the 2024 revisions to Appendix A of the Minnesota Statewide Mercury Total Maximum Daily Load (TMDL) received by EPA on February 5, 2024. The 2024 revisions include eighteen (18) new water body segments added to Appendix A of the final TMDL.

EPA has determined that no changes are being made to the original elements of the Statewide Mercury TMDL as approved on March 27, 2007, and subsequently revised on April 3, 2008, September 28, 2010, May 31, 2013, September 25, 2014, October 23, 2018, March 16, 2021, and March 3, 2022. This decision addresses amendments to water body segments included in Appendix A.

EPA has determined that the revisions to Appendix A meet the requirement of Section 303(d) ofthe Clean Water Act, 33 U.S.C. Section 1313(d), and EPA's implementing regulations of 40 C.F.R. Part 130. Therefore, EPA approves the revisions to Appendix A. The statutory and regulatory requirements, and EPA's review of Minnesota's compliance with these requirements, are described in the enclosed decision document.

We wish to acknowledge Minnesota's effort in submitting the 2024 revisions to the Statewide Mercury TMDL. If you have any questions, please contact Mr. Paul Proto, at proto.paul@epa.gov.

Sincerely,

3/5/2024

X

Tera L. Fong
Director, Water Division
Signed by: TERA FONG

TMDL Decision Document

TMDL: 2024 Revision to the Minnesota Statewide Mercury Total Maximum Daily Load
Approval Date: March 5, 2024

Background

On March 27, 2007, the United States Environmental Protection Agency approved the northeast (NE) and southwest (SW) regional mercury Total Maximum Daily Loads (TMDLs) submitted by the State of Minnesota.[1] For purposes of this Decision Document, the NE and SW regional mercury TMDLs approved on March 27, 2007 will be referred to as the "Original TMDL." The Original TMDL addresses certain water bodies not meeting designated uses for fish consumption due to exceedances of the numeric mercury water column water quality standard (WQS) and/or certain elevated mercury concentrations in fish tissue. It does not cover all mercury-impaired waters of the State, rather, as explained below, it covers only those water bodies where the fish tissue mercury concentration data ranges from, and including, 0.2 mg/kg to not greater than 0.572 mg/kg.

The Original TMDL was developed by the Minnesota Pollution Control Agency (MPCA) and established a load allocation (LA) for the primary nonpoint source, atmospheric deposition. MPCA assigned wasteload allocations (WLA) to point sources, including electricity generators, wastewater treatment facilities, and industrial discharges (e.g., pulp & paper mills, taconite processing facilities and refineries).[2] Attachment #3 of this Decision Document identifies National Pollutant Discharge Elimination System (NPDES) permitted facilities which are covered via the WLA of the Statewide Mercury TMDL (i.e., Statewide TMDL). An explicit margin of safety (MOS) was established for the SW regional mercury TMDL while an implicit MOS was employed for the NE regional mercury TMDL.[3]

MPCA assesses fish tissue concentration data and mercury water column data on a biennial basis in accordance with its water quality monitoring strategy. These data are most currently assessed according to MPCA's approach described in its 2024 Methodology document.[4] MPCA completes its water quality data assessment (i.e., whether a water body is deemed to be impaired or not impaired) on an annual basis and presents the results of those determinations in the Minnesota biennial 303(d) list. There are three possible outcomes of the State's assessment of new fish tissue data.

1. If the fish tissue mercury concentration data is greater than 0.572 mg/kg and the data meet MPCA's Quality Assurance/Quality Control (QA/QC) criteria described in the 2024 Methodology, the water body segment is not covered by the Statewide TMDL and, instead, is added to the Minnesota 303(d) list as an impaired water (i.e., Category 5 water body segment).

[1] A copy of EPA's March 27, 2007 approval is included as Attachment #1 to this Decision Document. EPA subsequently approved this TMDL to address updates to Appendix A in the 2008, 2010, 2012, 2014, 2016, 2018, 2020 and 2022 303(d) listing cycles as further discussed below.
[2] MPCA, *Minnesota Statewide Mercury Total Maximum Daily Load*, March 27, 2007, Section 6.3, p. 37.
[3] MPCA, *Minnesota Statewide Mercury Total Maximum Daily Load*, March 27, 2007, Section 7, pp. 40-41.
[4] MPCA, *Guidance Manual for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment: 305(b) Report and 303(d) List, 2024 Assessment and Listing Cycle*, wq-iw1-04m, pp. 43-52.

2. If the fish tissue mercury concentration data is greater than 0.2 mg/kg or equal to or less than 0.572 mg/kg, then the water body segment is included in those addressed by implementation efforts under the Statewide TMDL.[5] Instead of being listed in Category 5, however, the specific water body segment is added to the list of water bodies in Appendix A of the Statewide TMDL.[6] Appendix A is updated as part of the efforts to revise and update the Original TMDL every two years which coincides with the state's biennial 303(d) process.

3. If the fish tissue mercury concentration data are less than 0.2 mg/kg, the water body segment is deemed to be not impaired. Also, if MPCA deems the fish tissue mercury concentration data to be inconclusive, the water body segment may be classified in Category 3 of the State's 303(d) list, as a water body segment whose impairment cannot be determined due to insufficient data.

MPCA analyzes and assesses new fish tissue mercury concentration data every 2 years and revises the list of waters in Appendix A accordingly. Biennial revisions to Appendix A have included adding individual water body segments, removing water body segments, re-naming water body segments, and updating water body segment assessment unit identification (AUID) numbers. Appendix A of the Original TMDL has been revised five times to date.

- 1st Revision: Approved by EPA on April 3, 2008, the 2008 Revision addressed updates to Appendix A of the Original TMDL.
- 2nd Revision: Approved by EPA on September 28, 2010, the 2010 Revision, addressed updates to Appendix A made in the 2010 303(d) listing cycle.
- 3rd Revision: Approved by EPA on May 31, 2013, the 2012 Revision, addressed updates to Appendix A made in the 2012 303(d) listing cycle.
- 4th Revision: Approved by EPA on September 25, 2014, the 2014 Revision, addressed updates to Appendix A made in the 2014 303(d) listing cycle.
- 5th Revision: Approved by EPA on October 23, 2018, the 2016-2018 Revisions, addressed updates to Appendix A made in the 2016 and 2018 303(d) listing cycles.
- 6th Revision: Approved by EPA on March 16, 2021, the 2020 Revision, addressed updates to Appendix A made in the 2020 303(d) listing cycle.
- 7th Revision: Approved by EPA on March 3, 2022, the 2022 Revision, addressed updates to Appendix A made in the 2022 303(d) listing cycle.

A copy of the most recent revision to the Statewide TMDL, the 2022 Revision, is included as Attachment 2 of this Decision Document.

[5] MPCA webpage, https://www.pca.state.mn.us/water/plan-reduce-mercury-releases-2025 (last visited 2/29/24).
[6] Water body segments in Appendix A of the Statewide TMDL are reflected in the State's "Mercury TMDL Appendix A" and "Inventory of Impaired Waters" tabs of State's 303(d) spreadsheet.

2024 Revision to the Minnesota Statewide Mercury Total Maximum Daily Load

On February 5, 2024, MPCA submitted its final Revisions to the Minnesota Statewide Mercury TMDL to EPA. This included MPCA's proposed 2024 amendments to Appendix A of the Original TMDL for review and approval. The proposed revisions to Appendix A will be referred to as the "2024 Revision".

MPCA also completed updates to Appendix B as part of its biennial review of the Statewide TMDL. Appendix B is a list of NPDES permitted facilities which are covered by the Statewide TMDL. Biennial updates to Appendix B include: the addition of new facilities, removal of facilities, and/or changes to facility names or permit numbers. An updated Appendix B, from December 2023[7] is available on MPCA's Statewide Mercury Reduction Plan webpage[8] and is also included at Attachment 3 to this Decision Document.

EPA is approving the 2024 Revision to Appendix A based on the information submitted by the State of Minnesota in February 2024. The 2024 Revision was completed using water quality data collected and analyzed for the 2024 integrated reporting cycle. As was the case for the 2008, 2010, 2012, 2014, 2016, 2018, 2020 and 2022 Revisions, the 2024 Revision process does not make any changes to the TMDL targets of the Original TMDL, reduction factors, loading capacities, allocations, reduction goals or other TMDL equation elements of the TMDL established in the Original TMDL.

Identification of water bodies for the 2024 Revision

During the 2024 303(d) listing cycle MPCA collected and analyzed mercury fish tissue concentration data and mercury water column data and compiled a list of water body segments which demonstrated mercury impairments within the thresholds of the Statewide TMDL (e.g., fish tissue concentration values greater than 0.2 mg/kg or equal to or less than 0.572 mg/kg). MPCA proposed adding this subset of water body segments to the Statewide TMDL's Appendix A.

The State identified eighteen (18) new lake and/or river segments which are impaired due to excessive mercury in the water column or in fish tissue samples. These eighteen segments are included in Appendix A for the 2024 Revision to the Statewide TMDL (Table 1 of this Decision Document).

EPA considered all existing and readily available water quality data and information shared by MPCA in February 2024 related to MPCA's request to add these water body segments to Appendix A as part of the 2024 Revision to the Statewide TMDL. EPA reviewed these proposed water body segments and determined that the proposed water body segments are acceptable to be included in the 2024 Revision to the Statewide TMDL.

[7] MPCA document, 2024 Revisions for Appendix B of the Statewide Mercury TMDL, December 2023, Attachment 3 to this Decision Document.
[8] MPCA webpage, https://www.pca.state.mn.us/water/statewide-mercury-reduction-plan (last visited 2/29/24).

EPA Assessment:
EPA finds the State's decision to include eighteen new water body segments to Appendix A as part of the 2024 Revision is reasonable and appropriate. Water bodies added to Appendix A were identified by the State as having fish tissue mercury concentrations greater than 0.2 mg/kg and equal to or less than 0.572 mg/kg. Water bodies having fish tissue mercury concentrations within this range are consistent with the types of waters for which the reduction factors used to develop the Original TMDL are designed to apply.[9]

Table 1 (for the 2024 Revision) of this Decision Document identifies the new water body segments being added to Appendix A of the Original TMDL, as revised in 2008, 2010, 2012, 2014, 2016, 2018, 2020 and 2022.

Other Changes to Appendix A for the 2024 Revision
EPA encourages States to review previously assessed water body segments during each integrated reporting cycle. During this review process, the State may determine that changes to the listing of an existing water body segment may be necessary because of administrative renumbering, resegmentation of the original water body, or efforts to combine individual water body segments. When such changes are made, EPA refers to the original assessment unit as being removed. Changes to Appendix A as a result of renumbering, resegmenting, combining effort are summarized in Table 2 (2024 changes and corrections) of this Decision Document.

Additionally, the 2024 303(d) submittal and the Statewide Mercury Revision submittal information included water body segments which MPCA had identified as "partial" tribal waters. MPCA defined a partial tribal water in the context of the 303(d) list as,

> This body of water is partially within a federally recognized Indian reservation. The state and tribe have worked cooperatively on this water quality assessment and agree that the water should be included on the State's impaired waters list. For the purposes of the 303(d) list, the assessment of the portion of the water body within the reservation is advisory to EPA only because EPA has stated that it does not approve the State's impaired waters listings for waters within the boundaries of an Indian reservation.[10]

EPA acknowledges MPCA's effort to communicate water quality information for certain multijurisdictional water bodies (i.e., waters which are partially on state lands and tribal reservation lands) in order to comply with Minnesota state laws which govern MPCA's responsibility to measure

[9] Table ES-1 of the Original TMDL, MPCA, 2007.
[10] 2024 303(d) submittal spreadsheet, Tribal Designation Notation tab, Draft 2024 Impaired Waters List (wq-iw1-73) at https://www.pca.state.mn.us/water/minnesotas-impaired-waters-list, (last visited 2/29/24).

and communicate water quality information as part of its 303(d) program.[11] EPA is taking no action on those portions of any water body segment located Indian country as that term is defined in 18 U.S.C. 1151.[12] EPA's approval of those water body segments designated by Minnesota as a "partial" tribal water applies only to those portions of the water body segment located on state lands. EPA's approval does not apply to the portion of such water body segments that are in Indian country.

EPA Assessment:
EPA finds these corrections and changes to assessment units are acceptable. MPCA's review of previously assessed water body segments during the 2024 integrated reporting cycles resulted in corrections to existing assessment units, splitting lake and river assessment units and combining existing assessment units.

Public Participation for the 2024 Revision
MPCA includes information related to the revision of its Statewide TMDL as part of its biennial 303(d) submittal to EPA. Minnesota submits its 303(d) list to EPA every two years to fulfill the reporting requirements of Sections 303(d) of the CWA. As part of this submission process, MPCA must provide the public with the opportunity to review and comment on assessment decisions made for the 303(d) list, including the opportunity to provide input on water bodies included or not included within MPCA's efforts to revise its Statewide TMDL.

MPCA made available its draft 2024 303(d) list, which included draft 2024 Revision information, for public comment from November 14, 2023 to January 12, 2024. Information regarding the availability of the 303(d) public notice materials were communicated to the general public through news releases, MPCA's gov.delivery emailing database, MPCA's website, and via a publication in the State Register.[13]

Mercury related comments presented during the public notice period for the 2024 303(d) List
MPCA received comments during the 2024 303(d) public notice period which referenced mercury related topics but did not receive specific comments on water bodies addressed by the Statewide Mercury TMDL nor the proposed waters in the 2024 Revision (Appendix A of this Decision Document).

Those comments which discussed mercury related topics requested that: MPCA prioritize the development of a mercury TMDL for Round Lake (01-0070-00) in the Upper Mississippi River basin and Birch Lake (69-0003-00) in the Rainy River basin, MPCA clarify whether or not elevated sulfate concentrations in surface waters are can be connected to mercury concentrations in fish species,

[11] MPCA, *Guidance Manual for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment: 305(b) Report and 303(d) List, 2024 Assessment and Listing Cycle*, wq-iw1-04m, Appendix E, pp. 74-76.
[12] EPA continues to encourage MPCA to resegment transboundary water segments at the borders of Indian reservations to facilitate informal coordination with tribes who may wish to implement complementary and/or voluntary TMDLs for the reservation portion of affected water bodies and to encourage formal coordination with those tribes who may implement TMDLs under approved CWA 303(d) programs in the future.
[13] State Register. Volume 48, Number 20, Monday 13 November 2023, pp. 467-469.

MPCA prioritize the development of mercury impaired waters on the 303(d) list, and more stringent regulatory controls on mercury emitting facilities. EPA will review MPCA's responses to these mercury topics as part of its final review of the 2024 303(d) Impaired Waters List.

EPA Assessment:
EPA reviewed the public participation information submitted by the State and concluded that the MPCA adequately addressed public comments regarding mercury impairments and other mercury related topics. EPA also reviewed information made available by MPCA to the public for review and comment, and MPCA's announcement of the public comment period. EPA finds that the State of Minnesota's public participation processes for the 2024 Revision to the Statewide TMDL were appropriate and that MPCA provided the general public with reasonable opportunity to review and comment on the proposed revisions to the Statewide TMDL for the 2024 303(d) listing cycle.

Tribal Consultation

Pursuant to Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* and with the *EPA Policy on Consultation and Coordination with Indian Tribes (May 2011)*,[14] EPA invited tribal consultation on its review of the 2024 Revision.[15] Representatives from the Lac du Flambeau Band of Lake Superior Chippewa Indians (Lac du Flambeau) and the Leech Lake Band of Ojibwe (Leech Lake) requested consultation with EPA. EPA hosted a tribal consultation conference call on February 14, 2024 for representatives from Lac du Flambeau and a tribal consultation conference call on February 23, 2024 for representatives from Leech Lake. EPA provided an overview of the Minnesota Statewide Mercury TMDL and a summary of EPA's review of documentation provided by Minnesota for the 2024 Revision during the February 14, 2024 discussion with Lac du Flambeau.

During the February 23, 2024 discussion with Leech Lake, representatives from Leech Lake shared their concerns regarding mercury source contributions, via air emissions, from taconite processing facilities, and EPA's January 31, 2024, amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Taconite Iron Ore Processing Plants and the local impact of those amendments on air emissions from taconite facilities in northern Minnesota. The Tribe expressed their understanding that the amendments could lead to taconite facilities not achieving the load reductions called for in Minnesota's statewide mercury TMDL.

EPA considered the Tribes' comments during its deliberations related to the approval of the 2024 Revision.[16] EPA provided Lac du Flambeau and Leech Lake with a written response that explained how

[14] EPA Policy on Consultation with Indian Tribes, December 7, 2023. https://www.epa.gov/sites/production/files/2013-08/documents/cons-and-coord-with-indian-tribes-policy.pdf (last visited 2/29/24).
[15] EPA letter to tribal leaders, February 6, 2024.
[16] EPA letters to Lac du Flambeau Band of Lake Superior Chippewa Indians and the Leech Lake Band of Ojibwe, March 5, 2024.

EPA considered their input in EPA's final decision (Attachment 4 – EPA Response to Tribal Issues Raised During Tribal Consultation on the 2024 Revision).

Conclusion

EPA has completed a full review of the information provided by MPCA in February 2024, and other appropriate supporting information. EPA finds that pursuant to Section 303(d) of the CWA, 33 U.S.C. Section 1313(d), and EPA's implementing regulations at 40 CFR Part 130, the 2024 Revision satisfies the elements of an approvable TMDL. This approval addresses changes to Appendix A of the Minnesota Statewide TMDL as described in the State's 2024 Revision. No other elements or documentation relating to the original or subsequent approvals of this TMDL are being revised.

Tables

Table 1: 2024 Revised Minnesota Statewide TMDL: 2024 Additions to Appendix A
Table 2: 2024 Revised Minnesota Statewide TMDL: Corrections and Changes to Lake and River Assessment Units

Attachments

Attachment 1: EPA's March 27, 2007 approval of Minnesota Mercury Statewide TMDL submitted to EPA on August 25, 2006
Attachment 2: EPA's March 3, 2022 approval of 2022 Revision of Minnesota Mercury Statewide TMDL
Attachment 3: Minnesota Pollution Control Agency Statewide TMDL Appendix B, December 2023
Attachment 4: EPA Response to Tribal Issues Raised During Tribal Consultation on the 2024 Revision

Table 1: 2024 Revised Minnesota Statewide Mercury TMDL, 2024 Additions to Appendix A Approval Date: March 5, 2024

Year Placed In Inventory	Impaired Lake or River Reach	Assessment Unit ID or DNR Lake ID[1]	Partial Tribal Designation	Pollutant or stressor	Region
Lake Assessment Units[2]					
2024	Buffalo	03-0350-00	White Earth	Mercury in fish tissue	SW
2024	McFarland	16-0027-00		Mercury in fish tissue	NE
2024	Rice	16-0453-00		Mercury in fish tissue	NE
2024	Hyland	27-0048-00		Mercury in fish tissue	SW
2024	Shallow Pond	31-0910-00		Mercury in fish tissue	NE
2024	Carrie	34-0032-00		Mercury in fish tissue	SW
2024	German	40-0063-00		Mercury in fish tissue	SW
2024	Buffalo	51-0018-00		Mercury in fish tissue	SW
2024	Emily	61-0180-00		Mercury in fish tissue	SW
2024	Coal	77-0046-00		Mercury in fish tissue	SW
2024	Latimer	77-0105-00		Mercury in fish tissue	SW
2024	St. James	83-0043-00		Mercury in fish tissue	SW
2024	Winona (Southeast Bay)	85-0011-01		Mercury in fish tissue	SW
2024	Winona (Northwest Bay)	85-0011-02		Mercury in fish tissue	SW
2024	Sugar	86-0233-00		Mercury in fish tissue	SW
River Assessment Units[2]					
2024	Platte River	07010201-545		Mercury in fish tissue	SW
2024	Crow River	07010204-502		Mercury in fish tissue	SW
2024	Cannon River	07040002-538		Mercury in fish tissue	SW

1= The water bodies in Appendix A have fish tissue concentrations greater than 0.2 mg/kg and equal to or less than 0.572 mg/kg. Fish tissue concentrations that exceed 0.572 mg/kg are not eligible to be included in the Minnesota Statewide Mercury TMDL and will be added to the Minnesota Clean Water Act Section 303(d) Impaired Waters List.

2 = The Minnesota Statewide Mercury TMDL was originally approved on March 27, 2007 and revisions to Appendix A were approved on April 3, 2008, September 28, 2010, May 31, 2013, September 25, 2014, October 23, 2018, March 16, 2021 & March 3, 2022. The water bodies in Appendix A have fish tissue concentrations greater than 0.2 mg/kg and equal to or less than 0.572 mg/kg. Fish tissue concentrations that exceed 0.572 mg/kg are not eligible to be included in the Minnesota Statewide Mercury TMDL and will be added to the Minnesota CWA 303(d) Impaired Waters List. It is important to note that the Minnesota Statewide Mercury TMDL documentation, reduction goals, etc., are NOT being changed; only Appendix A is being modified at this time.

3 = EPA's approval of those water bodies designated as a partial tribal water applies only to those portions of a water body located on state lands. EPA's approval does not apply to the portion of such water bodies that are in Indian country.

Table 2: 2024 Revised Minnesota Statewide Mercury TMDL, Corrections and Changes to Water Body Segments

Approval Date: March 5, 2024

2022 Final Statewide Mercury TMDL		2024 Revision to Statewide Mercury TMDL		
Impaired Lake or River Reach	**Assessment Unit ID or DNR Lake ID**	**Impaired Lake or River Reach**	**Assessment Unit ID or DNR Lake ID**	**Explanation**
River Assessment Units				
Yellow Medicine River	*07020004-782*	Yellow Medicine River	07020004-801	-782 split to -801, -802 and -803 segments and -782 removed from Appendix A
		Yellow Medicine River	07020004-802	
		Yellow Medicine River	07020004-803	
Lake Assessment Units				
Grave	*31-0624-00*	North Grave	31-0624-01	31-0624-00 split to 31-0624-01 and 31-0624-02 and 31-0624-00 removed from Appendix A
		South Grave	31-0624-02	

* = EPA's approval of those water bodies designated as a partial tribal water applies only to those portions of a water body located on state lands. EPA's approval does not apply to the portion of such water bodies that are in Indian country.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

WW-16J

MAR 27 2007

Brad Moore, Commissioner
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Re: Minnesota Mercury Statewide Total Maximum Daily Load

Dear Mr. Moore:

The United States Environmental Protection Agency (U.S. EPA) has conducted a complete review of the Minnesota Statewide Mercury Total Maximum Daily Load submitted to U.S. EPA August 25, 2006, including Minnesota's northeast and southwest regional total maximum daily loads (TMDLs) addressing 511 mercury impairments. Based on this review, U.S. EPA has determined that these two TMDLs meet the requirements of Section 303(d) of the Clean Water Act and U.S. EPA's implementing regulations at 40 C.F.R. Part 130. Therefore, by this letter U.S. EPA hereby approves two (2) TMDLs addressing 511 mercury impairments within the State of Minnesota. The statutory and regulatory requirements, and the TMDLs' compliance with these requirements, are described in the enclosed decision document.

We appreciate your hard work in this area and the submittal of the TMDLs as required. If you have any questions, please contact Kevin Pierard, Chief of the Watersheds and Wetlands Branch, at 312-886-4448.

Sincerely yours,

Jo Lynn Traub
Director, Water Division

Enclosure

cc: Mike Sandusky, MPCA
Faye Sleeper, MPCA

TMDL Decision Document

TMDL: June 1, 2006 Minnesota Statewide Mercury Total Maximum Daily Load

Status: Final

Date of U.S. EPA Decision: March 27, 2007

Impairment/Pollutant: Approximately two-thirds of the waters on Minnesota's 2006 303(d) list are identified as being impaired for mercury due to fish tissue concentration of mercury and/or water column exceedance of the mercury water quality standard. To address these widespread mercury impairments Minnesota divided the State into two regions, a northeast region and a southwest region, and established a total maximum daily load (TMDL) for each region. Collectively, the two regional TMDLs address 511 mercury impairments throughout the State that were identified in Category 5 of Minnesota's 2006 Integrated Report. Each TMDL includes daily loads for the loading capacity, wasteload allocation (WLA), load allocation (LA), plus a margin of safety (MOS). The target for both TMDLs is 0.2 milligrams of total mercury per kilogram of fish, or parts per million (mg/kg or ppm) fish tissue mercury concentration, which is a surrogate for the numeric water column water quality standards: 1.3 nanograms per liter (ng/L) for the Lake Superior Basin, and 6.9 ng/L for the rest of the State.

Background: The Minnesota Pollution Control Agency (MPCA) provided a preliminary TMDL Report to U.S. EPA in October 2004. MPCA released to the public a preliminary TMDL Report on the State's website in December 2004. U.S. EPA sent the State comments on the preliminary Reports in January 2005, and MPCA responded to these comments in March 2005. MPCA provided the public notice draft TMDLs to U.S. EPA in May 2005. A public notice and comment period was held from July 18, 2005 to October 18, 2005. The State presented the final regional TMDLs to the MPCA Citizens' Board for approval to submit the TMDLs to U.S. EPA on July 25, 2006. The Citizens' Board unanimously approved submitting the final regional TMDLs to U.S. EPA for review and approval. On August 30, 2006, U.S. EPA received a final TMDL Report dated June 1, 2006 (TMDL Report). The TMDL Report included copies of public comments received by the State, an index of comments received and issues raised, a responsiveness summary, and a log of public participation and supporting documents. On August 30, 2006, under separate cover, U.S. EPA received a transcript of the July 25, 2006 Citizens' Board meeting.

Conclusion: After a full and complete review of the TMDL Report and supporting documents, U.S. EPA finds that pursuant to Section 303(d) of the Clean Water Act, 33 U.S.C. Section 1313(D), and U.S. EPA's implementing regulations at 40 CFR Part 130, the northeast and southwest regional mercury TMDLs satisfy the elements of approvable TMDLs. This approval addresses a total of 511 lake and river reach impairments as identified in Category 5 of Minnesota's 2006 Integrated Report. A load allocation for both TMDLs has been established. The primary nonpoint source identified in both TMDLs is atmospheric deposition. One wasteload allocation has been established for each region. Point sources, including stormwater, municipal wastewater treatment facilities, and industrial dischargers, that impact the impaired lakes and river reaches addressed by these TMDLs are subject to the applicable regional wasteload allocation. An explicit margin of safety has been established for the southwest region's TMDL while an implicit margin of safety has been used for the northeast region's TMDL. The final approved TMDLs are included in Section 9 of the TMDL

Report and are as follows:

Table 1: Approved Northeast and Southwest Mercury TMDLs

Region	Loading Capacity	Load Allocation	Wasteload Allocation	Margin of Safety
Northeast	1.10 kg/day	1.09 kg/day	0.01 kg/day	Implicit
Southwest	2.18 kg/day	1.55 kg/day	0.02 kg/day	0.61 kg/day

U.S. EPA's approval of the mercury TMDLs extends to the water bodies which are identified on Table 2 to this Decision Document and in Appendix A to the TMDL Report, with the exception of any portions of the water bodies that are within Indian Country, as defined in 18 U.S.C. Section 1151. U.S. EPA is taking no action to approve or disapprove the State's mercury TMDLs with respect to those portions of the waters at this time. U.S. EPA, or eligible Indian Tribes, as appropriate, will retain responsibilities under Section 303(d) for those waters.

U.S. EPA REVIEW OF THE ELEMENTS OF NORTHEAST AND SOUTHWEST TMDLs

Section 303(d) of the Clean Water Act (CWA) and U.S. EPA's implementing regulations at 40 CFR Part 130 describe the statutory and regulatory requirements for approvable TMDLs. Additional information is generally necessary for U.S. EPA to determine if a submitted TMDL fulfills the legal requirements for approval under Section 303(d) of the CWA and U.S. EPA regulations, and should be included in the submittal package. Use of the verb "must" below denotes information that is required to be submitted because it relates to elements of the TMDL required by the CWA and by regulation. Use of the term "should" below denotes information that is generally necessary for U.S. EPA to determine if a submitted TMDL is approvable.

1. Identification of Water body, Pollutant of Concern, Pollutant Sources, and Priority Ranking

The TMDL submittal should identify the water body as it appears on the State's/Tribe's 303(d) list, the pollutant for which the TMDL is being established, and the priority ranking of the water body. The TMDL submittal should include an identification of the point and nonpoint sources of the pollutant of concern, including location of the source(s) and the quantity of the loading, e.g., lbs/per day. The TMDL should provide the identification numbers of the NPDES permits within the water body. Where it is possible to separate natural background from nonpoint sources, the TMDL should include a description of the natural background. This information is necessary for U.S. EPA's review of the load and wasteload allocations, which are required by regulation.

The TMDL submittal should also contain a description of any important assumptions made in developing the TMDL, such as: (1) the assumed distribution of land use (e.g., urban, forested, agriculture); (2) population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources; (3) present

and future growth trends, if taken into consideration in preparing the TMDL; and (4) an explanation and analytical basis for expressing the TMDL through surrogate measures, if applicable. Surrogate measures are parameters such as percent fines and turbidity for sediment impairments; chlorophyl a and phosphorus loadings for excess algae; length of riparian buffer; or number of acres of best management practices.

Identification of Water Bodies:
The lakes and river reaches identified in Category 5 of Minnesota's 2006 Integrated Report are impaired due to high mercury water column concentrations and fish tissue mercury concentrations that result in a recommended consumption frequency of less than one meal per week for any member of the population. Over the past several reporting cycles, Minnesota's Integrated Reports have included a footnote stating that the mercury impairments are considered regional and a regional or statewide TMDL would be developed to address the mercury impairments. After consideration of available fish tissue data, water quality data, and land cover and use information the State has established two regional TMDLs, for a northeast region and a southwest region, that will address mercury impairments in lakes and river reaches within the State.

Section 4 of the TMDL Report discusses the State's determination that major factors contributing to variations in fish tissue mercury concentration are land cover and use. Land cover and use affects the transport of mercury through a watershed. Nutrient loadings and water chemistry also influence the bioavailability of mercury within a watershed. The State considered the bioavailability of mercury in wetlands and forested lands versus cultivated lands when determining the two regions. The TMDL for the northeast region includes the Northern Lakes and Forest ecoregion and the Northern Minnesota Wetlands ecoregion, which are dominated by forest and wetlands. The other ecoregions within the State are included in the TMDL for the southwest region and are mainly cultivated lands. Respectively, Figure 2 and Table 2 of the TMDL Report show the two regions and regional differences in land cover and some water quality differences.

Both the northeast and southwest TMDLs were established to address impairments in some of the lakes and river reaches within each region. Table 2 of this Decision Document identifies the lakes and river reaches and corresponding mercury impairment for each water body being addressed by the northeast and southwest TMDLs.[1] The TMDL Report is titled "Statewide TMDL" which could imply that the TMDLs address all mercury impairments in the State or all the mercury impairments identified on Category 5 of Minnesota's 2006 Integrated Report. The northeast and southwest TMDLs, however, do not address all mercury impairments. The northeast and southwest TMDLs address 511 of the lakes and river reach impairments identified on Category 5 of Minnesota's 2006 Integrated Report.

In response to public comments received during the public notice and comment period, Minnesota decided to remove a group of lakes and river reaches from the TMDLs. The public comments

[1] Appendix A of the TMDL Report identifies the lakes and river reaches and corresponding mercury impairment for each water body being addressed by the northeast and southwest TMDLs.

raised concern that not all water bodies included in the public notice draft TMDLs would meet water quality standards. A reduction factor, necessary to achieve the target fish tissue mercury concentration in the standard size top predator fish, was calculated by the State for each of the two regions. The reduction factors for both regions were calculated using the TMDL target fish tissue mercury concentration of 0.2 mg/kg and the 90th percentile fish tissue mercury concentrations in the standard size top predator fish. A mercury fish tissue concentration of 0.572 mg/kg was the highest concentration used in calculating the regional reduction factors. Public comments raised concern that if fish tissue concentrations in a water body exceed 0.572 mg/kg the water body would not meet water quality standards and therefore, public comments recommended removing water bodies from the TMDLs that had fish tissue concentrations higher than 0.572 mg/kg. In response to these public comments Minnesota decided to re-assess the water bodies included in Appendix A of the public notice draft TMDL Report and remove water bodies that had a maximum mercury concentration for a fish size class mean greater than 0.572 mg/kg. The water bodies that were removed from Appendix A of the draft public notice TMDL Report and are currently included in Category 5 of Minnesota's 2006 Integrated Report, will remain in Category 5 until such time as these water bodies are meeting water quality standards, a TMDL has been completed and approved, or some other appropriate reason for removing these waters from Category 5 is available.

Pollutant of Concern:
The pollutant of concern is mercury. Mercury is a multimedia global pollutant. Mercury is emitted to the air, transported then deposited to the soil and beds of rivers, lakes and streams, where a number of biological and chemical processes occur in the soils, water bodies, and sediments that cause mercury to react with organic materials to form methylmercury, a highly toxic form of mercury. Methylmercury builds up, or bioaccumulates, in the bodies of animals, so fish at the top of the aquatic food chain are likely to contain higher mercury concentrations than fish lower in the aquatic food chain. Humans and wildlife are exposed to unsafe levels of methylmercury by eating contaminated fish.

Sources of Pollutant Loads:
Sources considered by the State in the development of the northeast and southwest TMDLs include atmospheric mercury deposition, WWTPs, non-municipal waste discharges, and stormwater. For these TMDLs the only significant nonpoint source identified by the State is atmospheric deposition of mercury. The State identifies 99% of the total mercury load as coming from atmospheric deposition. Both natural and anthropogenic sources contribute to the atmospheric deposition mercury load. The TMDL Report identifies natural sources as contributing 30% to the atmospheric deposition mercury load while the remaining 70% is from worldwide anthropogenic sources. These TMDLs do not address natural contributions of mercury.

Specific point sources that the State considered as sources contributing to the mercury load in the impaired water bodies are identified in Appendix B to the TMDL Report and in the State's responses to public comments.[2] These sources include discharges from WWTPs, pulp and paper

[2] Pages 17-18 of Minnesota's Responses to Mercury TMDL Issues

mills, taconite mines, coal-fired power plants, and one refinery. The public notice draft TMDL did not include the coal-fired power plants and the refinery. These point sources were added by the State in response to public comments received during the public notice and comment period.

For the purpose of describing the sources of pollutant loads and estimating the 1990 total source load, the State included the mercury loadings from stormwater in the estimate of loadings from atmospheric deposition. Using data generated in two studies of snowmelt runoff from agriculture fields and data generated in a pilot study for the Minneapolis-St. Paul NPDES municipal stormwater permit,[3] the State determined that the source of mercury to stormwater is atmospheric deposition and that there are no other significant anthropogenic sources of mercury to stormwater.

Priority Ranking:
Minnesota has consistently included mercury impaired waters on its 303(d) lists. Minnesota's 303(d) lists have also included a footnote stating that mercury impairments are mainly regional so a regional or statewide approach to developing mercury TMDLs is appropriate. Section 303(d)(1)(A) of the Clean Water Act requires States to establish a priority ranking for the impaired waters, taking into account the severity of the pollution and the designated uses of the impaired waters. The target schedule on Minnesota's 303(d) list reflects the State's priority ranking. In establishing the priority ranking, i.e., the target schedule for developing TMDLs, the State considers factors such as the severity of the pollutant, available monitoring data and targeted monitoring schedule, designated use of the water body, and available resources. The State scheduled most of the impaired water bodies addressed by these TMDLs for development starting in 1999 and completion expected by 2011.

Future Growth
Although Section 6.5 of the TMDL Report contains a discussion of reserve capacity, the TMDLs do not contain a specific allocation that is reserved for future growth. The State's discussion states that the TMDLs provide a reserve capacity, load that is available for future growth when actual loads are less than the allocations, for point sources but not for nonpoint sources. The TMDL Report continues on to say that since the actual nonpoint source loads are in excess of the load allocations there is no reserve capacity for nonpoint sources. The TMDL Report also states that there is reserve capacity for point sources because the actual mercury load from point sources is less than the wasteload allocation. Although the TMDL report contains statements that actual loads are in excess or below the specific load and wasteload allocations, this does not mean that there is a specific allocation to address present and future growth trends in the development of these TMDLs. Any future growth of point or nonpoint sources will need to be consistent with the applicable regional load and wasteload allocations of these TMDLs and the assumptions that were used in development of these TMDLs. The State did not provide specific load or wasteload allocations for future growth nor did the State include specific mercury loads from anticipated future growth in its calculation of the total source loads used to develop these TMDLs.

[3] See April 25, 2005 electronic mail message from Bruce Monson, MPCA, to Julianne Socha, U.S. EPA.

Key Assumption Made in the Development of the TMDLs:
The State assumed that the mercury levels in fish would be reduced in proportion to the reductions in mercury deposition, based on the following rationale:[4]

a. A reduction in emissions from sources in a given source area (local, regional or global) results in a proportional reduction in the rate of deposition in Minnesota attributable to those sources.

b. A reduction in deposition results in a proportional reduction in mercury loading to water bodies.

c. Within a given water body, a proportional reduction in mercury loading in the water results in a proportional reduction in mercury concentrations in fish.

Minnesota relies on the results of two models from the U.S. EPA Mercury Maps report,[5] the Mercury Cycling Model and the IEM-2M Watershed Model, which found linear relationships between atmospheric deposition and fish tissue mercury concentrations in support of the State's assumption of proportionality. Starting with the relationship presented in the Mercury Maps report and applying some simplifying assumptions, Minnesota derived a relationship between a baseline deposition value, a target fish tissue concentration, and a baseline fish tissue concentration (see equation 5 on page 25 of TMDL Report). In deriving this equation some of the simplifying assumptions applied by Minnesota included that the area of land and water remain constant over time, bioavailability factor and runoff coefficient are constant over time,[6] and that there are no natural sources of mercury within the State. The methodology used by the State to establish the northeast and southwest TMDLs, i.e., using a fish tissue mercury concentration reduction factor to establish the loading capacities, relies on this principle of proportionality.

Assessment: U.S. EPA finds that the Mercury TMDLs submitted by the State of Minnesota adequately describe the water bodies, pollutant of concern, pollutant sources, and priority ranking. U.S. EPA finds that the State's consideration of fish tissue data, water chemistry data, and land cover and use information support the establishment of regional TMDLs. U.S. EPA finds that the State's assumption of proportionality is consistent with U.S. EPA study results and the State's use of this assumption in the establishment of the TMDLs is reasonable.

2. Description of the Applicable Water Quality Standards and Numeric Water Quality Target

The TMDL submittal must include a description of the applicable State/Tribal water quality standard, including the designated use(s) of the water body, the applicable numeric or narrative water quality criterion, and the antidegradation policy. (40 CFR §130.7(c)(1)).

[4] The rationale is an excerpt from Section 5.2 of the TMDL Report.
[5] Cocca P., *Mercury Maps, A Quantitative Spatial Link Between Air Deposition and Fish Tissue*, September 2001, EPA-823-R-01-009.
[6] The bioavailability factor accounts for the fraction of divalent mercury converted to methylmercury, which is available for bioaccumulation. The runoff coefficient is a discount applied to the watershed mercury loading to account for mercury that is buried in the soil or volatilized to the atmosphere.

U.S. EPA needs this information to review the loading capacity determination, and load and wasteload allocations, which are required by regulation.

The TMDL submittal must identify a numeric water quality target(s) – a quantitative value used to measure whether or not the applicable water quality standard is attained. Generally, the pollutant of concern and the numeric water quality target are, respectively, the chemical causing the impairment and the numeric criteria for that chemical (e.g., chromium) contained in the water quality standard. The TMDL expresses the relationship between any necessary reduction of the pollutant of concern and the attainment of the numeric water quality target. Occasionally, the pollutant of concern is different from the pollutant that is the subject of the numeric water quality target (e.g., when the pollutant of concern is phosphorus and the numeric water quality target is expressed as Dissolved Oxygen (DO) criteria). In such cases, the TMDL submittal should explain the linkage between the pollutant of concern and the chosen numeric water quality target.

Numeric and Narrative Mercury Standards:
Section 3 of the TMDL Report describes the applicable Minnesota water quality standards. Minnesota's numeric mercury water quality standards are based on total (particulate + dissolved) mercury concentrations in the water column. Minnesota has two Class 2 standards, 6.9 ng/L and 1.3 ng/L as set forth at Minnesota Rules Chapter 7050.0222 and 7052.0100. Both of the numeric standards are a chronic standard. The 1.3 ng/L is a wildlife-based standard applicable to only the waters of the Lake Superior Basin, and the 6.9 ng/L standard is a human health-based standard and applies to waters outside of the Lake Superior Basin. In addition to the numeric standards, the State's narrative standard at Minnesota Rule Chapter 7050.0150, Subpart 7, provides the basis for assessing the contaminants in fish tissue. The narrative standard states that a water body shall be considered impaired when the Minnesota Department of Health recommends a consumption frequency of less than one meal per week for any member of the population.

Linking Fish Tissue Concentrations to Standards:
Minnesota selected a water quality target of 0.2 mg/kg fish tissue mercury concentration in both the southwest and northeast TMDLs. The 0.2 mg/kg target is lower than the recommended criteria as set forth in U.S. EPA's methylmercury criterion of 2001,[7] which established a fish tissue criterion of 0.3 mg/kg. U.S. EPA's criterion considers toxicity and exposure. Minnesota's proposed 0.2 mg/kg relies on U.S. EPA's toxicity assumptions and values. Minnesota assumes a higher exposure rate than U.S. EPA's rate. Minnesota assumes an exposure rate of 30 grams of fish per day compared to U.S. EPA's assumption of 17.5 grams per day for the general population in the United States. Minnesota uses a higher exposure rate because of the importance of sport fishing in Minnesota and based on surveys of the fish eating habits of upper Midwest anglers.
In Section 4.4.3 of the TMDL Report the State demonstrates a linkage between the fish tissue mercury concentration target and the existing numeric water quality standards. Since Minnesota's standards are water column chronic standards for total mercury, and not fish tissue concentration standards, the State needed to include a link from the fish tissue target to the numeric water column

[7]Office of Science and Technology, Office of Water, U.S. Environmental Protection Agency, *Water Quality Criterion for the Protection of Human Health: Methylmercury*, January 2001, EPA-823-R-01-001.

water quality standards. The State used bioaccumulation factors for 14 lakes representing agricultural areas, urban areas, and forested areas in the northeast to calculate the water column concentration that would be equivalent to the 0.2 mg/kg fish tissue target. The water column concentrations, calculated using bioaccumulation factors, are well below the State's numeric water quality standards. Thus the State has successfully demonstrated that the water quality standards will be met when the fish tissue mercury concentration target is achieved.

Proposed Numeric Standard:
Minnesota is proposing to add a numeric fish tissue water quality standard to Minnesota Rules Chapter 7050. This proposed numeric fish tissue water quality standard is a quantification of the existing narrative standard set forth in Chapter 7050. The proposed standard is 0.2 mg/kg and will apply to total mercury concentrations in edible fish tissue of any species of fish from Minnesota's waters. The proposed fish tissue water quality standard will augment, but will not replace or change the current water column numeric chronic standards.

Assessment: U.S. EPA finds that the TMDL Report submitted by the State of Minnesota adequately describes its water quality standards, relevant criteria, and water quality target. U.S. EPA agrees that a fish tissue mercury concentration is an appropriate water quality target for these TMDLs. Minnesota's selection of a fish tissue target is linked to the State's numeric and narrative water quality standards, is consistent with U.S. EPA criterion, and it is a logical target since fish consumption is the primary exposure pathway of methylmercury to humans and wildlife. U.S. EPA also notes that the approach is consistent with Minnesota's proposed plan to adopt a fish tissue water quality standard.

3. Loading Capacity - Linking Water Quality and Pollutant Sources

A TMDL must identify the loading capacity of a water body for the applicable pollutant. U.S. EPA regulations define loading capacity as the greatest amount of a pollutant that a water can receive without violating water quality standards (40 CFR §130.2(f)). The TMDL submittal should describe the method used to establish the cause-and-effect relationship between the numeric target and the identified pollutant sources. In many instances, this method will be a water quality model. The TMDL submittal should contain documentation supporting the TMDL analysis, including the basis for any assumptions; a discussion of strengths and weaknesses in the analytical process; and results from any water quality modeling. U.S. EPA needs this information to review the loading capacity determination, and load and wasteload allocations, which are required by regulation.

TMDLs must take into account critical conditions for steam flow, loading, and water quality parameters as part of the analysis of loading capacity. (40 CFR §130.7(c)(1)). TMDLs should define applicable critical conditions and describe their approach to estimating both point and nonpoint source loadings under such critical conditions. In particular, the TMDL should discuss the approach used to compute and allocate nonpoint source loadings, e.g., meteorological conditions and land use distribution.

The loading capacity for the northeast TMDL is 1.10 kg/day, and the loading capacity for the southwest TMDL is 2.18 kg/day.

Overview of TMDL Methodology

The loading capacities established by the State for each region were calculated by multiplying a regional reduction factor[8] needed to achieve the fish tissue mercury concentration target by a baseline load[9] for each region, thus calculating a regional load reduction goal.[10] The load reduction goal was subtracted from a baseline load to arrive at the loading capacities. For each region the State calculated the baseline load as the sum of the point source load and nonpoint source load for the year 1990. In the TMDL Report the State refers to the baseline load as the total source load (TSL). The reduction factor for each region was derived by assessing existing fish tissue mercury concentration data, then determining the reduction needed to achieve the fish tissue concentration target of 0.2 mg/kg.

1990 Baseline

The State's TMDL Report and response to comments provides three primary justifications for calculating the TSL for 1990. First, the TSL is the sum of the point source load and the nonpoint source load. The nonpoint source load is represented by total (wet and dry) mercury deposition. Minnesota's estimate of both wet and dry deposition is from lake sediment cores collected in a study conducted from 1988 to 1990.[11] Minnesota's use of 1990 for the TSL, therefore, is reasonable because the State had a significant number of sediment core samples over a broad geographic area upon which to base the loading estimates. The second justification the State provided for the 1990 TSL is to remain consistent with other mercury reduction baselines. The State uses 1990 as its mercury emission inventory baseline, and other State and Federal plans such as the Great Lakes Binational Toxics Strategy and the Lake Superior Lakewide Management Plan use 1990 as a baseline for assessing mercury reductions. Thus, the State selected a baseline year that was consistent with other reduction goals and targets. The third justification provided by the State for the 1990 TSL is that mercury use was relatively high and dropped precipitously beginning around 1990 as mercury was removed from many products. For this reason 1990 represents the end of a period when mercury emissions and fish tissue concentrations were in a steady state. The studies and figures discussed in Section 5.3 of the TMDL Report support the assumption that decreases in the United States' mercury product use and mercury emissions occurred around 1990. The impact of these decreases in mercury use on fish tissue mercury concentrations is yet to be fully realized; therefore, Minnesota selected 1990 for the baseline year.

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[8] The northeast regional reduction factor is 65%. The southwest regional reduction factor is 51%. Section 4.4 of the TMDL Report sets forth how the State derived these reduction factors.

[9] The baseline load for the northeast region is 1153 kg/yr and the baseline load for the southwest region is 1628 kg/yr. Section 6 of the TMDL Report describes how the State established the baseline load, which is referred to in the TMDL Report as the total source load (TSL).

[10] The load reduction goal for the northeast region is 749 kg/yr and 830 kg/yr for the southwest region. These load reduction goals are found in Table 8 of the TMDL Report.

[11] Swain, E.B., D.R. Engstrom, M.E. Brigham, T.A. Henning, and P.L. Brezonik. 1992. *Increasing rates of atmospheric mercury deposition in midcontinental North America*. Science 257: 784-787.

Total Source Load for 1990

The sum of the point source load and nonpoint source load are the TSL for each region. The TSL for each region simply defines the baseline load for the region to which the applicable reduction factor is applied. Section 6 of the TMDL Report provides the State's calculation of the TSL.

- Point Source Load Portion of the 1990 TSL

The point source portion of the TSL was calculated for each region. Within the southwest region point sources used in the point source load calculation included water discharges from wastewater treatment facilities, one refinery, and energy facilities. Within the northeast region the State considered water discharges from wastewater treatment facilities, taconite mines, energy facilities, and pulp and paper mills.

The State used current design flows from NPDES permits (refer to Appendix B of the TMDL Report for specific NPDES permits and design flows), and effluent mercury concentrations to calculate the point source load portion of the TSL. If actual effluent mercury concentrations from WWTPs were available the mean effluent concentrations were used, as was the case for the Metro Waste Water Treatment Plant in the southwest region and the Western Lake Superior Sanitary District in the northeast region. For all other WWTPs, the State used a mercury concentration of 5 ng/L, which the State refers to as "typical". This "typical" concentration was chosen based on a study by the Association of Metropolitan Sewerage Agencies that reported a median effluent concentration value of 5 ng/L.[12] Minnesota also cites in the TMDL Report a State study of 37 NPDES facilities where the central tendency of mercury concentrations in effluent were in the range of 4 to 6 ng/L as support for the "typical" mercury concentration of 5 ng/L.

For taconite mines the State relied on the State's discharge monitoring database for effluent data from which the concentration of 1.5 ng/L was derived. For pulp & paper mills the State relied on the Mercury Maps report for the average effluent concentration of 13 ng/L.[13] According to the TMDL Report average effluent mercury concentrations from Wisconsin paper mills are 2 ng/L and average effluent concentrations at Minnesota's Boise Cascade facility are 1.6 ng/L. Remaining consistent with approaches used and information contained in the Mercury Maps report, Minnesota elected to use the effluent concentration reported in the Mercury Maps report for pulp and paper mills rather than the facility specific average effluent concentrations. In the public notice draft TMDLs, the point source load portion of the TSL did not include discharges from energy facilities or the refinery. In response to the public comments received during the public notice and comment period the State recalculated the point source load portion of the TSL to include discharges from energy facilities and the refinery.[14]

- Nonpoint Source Load Portion of the 1990 TSL

The nonpoint source load portion of the TSL was determined for each region using the total mercury deposition of 12.5 g km^{-2} $yr^{-1}$and the regional surface areas of 129,674 km^2 for the

[12] Page 12-13 of the Mercury Maps report
[13] Page 12 of the Mercury Maps report
[14] Page 17-18 of Minnesota's Responses to Mercury TMDL Issues

southwest region and 90,151 km^2 for the northeast region. Minnesota's estimate of total mercury deposition is based on sediment cores from Minnesota lakes. Minnesota's estimate includes both wet and dry deposition. The nonpoint source load portion is the product of total mercury atmospheric deposition and regional area. As previously discussed in section 1 of this Decision Document, the nonpoint source load portion of the TSL accounts for contributions from stormwater.

In calculating the portion of the TSL resulting from atmospheric deposition, the State assumed that 100% of all atmospheric mercury loads, over time, reach a water body. Public comments raised concern that this assumption of 100% delivery ratio, i.e., 100% of the mercury deposited on land is delivered to water bodies, skews the relationship between point source and nonpoint source loads. Public comments pointed out that the TMDL Report, Section 5.2, identifies the composite runoff coefficient for Minnesota in the range of 0.28, i.e., 28%, of the mercury deposited on land will be delivered to water bodies. Public comments also pointed out that the Mercury Maps report on page 18 states that 20% of air deposited mercury will reach water bodies on a long-term average annual rate. The State responded that the 28% coefficient reported for Minnesota comes from a study of relatively undisturbed headwater lakes and does not represent delivery ratios in watersheds disturbed by agriculture, urban development, or forestry. The State's response also reported that a study for large Chesapeake Bay tributaries reported delivery ratios ranging from 6.9% to 85.4%. The State suggested that true delivery factors probably vary from less than 10% to more than 90% with the potential of 100%. Given this variability in delivery ratios and given that the mercury concentration in fish tissue is largely determined by the mercury loading to the watershed, and that mercury loading to the watershed is largely impacted by the atmospheric mercury loads the State chose not to change their original assumption of the 100% delivery ratio.

U.S. EPA finds the State's response acceptable. The State has identified the primary source of mercury impairments as resulting from atmospheric deposition and provided a rationale for its use of a 100% delivery ratio. In addition, the State explained that its use of a 100% delivery ratio was related to the State's calculation of the wasteload allocation, as further discussed in section 4 of this Decision Document.

Reduction Factor

The reduction factor is the percent reduction in total mercury load needed to achieve the fish tissue target of 0.2 mg/kg for the 90th percentile of the standard length fish. Fish tissue data were reviewed for the standard size top predator fish in each region. The 90th percentile fish tissue mercury concentration and median concentrations were calculated for each region for top predator fish, i.e., walleye and northern pike. Using the difference between the 90th percentile mercury concentration in top predator fish within each region and the 0.2 mg/kg target, the State calculated reduction factors of 65% for the northeast region and 51% for the southwest region.

The 90th percentile was selected as the appropriate statistic because the State believes it is consistent with the U.S. EPA's human health water quality criteria guidance.[15] U.S. EPA's guidance states

[15] Office of Science and Technology, Office of Water, U.S. Environmental Protection Agency, *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*. October 2000. EPA-822-B-00-004.

that water quality criteria are derived to protect the general population and that U.S. EPA uses a combination of median values, mean values, and percentile estimates to calculate the national criteria. The guidance also states that the assumptions are believed to be protective of the overall population and appropriate to meet the goals of the CWA.

The reduction factor was established using fish tissue data from 1988 to 1992. The State looked at fish tissue data from 1970 to 2002; however, to be consistent with the baseline year of 1990, fish tissue data from 1988 to 1992 were selected. Multi-year data better represent real conditions over time because they account for year-to-year variability in weather, fish populations, and sampling locations.

Data for the standard size top predator fish were used to calculate the reduction factor. Mercury bioaccumulates in fish; therefore mercury concentrations are typically highest in the top predator fish. Walleye and northern pike were selected as the top predator fish for both regions by Minnesota. The TMDL Report states that if the fish tissue target concentration is met in the top predator fish, then it is likely to be met in other species and the water column because the top predator fish have the highest mercury concentrations. Section 4.4.3 of the TMDL Report and previous discussion in this Decision Document explains how the State has demonstrated that when the fish tissue target concentration is met the water column standard will also be met.

To account for temporal and spatial comparisons of mercury concentrations in the top predator fish the standard size top predator fish is used. Minnesota uses a standard size of 40 cm (approximately 22 inches) for walleye and 55 cm (approximately 16 inches) for northern pike. Top predator fish that are collected for fish tissue analysis vary in size and age. Since mercury concentrations vary with the size of fish and age of fish, it is difficult to make comparisons regarding mercury concentrations in fish without establishing a standard of comparison. Use of the standard size fish accounts for differences in mercury concentrations due to age and size and enables the State to compare mercury concentrations across water bodies. Section 4.4 of the TMDL Report explains the linear regression procedure for predicting the mercury concentration in a standard size fish. The linear regression procedure used by the State provides a method of using a set of fish tissue data from a water body rather than just a single sample point. Use of a set of fish tissue data, rather than data from a single fish, lends itself better to protection of the general fish population.

Public comments received during the public notice and comment period raised concern that water quality standards would not be met because the load reduction goals were based on the standard size top predator fish. Public comments also raised concern that the 90th percentile was used as the assessment endpoint for determining necessary reductions. In response to these comments the State provided a more detailed discussion of how the standard size is determined and how the 90th percentile is appropriate for addressing the regional impacts of the mercury impairments. The explanation in Section 4.4 of the TMDL Report shows that the standard size top predator fish falls within the highest frequency size class for the species when compared to the Department of Health's fish consumption advisory fish size classes. Falling within the highest frequency size class means that the standard lengths are representative of the most common class size. In the response

to comments the State provides further explanation of its use of the 90th percentile and why it is consistent with U.S. EPA guidance. In assessing the appropriateness of the State's use of the standard size top predator fish and the 90th percentile, U.S. EPA considered not only the State's response to public comments and the TMDL Report, but also several other sources of information: 1) the Minnesota Department of Health's Statewide Safe Eating Guidelines which recommend that the most sensitive population not eat walleye larger than 20 inches or northern pike larger than 30 inches; 2) the Minnesota Department of Natural Resources fishing regulations which provide catch and release requirements for many larger class sizes of fish on various lakes in Minnesota; and 3) U.S. EPA's own guidance for deriving ambient water quality criteria.

Critical Conditions

The regulations at 40 CFR §130.7(c) require TMDLs to take into account critical conditions as part of the analysis of the loading capacity. The State's position on critical conditions in the TMDL Report and its response to comments is very brief. The position taken by the State is that the usual factors that are considered critical in TMDL development are not relevant to mercury in fish because bioaccumulation happens gradually over time and is influenced by various factors. The critical condition identified by the State is that some water bodies are more sensitive to mercury loading because of the water body's chemistry. The State believes the regional approach to the development of the TMDLs already accounts for the sensitivity of the receiving water bodies.

Public comments pointed out some other critical conditions such as temperature, soil type, erosion, dissolved organic matter, length of the food chain, and sulfates. Although each of these suggested critical conditions were not responded to explicitly by the State, the State's regional approach does take into account many of the conditions that may impact the mercury load to a water body. Sections 4.1 and 4.2 of the TMDL Report discuss numerous factors including water quality differences, land cover and use differences, the influence of sulfates, methylmercury associated with dissolved organic carbon, and influence of nutrient-enriched lakes in support of the regional approach. In the TMDLs, the water bodies are grouped into two regions based on differences in a number of these factors. Thus, although the regional approach may not address every potential critical condition that could impact mercury load to a water body the regional approach does consider many of these conditions.

Assessment: U.S. EPA finds that the Mercury TMDLs submitted by the State of Minnesota adequately identify the loading capacity and adequately account for critical conditions. Minnesota's methodology of defining a TSL, then applying a reduction factor to arrive at the loading capacities, is an acceptable approach. Minnesota's use of sediment cores, study data, and actual facility discharge data to establish 1990 as the baseline and define the baseline TSL is acceptable. Minnesota's effort to define a steady state condition that takes into consideration the key assumption of proportionality is also acceptable. U.S. EPA finds the State's approach to developing the reduction factors reasonable after considering the State's method for determining the standard size fish. U.S. EPA also considered consistencies between how the reduction factors were determined and Department of Health guidelines and U.S. EPA guidance. U.S. EPA also finds that the State's regional approach adequately addresses the critical condition of differences in water

bodies' sensitivity to mercury loadings.

4. Wasteload Allocations (WLAs)

U.S. EPA regulations require that a TMDL include wasteload allocations, which identify the portion of the loading capacity allocated to individual existing and future point source(s) (40 CFR §130.2(h), 40 CFR §130.2(i)). In preparing the wasteload allocations, it is not necessary that each individual point source be assigned a portion of the allocation of pollutant loading capacity. When the source is a minor discharger of the pollutant of concern or if the source is contained within an aggregated general permit, an aggregated wasteload allocation can be assigned to the group of dischargers.

The wasteload allocation is 0.01 kg/day for the northeast region and 0.02 kg/day for the southwest region. Consistent with its regional approach, Minnesota did not assign wasteload allocations to individual point sources; rather the State has established a gross wasteload allocation for each region. In addition to the wasteload allocation for the northeast region, the TMDL Report states that all wastewater discharges in the Lake Superior Basin will remain subject to the 1.3 ng/L water quality standard for mercury as set forth in the Minnesota Rules, Chapter 7052.

The State assigned 1% of the TMDL to point sources as the wasteload allocation for each regional TMDL. The State chose 1% of the TMDL based on an approach used in the Mercury Maps report to screen watersheds for significant point source impacts in order to identify water bodies impaired primarily by atmospheric mercury. The northeast region wasteload allocation was set at 1% of the loading capacity while the southwest region's allocation was set equal to the point source load portion of the TSL. The State set the southwest region's wasteload allocation equal to the point source load portion of the TSL because it was slightly less than 1% of the southwest region's loading capacity and the State chose the more restrictive allocation.

Assessment: U.S. EPA finds that the wasteload allocations are adequately specified in the TMDLs at a level sufficient, when combined with the load allocation, to attain and maintain water quality standards. U.S. EPA agrees that Minnesota's water quality standards applicable to wastewater discharges in the Lake Superior Basin apply in addition to the northeast wasteload allocation.

The State explained that its choice of 1% of the TMDL was related to its assumption that 100% of atmospheric mercury loads, over time, reach a water body, as discussed in the Loading Capacity section of this Decision Document.[16] In deciding on a significance level of 1% of 100% of atmospheric mercury loads, the State considered the approach used in the Mercury Maps report. The State noted that, using the approach in Mercury Maps, the assumption would be that 20% of the atmospheric mercury loads would reach a water body. The Mercury Maps report identifies watersheds where air deposition is the predominant mercury source by screening for watersheds that are considered to have a significant contribution from point sources or other sources. Watersheds

[16] See, for example, pages 13-15 of Minnesota's Responses to Mercury TMDL Issues

are considered to have a significant point source contribution if the sum of mercury loads from the publicly owned treatment works (POTWs) within the watershed is greater than 5% of the air deposited load as delivered to the water bodies. Since Minnesota assumes a delivery ratio of 100% rather than 20%, the State chose to use 1% of the air deposited load rather than 5% of the 20% of the delivered load as used in the Mercury Maps report. Mathematically, 5% of 20% of the air deposited load is the same as 1% of 100% of the air deposited load.

In selecting a regional approach to the development of these TMDLs, the State considered air deposition as the primary source of mercury loadings. Consistent with the regional approach, Minnesota did not assign wasteload allocations to individual point sources, rather the State established one wasteload allocation for each region. U.S. EPA agrees that these wasteload allocations are reasonable in light of the significant contribution of mercury from air deposition, which as described in Section 5.1 of the TMDL Report, is approximately uniform across the State, and the relatively small contribution of other sources of mercury. The sum of the loads from existing, new, or expanded point sources (municipal WWTPs, non-municipal dischargers, and stormwater) within a region must not exceed the regional wasteload allocation. U.S. EPA notes that at the time a permit is issued or renewed for a point source the permitting authority will need to assure that the permit is consistent with the assumptions and conditions that went into development of these wasteload allocations. In addition, pursuant to Federal regulations at 40 CFR 122.4(i), no permit may be issued to a new source or a new discharger if the discharge will cause or contribute to the violation of water quality standards. For this reason, it would not be appropriate for the State to issue NPDES permits to new sources or discharges of mercury if it will cause or contribute to the violation of the mercury fish tissue or water column standards. The State recognizes in the TMDL Report that, at the time of permit issuance, the State should ensure that the specific point source discharge will not cause or contribute to an exceedance of the gross wasteload allocation for the region. To do this, the permitting authority must evaluate whether the point source discharge will cause or contribute to a localized exceedance of the water quality standard and determine permit limits accordingly.

Appendix B to the TMDL Report identifies specific point sources that the State considers subject to the wasteload allocations. In addition to the point sources identified in Appendix B, NPDES permitted stormwater sources are subject to these wasteload allocations for the region in which they are located. Therefore, NPDES stormwater permits in the southwest region will be issued consistent with the 0.02 kg/day wasteload allocation, and NPDES stormwater permits in the northeast will be issued consistent with the 0.01 kg/day wasteload allocation. The permitting authority will have to ensure that stormwater permits are issued consistent with these regional wasteload allocations. As described previously in the Decision Document, the State did not include the mercury loadings from any specific stormwater sources in the calculation of the total point source load; rather, for purposes of determining the TSL, loadings from stormwater were included in the estimate of contributions from atmospheric deposition. The State determined that the contribution of mercury from stormwater sources other than atmospheric deposition as zero and on a regional scale this is reasonable. However, in addition to ensuring that the regional wasteload allocation is not exceeded, the permitting authority must also evaluate whether there are local

stormwater discharges that will cause or contribute to a localized exceedance of the water quality standard and determine permit limits accordingly.

The wasteload allocations were established as a percentage of the loading capacity or equal to the point source load portion of the TSL. Both the loading capacity and point source loads were calculated by considering the design flows of NPDES permits within each region, and for most facilities, the State used a typical effluent mercury concentrations based on studies. When permits are issued the permitting authority should take into consideration the design flow and effluent mercury concentrations set forth in Appendix B to the TMDL Report. If site-specific data or information differs significantly from the information and assumptions used by the State the permitting authority should account for these site-specific data in the permit conditions.

In consideration of the appropriateness of these regional wasteload allocations, U.S. EPA noted the State's intent to require mercury minimization plans and monitoring for WWTPs with an average wet weather design flow of greater than 200,000 gallons per day. U.S. EPA considers this requirement part of the State's implementation plan for the TMDLs. Although U.S. EPA is taking no action through this decision on any elements of implementation included in the State's TMDL Report, U.S. EPA did consider the State's requirement for mercury minimization plans and monitoring to be important in minimizing local impacts from point sources.

5. Load Allocations (LAs)

U.S. EPA regulations require that a TMDL include LAs, which identify the portion of the loading capacity attributed to existing and future nonpoint sources and to natural background. Load allocations may range from reasonably accurate estimates to gross allotments (40 CFR §130.2(g)). Where possible, load allocations should be described separately for natural background and nonpoint sources.

The load allocation for the northeast region is 1.09 kg/day and the load allocation for the southwest region is 1.55 kg/day. These load allocations are gross allotments. The load allocation, as defined at 40 CFR §130.2(g), allows for the use of gross allotments depending on the available data and techniques for predicting the loading. The primary nonpoint source for both these TMDLs is atmospheric mercury deposition. Given that the TMDL uses a regional approach, and the State indicates in the TMDL Report that air deposition is relatively uniform across the State, a gross allotment is reasonable.

The State's discussion of load allocation assumes mercury load reductions will come from atmospheric mercury deposition; therefore, once the regional reduction factors were applied to the TSLs the State simply subtracted these load reduction goals from the TSLs to arrive at the load allocations for each region that are found in Table 8 of the TMDL Report. However, simply applying the load reduction goals to the TSLs does not consider the wasteload allocations or any margin of safety. The State used the TMDL equation, TMDL=WLA+LA+MOS, to establish the final load allocations that are being approved and are found in Section 9 of the TMDL Report.

For the northeast region there is an implicit margin of safety; therefore, the TMDL equation becomes TMDL=WLA+LA. The TMDL for the northeast region has been established at 1.10 kg/day and the wasteload allocation established at 0.01kg/day; therefore, the load allocation is 1.09 kg/day (LA = TMDL – WLA).

For the southwest region the State has applied an explicit margin of safety of 0.61 kg/day. The TMDL has been established as 2.18 kg/day and the wasteload allocation established as 0.02 kg/day; therefore, the load allocation is 1.55 kg/day (LA = TMDL – WLA – MOS (explicit)).

The definition of load allocation at 40 CFR 130.2(g), states that "[w]henever possible, natural and nonpoint source loads should be distinguished." The TMDL Report states that 30% of the atmospheric mercury deposition load is from natural sources. The State does not intend for the TMDLs to address any portion of the mercury deposition from natural sources.

Assessment: U.S. EPA finds that the load allocations are adequately specified in the TMDLs at a level sufficient, when combined with the wasteload allocations, to attain and maintain water quality standards. Section 6.4 and Tables 9 and 10 of the TMDL Report distinguish between in-state and out-of-state contributions to the load allocations, necessary load reductions from anthropogenic sources within each region, and emission reduction goals. This information, although reviewed by U.S. EPA, is not considered part of the approved load allocations. U.S. EPA considers the specifics of how the necessary reductions will be achieved to be an implementation issue, and therefore not part of the approved TMDLs.

6. Margin of Safety (MOS)

The statute and regulations require that a TMDL include a margin of safety to account for any lack of knowledge concerning the relationship between load and wasteload allocations and water quality (CWA §303(d)(1)(C), 40 CFR §130.7(c)(1)). U.S. EPA's 1991 TMDL Guidance explains that the margin of safety may be implicit, i.e., incorporated into the TMDL through conservative assumptions in the analysis, or explicit, i.e., expressed in the TMDL as loadings set aside for the margin of safety. If the margin of safety is implicit, the conservative assumptions in the analysis that account for the margin of safety must be described. If the margin of safety is explicit, the loading set aside for the margin of safety must be identified.

Northeast Region:
The State includes an implicit margin of safety for the northeast region TMDL. The implicit margin of safety comes from the impact of sulfur deposition reductions expected under the Clean Air Act; these impacts were not considered in the estimate of atmospheric mercury deposition. Sulfate deposition stimulates sulfate-reducing bacteria. Studies have shown that sulfate-reducing bacteria are responsible for the transformation of mercury into methylmercury. Section 2.1 of the TMDL Report states that "[n]early all the mercury that accumulates in fish tissue is methylmercury. Inorganic mercury, which is less efficiently absorbed and more readily eliminated from the body

than methylmercury, does not tend to bioaccumulate." Sulfur reductions required pursuant to the Clean Air Act and the Clean Air Interstate Rule (CAIR) will result in reductions in sulfur deposition. Reductions in sulfur deposition, through a decrease in sulfate-reducing bacteria activity, will decrease the efficiency of mercury methylation and in turn, decrease the production of methylmercury. This anticipated decrease in methylmercury was not accounted for in the development of the TMDL, thus providing an implicit margin of safety that the TMDL is established at a level designed to achieve water quality standards. The State applied this implicit margin of safety only to the northeast TMDL because sulfate-reducing bacteria thrive in wetland environments and the northeast region is dominated by wetlands.

Southwest Region:
The explicit margin of safety for the southwest TMDL is 0.61 kg/day. This margin of safety was established by applying the greater reduction factor for the northeast region to the TSL for the southwest region thereby creating a load allocation of 1.55 kg/day. The difference between the necessary load allocation for the southwest and the southwest's load allocation calculated with the northeast's reduction factor is 0.61 kg/day (2.16 – 1.55 = 0.61 kg/day). The State recognized that the target for the northeast would not yet be achieved when only the target for the southwest has been achieved, as the State assumed atmospheric reductions to be uniform across the State. The State therefore chose to apply the greater reduction factor for the northeast region across the State to ensure that the target in both regions would be achieved.

Assessment: U.S. EPA finds that the Mercury TMDLs submitted by the State of Minnesota provide an adequate margin of safety. The implicit margin of safety for the northeast TMDL comes from the impact of reduced sulfur deposition on mercury bioaccumulation and concentrations in fish tissue. These sulfur reductions were not factored into the load allocation for atmospheric deposition and is a conservative assumption in the analysis to account for uncertainty between mercury deposition and mercury concentrations in fish tissue. The explicit margin of safety for the southwest TMDL comes from the application of a greater reduction factor to the southwest's load allocation. Since the primary nonpoint source subject to the load allocation is atmospheric deposition and since the State assumed that deposition is uniform across the State, the State's application of the higher northeast reduction factor to both regions is a reasonable approach.

7. Seasonal Variation

The statute and regulations require that a TMDL be established with consideration of seasonal variations. The TMDL must describe the method chosen for including seasonal variations. (CWA §303(d)(1)(C), 40 CFR §130.7(c)(1)).

Section 8 of the TMDL Report states that seasonal variation of mercury deposition and water concentrations are not significant to these TMDLs.[17] Seasonal fluctuations can occur in mercury

[17] Some language in the discussion of seasonal variation in the TMDL Report might suggest that the TMDLs are expressed as annual loads. This is not the case. The public notice draft TMDLs included only annual loads however, in

deposition, mercury methylation, and water concentrations. However, since mercury bioaccumulates over a long time period and since the resulting risks to humans are considered a long-term phenomenon, annual variations over many years are of greater significance than seasonal variations. The fish tissue mercury concentration at the time of sampling represents an integration of the variability up to the time of sampling.

Assessment: U.S. EPA finds that the Mercury TMDLs submitted by the State of Minnesota adequately accounted for seasonal variation. The daily TMDLs that are being approved were calculated from annual mercury loads and fish tissue concentrations over five years. Consideration of annual loads and concentrations over time is appropriate because mercury's bioaccumulation properties over the life of the fish are considered to outweigh the effect of seasonal variations.

8. Reasonable Assurances

When a TMDL is developed for waters impaired by point sources only, the issuance of a NPDES permit(s) provides the reasonable assurance that the wasteload allocations contained in the TMDL will be achieved. This is because 40 CFR §122.44(d)(1)(vii)(B) requires that effluent limits in permits be consistent with "the assumptions and requirements of any available wasteload allocation" in an approved TMDL.

When a TMDL is developed for waters impaired by both point and nonpoint sources, and the wasteload allocation is based on an assumption that nonpoint source load reductions will occur, U.S. EPA's 1991 TMDL Guidance states that the TMDL should provide reasonable assurances that nonpoint source control measures will achieve expected load reductions in order for the TMDL to be approvable. This information is necessary for U.S. EPA to determine that the TMDL, including the load and wasteload allocations, has been established at a level necessary to implement water quality standards.

U.S. EPA's August 1997 TMDL Guidance also directs Regions to work with States to achieve TMDL load allocations in waters impaired only by nonpoint sources. However, U.S. EPA cannot disapprove a TMDL for nonpoint source-only impaired waters, which do not have a demonstration of reasonable assurance that LAs will be achieved, because such a showing is not required by current regulations.

Section 12 of the TMDL Report provides discussion of reasonable assurances for both point and nonpoint sources. Within Minnesota there are many existing programs already in place that target mercury reductions. Some of these programs target mercury used in products while others regulate air sources known to emit mercury. As documented in the TMDL Report, Minnesota has seen success in achieving mercury reductions through these existing programs. Table ES-1 of the TMDL Report shows that as of 2005, there has been a 70% reduction in mercury emissions from the 1990 levels. U.S. EPA has no reason to believe that Minnesota will not continue these existing programs

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light of the April 25, 2006 Decision by the U.S. Court of Appeals for the D.C. Circuit in *Friends of the Earth, Inc. v. EPA, et al.*, No. 05-5015, the State included daily loads in the TMDLs submitted to U.S. EPA for review and approval.

and that the programs will not continue to be implemented successfully. In addition to the existing programs, U.S. EPA considered recent regulatory actions within the State and at the Federal level in the review of reasonable assurance.

Some of the existing programs, such as the health care outreach and dental office outreach, in addition to requiring mercury minimization plans can positively impact reductions in mercury entering wastewater treatment facilities, thus allowing for reductions in mercury effluent concentrations. Minnesota's regulatory program requires wastewater facilities to monitor using U.S. EPA Method 1631, ensuring the best available analysis in detecting mercury. In addition to these existing actions, the State will be proposing rulemaking where new or expanding water dischargers receive a 1 mg/L total phosphorus limit. In order to achieve this limit the State believes many facilities will need to add Bio-P[18] to their process. The State has data from other Minnesota point sources that show Bio-P helps reduce mercury effluent concentrations.

Existing voluntary reduction programs and existing laws for municipal and medical waste incinerators help provide reasonable assurance for the load allocations. Mercury emission reductions have already been demonstrated in response to Minnesota's incinerator rules. In May 2006, the Minnesota Governor signed the Mercury Emissions Reduction Act. This new law requires 90 percent emission reductions from three specific coal-fired power plants in Minnesota by 2014.

The State recognizes that all the necessary reductions will not come from within the State of Minnesota. Although the State does not take responsibility for implementing these programs, the State identified national and international programs focused on mercury reductions. Taken together, the federal Clear Air Interstate Rule and Clean Air Mercury Rule will reduce electric utility mercury emissions by nearly 70 percent on a nationwide basis from the 1999 levels when fully implemented.

Assessment: U.S. EPA finds that the Mercury TMDLs submitted by the State of Minnesota provide reasonable assurances that the wasteload allocations and load allocations will be achieved.

9. Monitoring Plan to Track TMDL Effectiveness

U.S. EPA's 1991 document, Guidance for Water Quality-Based Decisions: The TMDL Process (U.S. EPA 440/4-91-001) recommends a monitoring plan to track the effectiveness of a TMDL.

The TMDL recognizes the need for monitoring and further study of factors affecting mercury contamination of fish tissue. On page 42 of the TMDL Report, the State identifies five monitoring options that will be considered by the State. The TMDL Report also identifies two areas of current study related to better understanding the impacts of local factors on mercury contamination. U.S. EPA encourages the State to include more specific discussion of future monitoring efforts in the

[18] Biological phosphorus removal

State's implementation plan for these TMDLs. If future monitoring efforts and the results of current studies provide new information that would change any assumptions used to establish these TMDLs, or which would change the allocations in these TMDLs, the State should take measures to revise the TMDLs as soon as possible or if more appropriate, develop water body specific TMDLs.

Assessment: U.S. EPA finds the Mercury TMDLs submitted by the State of Minnesota adequately describes recommendations for future monitoring to track the effectiveness of the TMDLs, although U.S. EPA is not approving any recommendations for monitoring contained in this TMDL Report or any other aspect of Minnesota's monitoring program through this decision.

10. Implementation

U.S. EPA policy[19] encourages Regions to work in partnership with States/Tribes to achieve nonpoint source load allocations established for 303(d) listed waters impaired by nonpoint sources. Regions may assist States/Tribes in developing implementation plans that include reasonable assurances that nonpoint source load allocations established in TMDLs for waters impaired solely or primarily by nonpoint sources will in fact be achieved. In addition, U.S. EPA policy recognizes that other relevant watershed management processes may be used in the TMDL process. U.S. EPA is not required to and does not approve TMDL implementation plans.

The TMDL Report discusses in many places the development of an implementation plan upon approval of the TMDLs. The State's discussions mention stakeholder involvement in the development of the implementation plan. U.S. EPA encourages the State to move forward in an expeditious manner with the development of such a plan. The State identified mercury minimization plans and Bio-P as possible ways to implement the wasteload allocation. As previously stated in this Decision Document, U.S. EPA considered the State's requirement for mercury minimization plans an important mechanism in minimizing local impacts from point sources. Also, the State has seen some success in reducing mercury effluent concentrations at facilities operating with Bio-P. U.S. EPA encourages the State to pursue all treatment technology options available in its plans to implement the wasteload allocations.

The State included discussion about implementation of the load allocation in many sections of the TMDL Report. Natural sources of mercury are not included in the State's implementation plans as described in Section 11 of the TMDL Report. The State has also made it clear that because of jurisdictional limitations, contributions from out-of-state nonpoint sources will not be directly addressed during implementation. The State's implementation section of the TMDL Report indicates that Minnesota participates in national and international mercury reduction initiatives. These implementation activities will have an impact on out-of-state sources. The State's implementation discussions regarding nonpoint sources included other short-term actions such as development of monitoring and reporting protocols, development of a permitting strategy for new or expanding air emission sources, continuation of current reduction strategies, and continuation of

[19] Perciasepe, B., U.S. EPA, Office of Water, *New Policies for Establishing and Implementing Total Maximum Daily Loads (TMDLs)*, August 8, 1997.

current collection programs. All of these actions should have positive impacts on reducing mercury loads throughout the State.

As part of its review of the TMDLs, U.S. EPA considered the Minnesota Mercury Emissions Reduction Act of 2006, as an implementation tool for achieving the load allocations of these TMDLs. On May 11, 2006, the Governor signed this Act into law. When fully implemented, a 90% reduction in emissions from three large coal-fired power plants in Minnesota should be achieved. When implemented, this new law should have a positive impact on the State's efforts at achieving the load allocations.

Assessment: U.S. EPA is taking no action on the implementation section of the TMDL Report but notes that the State appears to have good basis for the development of a more detailed implementation plan.

11. Public Participation

U.S. EPA policy is that there should be full and meaningful public participation in the TMDL development process. The TMDL regulations require that each State/Tribe must subject calculations to establish TMDLs to public review consistent with its own continuing planning process (40 CFR §130.7(c)(1)(ii)). In guidance, U.S. EPA has explained that final TMDLs submitted to U.S. EPA for review and approval should describe the State's/Tribe's public participation process, including a summary of significant comments and the State's/Tribe's responses to those comments.

Provision of inadequate public participation may be a basis for disapproving a TMDL. If U.S. EPA determines that a State/Tribe has not provided adequate public participation, U.S. EPA may defer its approval action until adequate public participation has been provided for, either by the State/Tribe or by U.S. EPA.

Section 13 of the TMDL Report includes a summary of the public participation process. The State also submitted a public participation package in the August 25, 2006 correspondence submitting the final TMDLs for U.S. EPA review and approval. The public participation package included copies of public comments received during the public notice and comment period, a summary of public comments received and the issues raised in these public comments, MPCA's responses to the issues raised in public comments, and dates and descriptions of public participation opportunities along with supporting documentation.

The draft TMDLs were on public notice from July 18 to October 18, 2005. The State held eight public information meetings throughout the State between July 14 and July 25, 2005. More than 900 comments were received. MPCA received comments by letter, electronic mail and postcard. The National Wildlife Federation filed a contested case petition during the public notice and comment period. On January 18, 2006, National Wildlife Federation withdrew its petition for a contested case hearing. After consideration of public comments received, MPCA made available

through its website a revised TMDL Report dated June 1, 2006. Additionally, MPCA made available a summary of the public comments received and the State's responses. On July 25, 2006, MPCA requested approval from the MPCA Citizens' Board to submit the revised TMDLs to U.S. EPA for review and approval. The MPCA Citizens' Board concurred unanimously that the revised TMDLs be submitted to U.S. EPA. Three organizations, Minnesota Center for Environmental Advocacy (MCEA), Indigenous Women's Mercury Investigation, and Minnesota Power, and one individual provided written comments to the Citizens' Board. On July 26, 2006, MPCA submitted a copy of these four written comments to U.S. EPA. The State did not provide a response to these four comments since they were not submitted during the formal public notice and comment period. On August 25, 2006, MPCA submitted the final TMDLs to U.S. EPA for review and approval. On August 28, 2006, MPCA submitted to U.S. EPA a copy of the transcript from the July 25th Citizens' Board meeting.

Assessment: In reviewing the TMDLs, U.S. EPA reviewed the public participation package submitted by the State in the August 25th correspondence. U.S. EPA reviewed the public comments, the State's summary of the issues raised in public comments, and the State's responses and has determined that the State's summary and responses reasonably reflect the issues included in the 900 plus public comments. In reviewing the TMDLs, U.S. EPA also reviewed the transcript from the July 25th Citizens' Board meeting and the four comment letters submitted to the Citizens' Board. U.S. EPA finds that the State of Minnesota's public participation process satisfies the requirement that calculations to establish TMDLs shall be subject to public review in accordance with State procedures thus satisfying the requirement at 40 CFR §130.7(c)(1)(ii).

12. Submittal Letter

A submittal letter should be included with the TMDL, and should specify whether the TMDL is being submitted for a technical review or final review and approval. Each final TMDL submitted to U.S. EPA should be accompanied by a submittal letter that explicitly states that the submittal is a final TMDL submitted under Section 303(d) of the Clean Water Act for U.S. EPA review and approval. This clearly establishes the State's/Tribe's intent to submit, and U.S. EPA's duty to review, the TMDL under the statute. The submittal letter, whether for technical review or final review and approval, should contain such identifying information as the name and location of the water body, and the pollutant(s) of concern.

Assessment: MPCA's August 25, 2006 correspondence signed by Brad Moore, Acting Commissioner, addressed to Jo Lynn Traub, Director, U.S. EPA, Region 5, Water Division, states that the final draft Mercury TMDL Report and the public participation package are submitted under Section 303(d) of the Clean Water Act for U.S. EPA review and approval.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:
W-16J

March 3, 2022

Todd Biewen, Director
Environmental Analysis and Outcomes Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Dear Mr. Biewen:

The U.S. Environmental Protection Agency has conducted a complete review of the 2022 revisions to Appendix A of the Minnesota Statewide Mercury Total Maximum Daily Load (TMDL) received by EPA on February 4, 2022. The 2022 revisions include nine new waterbody segments added to Appendix A and updates to Appendix B of the final TMDL.

EPA has determined that no changes are being made to the original elements of the Statewide Mercury TMDL as approved on March 27, 2007, and subsequently revised on April 3, 2008, September 28, 2010, May 31, 2013, September 25, 2014, October 23, 2018 and March 16, 2021. This decision addresses amendments to waterbody segments included in Appendix A and updates to Appendix B of the final TMDL.

EPA has determined that the revisions to Appendix A meet the requirement of Section 303(d) of the Clean Water Act, 33 U.S.C. Section 1313(d), and EPA's implementing regulations of 40 C.F.R. Part 130. Therefore, EPA approves the revisions to Appendix A. The statutory and regulatory requirements, and EPA's review of Minnesota's compliance with these requirements, are described in the enclosed decision document.

We wish to acknowledge Minnesota's effort in submitting the 2022 revisions to the Statewide Mercury TMDL. If you have any questions, please contact Mr. Paul Proto, at 312-353-8657 or at proto.paul@epa.gov.

Sincerely,

Digitally signed by TERA FONG
Date: 2022.03.03 11:25:16 -06'00'

Tera L. Fong
Division Director, Water Division

TMDL Decision Document

TMDL: 2022 Revision to the Minnesota Statewide Mercury Total Maximum Daily Load
Approval Date: March 3, 2022

Background

On March 27, 2007, the United States Environmental Protection Agency approved the northeast (NE) and southwest (SW) regional mercury Total Maximum Daily Loads (TMDLs) submitted by the State of Minnesota.[1] For purposes of this Decision Document, the NE and SW regional mercury TMDLs approved on March 27, 2007 will be referred to as the "Original TMDL." The Original TMDL addresses certain water bodies not meeting designated uses for fish consumption due to exceedances of the numeric mercury water column water quality standard (WQS) and/or certain elevated mercury concentrations in fish tissue. It does not cover all mercury-impaired waters of the State, rather, as explained below, it covers only those water bodies where the fish tissue mercury concentration data ranges from, and including, 0.2 mg/kg to not greater than 0.572 mg/kg.

The Original TMDL was developed by the Minnesota Pollution Control Agency (MPCA) and established a load allocation (LA) for the primary nonpoint source, atmospheric deposition. MPCA assigned wasteload allocations (WLA) to point sources, including electricity generators, wastewater treatment facilities, and industrial discharges (e.g., pulp & paper mills, taconite processing facilities and refineries).[2] Attachment #3 of this Decision Document identifies National Pollutant Discharge Elimination System (NPDES) permitted facilities which are covered via the WLA of the Statewide Mercury TMDL (i.e., Statewide TMDL). An explicit margin of safety (MOS) was established for the SW regional mercury TMDL while an implicit MOS was employed for the NE regional mercury TMDL.[3]

MPCA assesses fish tissue concentration data and mercury water column data on a biennial basis in accordance with its water quality monitoring strategy. These data are most currently assessed according to MPCA's approach described in its 2022 Methodology document.[4] MPCA completes its water quality data assessment (i.e., whether a water body is deemed to be impaired or not impaired) on an annual basis and presents the results of those determinations in the Minnesota biennial 303(d) list. There are three possible outcomes of the State's assessment of new fish tissue data.

1. If the fish tissue mercury concentration data is greater than 0.572 mg/kg and the data meet MPCA's Quality Assurance/Quality Control (QA/QC) criteria described in the 2022 Methodology, the water body segment is not covered by the Statewide TMDL and, instead, is added to the Minnesota 303(d) list as an impaired water (i.e., Category 5 water body segment).

2. If the fish tissue mercury concentration data is greater than 0.2 mg/kg or equal to or less than 0.572 mg/kg, then the water body segment is included in those addressed by implementation

[1] A copy of EPA's March 27, 2007 approval is included as Attachment #1 to this Decision Document. EPA subsequently approved this TMDL to address updates to Appendix A in the 2008, 2010, 2012, 2014, 2016, 2018 and 2020 303(d) listing cycles as further discussed below.
[2] MPCA, *Minnesota Statewide Mercury Total Maximum Daily Load*, March 27, 2007, Section 6.3, p. 37.
[3] MPCA, *Minnesota Statewide Mercury Total Maximum Daily Load*, March 27, 2007, Section 7, pp. 40-41.
[4] MPCA, *Guidance Manual for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment: 305(b) Report and 303(d) List, 2022 Assessment and Listing Cycle*, wq-iw1-04l, pp. 25-31.

efforts under the Statewide TMDL.[5] Instead of being listed in Category 5, however, the specific water body segment is added to the list of water bodies in Appendix A of the Statewide TMDL.[6] Appendix A is updated as part of the efforts to revise and update the Original TMDL every two years which coincides with the state's biennial 303(d) process.

3. If the fish tissue mercury concentration data are less than 0.2 mg/kg, the water body segment is deemed to be not impaired. Also, if MPCA deems the fish tissue mercury concentration data to be inconclusive, the water body segment may be classified in Category 3 of the State's 303(d) list, as a water body segment whose impairment cannot be determined due to insufficient data.

MPCA analyzes and assesses new fish tissue mercury concentration data every 2 years and revises the list of waters in Appendix A accordingly. Biennial revisions to Appendix A have included adding individual water body segments, removing water body segments, re-naming water body segments, and updating water body segment assessment unit identification (AUID) numbers. Appendix A of the Original TMDL has been revised five times to date.

- 1st Revision: Approved by EPA on April 3, 2008, the 2008 Revision addressed updates to Appendix A of the Original TMDL.
- 2nd Revision: Approved by EPA on September 28, 2010, the 2010 Revision, addressed updates to Appendix A made in the 2010 303(d) listing cycle.
- 3rd Revision: Approved by EPA on May 31, 2013, the 2012 Revision, addressed updates to Appendix A made in the 2012 303(d) listing cycle.
- 4th Revision: Approved by EPA on September 25, 2014, the 2014 Revision, addressed updates to Appendix A made in the 2014 303(d) listing cycle.
- 5th Revision: Approved by EPA on October 23, 2018, the 2016-2018 Revisions, addressed updates to Appendix A made in the 2016 and 2018 303(d) listing cycles.
- 6th Revision: Approved by EPA on March 16, 2021, the 2020 Revision, addressed updates to Appendix A made in the 2020 303(d) listing cycle.

A copy of the most recent revision to the Statewide TMDL, the 2020 Revision, is included as Attachment 2 of this Decision Document.

2022 Revision to the Minnesota Statewide Mercury Total Maximum Daily Load

On February 4, 2022, MPCA submitted its final Revisions to the Minnesota Statewide Mercury TMDL to EPA. This included MPCA's proposed 2022 amendments to Appendix A of the Original TMDL for review and approval. The proposed revisions to Appendix A will be referred to as the "2022 Revision".

MPCA also completed updates to Appendix B as part of its biennial review of the Statewide TMDL. Appendix B is a list of NPDES permitted facilities which are covered by the Statewide TMDL. Biennial updates to Appendix B include: the addition of new facilities, removal of facilities, and/or changes to

[5] MPCA webpage, https://www.pca.state.mn.us/water/plan-reduce-mercury-releases-2025 (last visited 3/2/22).
[6] Water body segments in Appendix A of the Statewide TMDL are reflected in the State's "Mercury TMDL Appendix A" and "Inventory of Impaired Waters" tabs of State's 303(d) spreadsheet.

facility names or permit numbers. An updated Appendix B, from November 2021[7] is available on MPCA's Statewide Mercury Reduction Plan webpage[8] and is also included at Attachment 3 to this Decision Document.

EPA is approving the 2022 Revision to Appendix A based on the information submitted by the State of Minnesota in February 2022. The 2022 Revision was completed using water quality data collected and analyzed for the 2022 integrated reporting cycle. As was the case for the 2008, 2010, 2012, 2014, 2016, 2018 and 2020 Revisions, the 2022 Revision process does not make any changes to the TMDL targets of the Original TMDL, reduction factors, loading capacities, allocations, reduction goals or other TMDL equation elements of the TMDL established in the Original TMDL.

Identification of water bodies for the 2022 Revision

During the 2022 303(d) listing cycle MPCA collected and analyzed mercury fish tissue concentration data and mercury water column data and compiled a list of water body segments which demonstrated mercury impairments within the thresholds of the Statewide TMDL (e.g., fish tissue concentration values greater than 0.2 mg/kg or equal to or less than 0.572 mg/kg). MPCA proposed adding this subset of water body segments to the Statewide TMDL's Appendix A.

The State identified nine (9) new lake and/or river segments which are impaired due to excessive mercury in the water column or in fish tissue samples. These nine segments are included in Appendix A for the 2022 Revision to the Statewide TMDL (Table 1 of this Decision Document).

EPA considered all existing and readily available water quality data and information shared by MPCA in February 2022 related to MPCA's request to add these water body segments to Appendix A as part of the 2022 Revision to the Statewide TMDL. EPA reviewed these proposed water body segments and determined that the proposed water body segments are acceptable to be included in the 2022 Revision to the Statewide TMDL.

EPA Assessment:

EPA finds the State's decision to include nine new water body segments to Appendix A as part of the 2022 Revision is reasonable and appropriate. Water bodies added to Appendix A were identified by the State as having fish tissue mercury concentrations greater than 0.2 mg/kg and equal to or less than 0.572 mg/kg. Water bodies having fish tissue mercury concentrations within this range are consistent with the types of waters for which the reduction factors used to develop the Original TMDL are designed to apply.[9]

Table 1 (for the 2022 Revision) of this Decision Document identifies the new water body segments being added to Appendix A of the Original TMDL, as revised in 2008, 2010, 2012, 2014, 2016, 2018 and 2020.

[7] MPCA document, 2022 Revisions for Appendix B of the Statewide Mercury TMDL, November 2021, Attachment 3 to this Decision Document.
[8] MPCA webpage, https://www.pca.state.mn.us/water/statewide-mercury-reduction-plan (last visited 3/2/22).
[9] Table ES-1 of the Original TMDL, MPCA, 2007.

Other Changes to Appendix A for the 2022 Revision

EPA encourages States to review previously assessed water body segments during each integrated reporting cycle. During this review process, the State may determine that changes to the listing of an existing water body segment may be necessary because of administrative renumbering, resegmentation of the original water body, or efforts to combine individual water body segments. When such changes are made, EPA refers to the original assessment unit as being removed. Changes to Appendix A as a result of renumbering, resegmenting, combining effort are summarized in Table 2 (2022 changes and corrections) of this Decision Document.

Additionally, the 2022 303(d) submittal and the Statewide Mercury Revision submittal information included water body segments which MPCA had identified as "partial" tribal waters. MPCA defined a partial tribal water in the context of the 303(d) list as,

> This body of water is partially within a federally recognized Indian reservation. The state and tribe have worked cooperatively on this water quality assessment and agree that the water should be included on the State's impaired waters list. For the purposes of the 303(d) list, the assessment of the portion of the water body within the reservation is advisory to EPA only because EPA has stated that it does not approve the State's impaired waters listings for waters within the boundaries of an Indian reservation.[10]

EPA acknowledges MPCA's effort to communicate water quality information for certain multijurisdictional water bodies (i.e., waters which are partially on state lands and tribal reservation lands) in order to comply with Minnesota state laws which govern MPCA's responsibly to measure and communicate water quality information as part of its 303(d) program.[11] EPA is taking no action on those portions of any water body segment located Indian country as that term is defined in 18 U.S.C. 1151.[12] EPA's approval of those water body segments designated by Minnesota as a "partial" tribal water applies only to those portions of the water body segment located on state lands. EPA's approval does not apply to the portion of such water body segments that are in Indian country.

EPA Assessment:

EPA finds these corrections and changes to assessment units are acceptable. MPCA's review of previously assessed water body segments during the 2022 integrated reporting cycles resulted in corrections to existing assessment units, splitting lake and river assessment units and combining existing assessment units.

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[10] 2022 303(d) submittal spreadsheet, Tribal Designation Notation tab, Draft 2022 Impaired Waters List (wq-iw1-73) at https://www.pca.state.mn.us/water/minnesotas-impaired-waters-list, (last visited 3/2/22).

[11] MPCA, *Guidance Manual for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment: 305(b) Report and 303(d) List, 2022 Assessment and Listing Cycle*, wq-iw1-04l, Appendix E, pp. 54-55.

[12] EPA continues to encourage MPCA to resegment transboundary water segments at the borders of Indian reservations to facilitate informal coordination with tribes who may wish to implement complementary and/or voluntary TMDLs for the reservation portion of affected water bodies and to encourage formal coordination with those tribes who may implement TMDLs under approved CWA 303(d) programs in the future.

Public Participation for the 2022 Revision

MPCA includes information related to the revision of its Statewide TMDL as part of its biennial 303(d) submittal to EPA. Minnesota submits its 303(d) list to EPA every two years to fulfill the reporting requirements of Sections 303(d) of the CWA. As part of this submission process, MPCA must provide the public with the opportunity to review and comment on assessment decisions made for the 303(d) list, including the opportunity to provide input on water bodies included or not included within MPCA's efforts to revise its Statewide TMDL.

MPCA made available its draft 2022 303(d) list, which included draft 2022 Revision information, for public comment from November 8, 2021 to January 7, 2022. Information regarding the availability of the 303(d) public notice materials were communicated to the general public through news releases, MPCA's gov.delivery emailing database, MPCA's website, and via a publication in the State Register.[13]

Mercury related comments presented during the public notice period for the 2022 303(d) List

MPCA received comments during the 2022 303(d) public notice period which referenced mercury related topics but did not receive specific comments on water bodies addressed by the Statewide Mercury TMDL nor the proposed waters in the 2022 Revision (Appendix A of this Decision Document).

Those comments which discussed mercury related topics cited the connectivity between elevated sulfate concentrations in surface waters and increased levels of mercury contamination found in biological species as well as requesting further clarification from MPCA regarding mercury listings in Trimble Creek (04010201-A41) and Unnamed Creek (Mud Lake Creek) (04010201-B50). Both Trimble Creek and Unnamed Creek (Mud Lake Creek) waters were added to the 2022 303(d) Impaired Waters List as Category 5 impaired waters due to elevated concentrations of mercury measured in the water column and are not addressed by the 2022 Revisions to the Statewide Mercury TMDL. EPA will review MPCA's responses to these mercury topics as part of its final review of the 2022 303(d) Impaired Waters List.

EPA Assessment:

EPA reviewed the public participation information submitted by the State and concluded that the MPCA adequately addressed public comments regarding mercury impairments and other mercury related topics. EPA also reviewed information made available by MPCA to the public for review and comment, and MPCA's announcement of the public comment period. EPA finds that the State of Minnesota's public participation processes for the 2022 Revision to the Statewide TMDL were appropriate and that MPCA provided the general public with reasonable opportunity to review and comment on the proposed revisions to the Statewide TMDL for the 2022 303(d) listing cycle.

[13] State Register. Volume 46, Number 19, Monday 8 November 2021, pp. 622-624.

Tribal Consultation

Pursuant to Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* and with the *EPA Policy on Consultation and Coordination with Indian Tribes (May 2011)*,[14] EPA invited tribal consultation on its review of the 2022 Revision.[15] Representatives from the Leech Lake Band of Ojibwe (Leech Lake), Mille Lacs Band of Ojibwe (Mille Lacs) and the Match-e-be-nash-she-wish Band of Pottawatomi Indians (i.e., Gun Lake Tribe) requested consultation with EPA. EPA hosted a tribal consultation conference call on February 16, 2022. Additionally, EPA received written comments from the Fond du Lac Band of Lake Superior Chippewa (Fond du Lac) on February 10, 2022, the Oneida Nation on February 22, 2022, Leech Lake on February 24, 2022, and Mille Lacs on February 25, 2022.

EPA considered the Tribes' comments during its deliberations related to the approval of the 2022 Revision.[16] EPA provided Fond du Lac, Leech Lake, Mille Lacs, the Oneida Nation and the Gun Lake Tribe with a written response that explained how EPA considered their input in EPA's final decision (Attachment 4 – EPA Response to Tribal Issues Raised During Tribal Consultation on the 2022 Revision).

Conclusion

EPA has completed a full review of the information provided by MPCA in February 2022, and other appropriate supporting information. EPA finds that pursuant to Section 303(d) of the CWA, 33 U.S.C. Section 1313(d), and EPA's implementing regulations at 40 CFR Part 130, the 2022 Revision satisfies the elements of an approvable TMDL. This approval addresses changes to Appendix A and Appendix B of the Minnesota Statewide TMDL as described in the State's 2022 Revision. No other elements or documentation relating to the original or subsequent approvals of this TMDL are being revised.

[14] EPA Policy on Consultation and Coordination with Indian Tribes, May 4, 2011. https://www.epa.gov/sites/production/files/2013-08/documents/cons-and-coord-with-indian-tribes-policy.pdf (last visited 3/2/22).
[15] EPA letter to tribal leaders, February 4, 2022.
[16] EPA letter to Fond du Lac, Leech Lake, Mille Lacs, the Oneida Tribe and the Gun Lake Tribe, March 3, 2022.

Tables

Table 1: 2022 Revised Minnesota Statewide TMDL: 2022 Additions to Appendix A
Table 2: 2022 Revised Minnesota Statewide TMDL: Corrections and Changes to Lake and River Assessment Units

Attachments

Attachment 1: EPA's March 27, 2007 approval of Minnesota Mercury Statewide TMDL submitted to EPA on August 25, 2006
Attachment 2: EPA's March 16, 2021 approval of 2020 Revision of Minnesota Mercury Statewide TMDL submitted to EPA on February 17, 2021
Attachment 3: Minnesota Pollution Control Agency Statewide TMDL Appendix B, November 2021
Attachment 4: EPA Response to Tribal Issues Raised During Tribal Consultation on the 2022 Revision

Table 1: 2022 Revised Minnesota Statewide Mercury TMDL, 2022 Additions to Appendix A Approval Date: March 3, 2022

Impaired Lake or River Reach	Year Placed In Inventory	Assessment Unit ID or DNR Lake ID[1]	Partial Tribal Designation	Pollutant or stressor	Region
Lake Assessment Units[2]					
Island	2022	58-0062-00		Mercury in fish tissue	NE
River Assessment Units[2]					
Le Sueur River	2022	07020011-501		Mercury in fish tissue	SW
Le Sueur River	2002	07020011-501		Mercury in water column	SW
Le Sueur River	2022	07020011-506		Mercury in fish tissue	SW
Le Sueur River	2022	07020011-507		Mercury in fish tissue	SW
Le Sueur River	2022	07020011-620		Mercury in fish tissue	SW
Le Sueur River	2022	07020011-664		Mercury in fish tissue	SW
Le Sueur River	2022	07020011-665		Mercury in fish tissue	SW
Shell Rock River	2022	07080202-501		Mercury in fish tissue	SW

1= The water bodies in Appendix A have fish tissue concentrations greater than 0.2 mg/kg and equal to or less than 0.572 mg/kg. Fish tissue concentrations that exceed 0.572 mg/kg are not eligible to be included in the Minnesota Statewide Mercury TMDL and will be added to the Minnesota Clean Water Act Section 303(d) Impaired Waters List.

2 = The Minnesota Statewide Mercury TMDL was originally approved on March 27, 2007 and revisions to Appendix A were approved on April 3, 2008, September 28, 2010, May 31, 2013, September 25, 2014, October 23, 2018 & March 16, 2021. The water bodies in Appendix A have fish tissue concentrations greater than 0.2 mg/kg and equal to or less than 0.572 mg/kg. Fish tissue concentrations that exceed 0.572 mg/kg are not eligible to be included in the Minnesota Statewide Mercury TMDL and will be added to the Minnesota CWA 303(d) Impaired Waters List. It is important to note that the Minnesota Statewide Mercury TMDL documentation, reduction goals, etc., are NOT being changed; only Appendix A is being modified at this time.

3 = EPA's approval of those water bodies designated as a partial tribal water applies only to those portions of a water body located on state lands. EPA's approval does not apply to the portion of such water bodies that are in Indian country.

Table 2: 2022 Revised Minnesota Statewide Mercury TMDL, Corrections and Changes to Water Body Segments
Approval Date: March 3, 2022

2020 Final Statewide Mercury TMDL			2022 Revision to the Statewide Mercury TMDL		
Impaired Lake or River Reach	**Assessment Unit ID or DNR Lake ID**		**Impaired Lake or River Reach**	**Assessment Unit ID or DNR Lake ID**	**Explanation**
River Assessment Units					
Sunrise River, North Branch	*07030005-501*		Sunrise River, North Branch	07030005-797	-501 split to -797 and -798 segments and -501 removed from Appendix A
			Sunrise River, North Branch	07030005-798	
Yellow Medicine River	*07020004-584*		Yellow Medicine River	07020004-782	-584 split to -782, -783 and -784 segments and -584 removed from Appendix A
			Yellow Medicine River	07020004-783	
			Yellow Medicine River	07020004-784	
Yellow Medicine River, South Branch (County Ditch 35)	*07020004-503*		Yellow Medicine River, South Branch (County Ditch 35)	07020004-762	-503 split to -762, -763, - 764 and -765 segments and -503 removed from Appendix A
			Yellow Medicine River, South Branch (County Ditch 35)	07020004-763	
			Yellow Medicine River, South Branch (County Ditch 35)	07020004-764	
			Yellow Medicine River, South Branch (County Ditch 35)	07020004-765	
Whiteface River	*04010201-529*		Whiteface River	04010201-B01	-529 split to -B01 and -B63 segments and -529 removed from Appendix A
			Whiteface River	04010201-B63	

*** = EPA's approval of those water bodies designated as a partial tribal water applies only to those portions of a water body located on state lands. EPA's approval does not apply to the portion of such water bodies that are in Indian country.**

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

WW-16J

MAR 27 2007

Brad Moore, Commissioner
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Re: Minnesota Mercury Statewide Total Maximum Daily Load

Dear Mr. Moore:

The United States Environmental Protection Agency (U.S. EPA) has conducted a complete review of the Minnesota Statewide Mercury Total Maximum Daily Load submitted to U.S. EPA August 25, 2006, including Minnesota's northeast and southwest regional total maximum daily loads (TMDLs) addressing 511 mercury impairments. Based on this review, U.S. EPA has determined that these two TMDLs meet the requirements of Section 303(d) of the Clean Water Act and U.S. EPA's implementing regulations at 40 C.F.R. Part 130. Therefore, by this letter U.S. EPA hereby approves two (2) TMDLs addressing 511 mercury impairments within the State of Minnesota. The statutory and regulatory requirements, and the TMDLs' compliance with these requirements, are described in the enclosed decision document.

We appreciate your hard work in this area and the submittal of the TMDLs as required. If you have any questions, please contact Kevin Pierard, Chief of the Watersheds and Wetlands Branch, at 312-886-4448.

Sincerely yours,

Jo Lynn Traub
Director, Water Division

Enclosure

cc: Mike Sandusky, MPCA
Faye Sleeper, MPCA

TMDL Decision Document

TMDL: June 1, 2006 Minnesota Statewide Mercury Total Maximum Daily Load

Status: Final

Date of U.S. EPA Decision: March 27, 2007

Impairment/Pollutant: Approximately two-thirds of the waters on Minnesota's 2006 303(d) list are identified as being impaired for mercury due to fish tissue concentration of mercury and/or water column exceedance of the mercury water quality standard. To address these widespread mercury impairments Minnesota divided the State into two regions, a northeast region and a southwest region, and established a total maximum daily load (TMDL) for each region. Collectively, the two regional TMDLs address 511 mercury impairments throughout the State that were identified in Category 5 of Minnesota's 2006 Integrated Report. Each TMDL includes daily loads for the loading capacity, wasteload allocation (WLA), load allocation (LA), plus a margin of safety (MOS). The target for both TMDLs is 0.2 milligrams of total mercury per kilogram of fish, or parts per million (mg/kg or ppm) fish tissue mercury concentration, which is a surrogate for the numeric water column water quality standards: 1.3 nanograms per liter (ng/L) for the Lake Superior Basin, and 6.9 ng/L for the rest of the State.

Background: The Minnesota Pollution Control Agency (MPCA) provided a preliminary TMDL Report to U.S. EPA in October 2004. MPCA released to the public a preliminary TMDL Report on the State's website in December 2004. U.S. EPA sent the State comments on the preliminary Reports in January 2005, and MPCA responded to these comments in March 2005. MPCA provided the public notice draft TMDLs to U.S. EPA in May 2005. A public notice and comment period was held from July 18, 2005 to October 18, 2005. The State presented the final regional TMDLs to the MPCA Citizens' Board for approval to submit the TMDLs to U.S. EPA on July 25, 2006. The Citizens' Board unanimously approved submitting the final regional TMDLs to U.S. EPA for review and approval. On August 30, 2006, U.S. EPA received a final TMDL Report dated June 1, 2006 (TMDL Report). The TMDL Report included copies of public comments received by the State, an index of comments received and issues raised, a responsiveness summary, and a log of public participation and supporting documents. On August 30, 2006, under separate cover, U.S. EPA received a transcript of the July 25, 2006 Citizens' Board meeting.

Conclusion: After a full and complete review of the TMDL Report and supporting documents, U.S. EPA finds that pursuant to Section 303(d) of the Clean Water Act, 33 U.S.C. Section 1313(D), and U.S. EPA's implementing regulations at 40 CFR Part 130, the northeast and southwest regional mercury TMDLs satisfy the elements of approvable TMDLs. This approval addresses a total of 511 lake and river reach impairments as identified in Category 5 of Minnesota's 2006 Integrated Report. A load allocation for both TMDLs has been established. The primary nonpoint source identified in both TMDLs is atmospheric deposition. One wasteload allocation has been established for each region. Point sources, including stormwater, municipal wastewater treatment facilities, and industrial dischargers, that impact the impaired lakes and river reaches addressed by these TMDLs are subject to the applicable regional wasteload allocation. An explicit margin of safety has been established for the southwest region's TMDL while an implicit margin of safety has been used for the northeast region's TMDL. The final approved TMDLs are included in Section 9 of the TMDL

Report and are as follows:

Table 1: Approved Northeast and Southwest Mercury TMDLs

Region	Loading Capacity	Load Allocation	Wasteload Allocation	Margin of Safety
Northeast	1.10 kg/day	1.09 kg/day	0.01 kg/day	Implicit
Southwest	2.18 kg/day	1.55 kg/day	0.02 kg/day	0.61 kg/day

U.S. EPA's approval of the mercury TMDLs extends to the water bodies which are identified on Table 2 to this Decision Document and in Appendix A to the TMDL Report, with the exception of any portions of the water bodies that are within Indian Country, as defined in 18 U.S.C. Section 1151. U.S. EPA is taking no action to approve or disapprove the State's mercury TMDLs with respect to those portions of the waters at this time. U.S. EPA, or eligible Indian Tribes, as appropriate, will retain responsibilities under Section 303(d) for those waters.

U.S. EPA REVIEW OF THE ELEMENTS OF NORTHEAST AND SOUTHWEST TMDLs

Section 303(d) of the Clean Water Act (CWA) and U.S. EPA's implementing regulations at 40 CFR Part 130 describe the statutory and regulatory requirements for approvable TMDLs. Additional information is generally necessary for U.S. EPA to determine if a submitted TMDL fulfills the legal requirements for approval under Section 303(d) of the CWA and U.S. EPA regulations, and should be included in the submittal package. Use of the verb "must" below denotes information that is required to be submitted because it relates to elements of the TMDL required by the CWA and by regulation. Use of the term "should" below denotes information that is generally necessary for U.S. EPA to determine if a submitted TMDL is approvable.

1. Identification of Water body, Pollutant of Concern, Pollutant Sources, and Priority Ranking

The TMDL submittal should identify the water body as it appears on the State's/Tribe's 303(d) list, the pollutant for which the TMDL is being established, and the priority ranking of the water body. The TMDL submittal should include an identification of the point and nonpoint sources of the pollutant of concern, including location of the source(s) and the quantity of the loading, e.g., lbs/per day. The TMDL should provide the identification numbers of the NPDES permits within the water body. Where it is possible to separate natural background from nonpoint sources, the TMDL should include a description of the natural background. This information is necessary for U.S. EPA's review of the load and wasteload allocations, which are required by regulation.

The TMDL submittal should also contain a description of any important assumptions made in developing the TMDL, such as: (1) the assumed distribution of land use (e.g., urban, forested, agriculture); (2) population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources; (3) present

and future growth trends, if taken into consideration in preparing the TMDL; and (4) an explanation and analytical basis for expressing the TMDL through surrogate measures, if applicable. Surrogate measures are parameters such as percent fines and turbidity for sediment impairments; chlorophyl a and phosphorus loadings for excess algae; length of riparian buffer; or number of acres of best management practices.

Identification of Water Bodies:
The lakes and river reaches identified in Category 5 of Minnesota's 2006 Integrated Report are impaired due to high mercury water column concentrations and fish tissue mercury concentrations that result in a recommended consumption frequency of less than one meal per week for any member of the population. Over the past several reporting cycles, Minnesota's Integrated Reports have included a footnote stating that the mercury impairments are considered regional and a regional or statewide TMDL would be developed to address the mercury impairments. After consideration of available fish tissue data, water quality data, and land cover and use information the State has established two regional TMDLs, for a northeast region and a southwest region, that will address mercury impairments in lakes and river reaches within the State.

Section 4 of the TMDL Report discusses the State's determination that major factors contributing to variations in fish tissue mercury concentration are land cover and use. Land cover and use affects the transport of mercury through a watershed. Nutrient loadings and water chemistry also influence the bioavailability of mercury within a watershed. The State considered the bioavailability of mercury in wetlands and forested lands versus cultivated lands when determining the two regions. The TMDL for the northeast region includes the Northern Lakes and Forest ecoregion and the Northern Minnesota Wetlands ecoregion, which are dominated by forest and wetlands. The other ecoregions within the State are included in the TMDL for the southwest region and are mainly cultivated lands. Respectively, Figure 2 and Table 2 of the TMDL Report show the two regions and regional differences in land cover and some water quality differences.

Both the northeast and southwest TMDLs were established to address impairments in some of the lakes and river reaches within each region. Table 2 of this Decision Document identifies the lakes and river reaches and corresponding mercury impairment for each water body being addressed by the northeast and southwest TMDLs.[1] The TMDL Report is titled "Statewide TMDL" which could imply that the TMDLs address all mercury impairments in the State or all the mercury impairments identified on Category 5 of Minnesota's 2006 Integrated Report. The northeast and southwest TMDLs, however, do not address all mercury impairments. The northeast and southwest TMDLs address 511 of the lakes and river reach impairments identified on Category 5 of Minnesota's 2006 Integrated Report.

In response to public comments received during the public notice and comment period, Minnesota decided to remove a group of lakes and river reaches from the TMDLs. The public comments

[1] Appendix A of the TMDL Report identifies the lakes and river reaches and corresponding mercury impairment for each water body being addressed by the northeast and southwest TMDLs.

raised concern that not all water bodies included in the public notice draft TMDLs would meet water quality standards. A reduction factor, necessary to achieve the target fish tissue mercury concentration in the standard size top predator fish, was calculated by the State for each of the two regions. The reduction factors for both regions were calculated using the TMDL target fish tissue mercury concentration of 0.2 mg/kg and the 90th percentile fish tissue mercury concentrations in the standard size top predator fish. A mercury fish tissue concentration of 0.572 mg/kg was the highest concentration used in calculating the regional reduction factors. Public comments raised concern that if fish tissue concentrations in a water body exceed 0.572 mg/kg the water body would not meet water quality standards and therefore, public comments recommended removing water bodies from the TMDLs that had fish tissue concentrations higher than 0.572 mg/kg. In response to these public comments Minnesota decided to re-assess the water bodies included in Appendix A of the public notice draft TMDL Report and remove water bodies that had a maximum mercury concentration for a fish size class mean greater than 0.572 mg/kg. The water bodies that were removed from Appendix A of the draft public notice TMDL Report and are currently included in Category 5 of Minnesota's 2006 Integrated Report, will remain in Category 5 until such time as these water bodies are meeting water quality standards, a TMDL has been completed and approved, or some other appropriate reason for removing these waters from Category 5 is available.

Pollutant of Concern:
The pollutant of concern is mercury. Mercury is a multimedia global pollutant. Mercury is emitted to the air, transported then deposited to the soil and beds of rivers, lakes and streams, where a number of biological and chemical processes occur in the soils, water bodies, and sediments that cause mercury to react with organic materials to form methylmercury, a highly toxic form of mercury. Methylmercury builds up, or bioaccumulates, in the bodies of animals, so fish at the top of the aquatic food chain are likely to contain higher mercury concentrations than fish lower in the aquatic food chain. Humans and wildlife are exposed to unsafe levels of methylmercury by eating contaminated fish.

Sources of Pollutant Loads:
Sources considered by the State in the development of the northeast and southwest TMDLs include atmospheric mercury deposition, WWTPs, non-municipal waste discharges, and stormwater. For these TMDLs the only significant nonpoint source identified by the State is atmospheric deposition of mercury. The State identifies 99% of the total mercury load as coming from atmospheric deposition. Both natural and anthropogenic sources contribute to the atmospheric deposition mercury load. The TMDL Report identifies natural sources as contributing 30% to the atmospheric deposition mercury load while the remaining 70% is from worldwide anthropogenic sources. These TMDLs do not address natural contributions of mercury.

Specific point sources that the State considered as sources contributing to the mercury load in the impaired water bodies are identified in Appendix B to the TMDL Report and in the State's responses to public comments.[2] These sources include discharges from WWTPs, pulp and paper

[2] Pages 17-18 of Minnesota's Responses to Mercury TMDL Issues

mills, taconite mines, coal-fired power plants, and one refinery. The public notice draft TMDL did not include the coal-fired power plants and the refinery. These point sources were added by the State in response to public comments received during the public notice and comment period.

For the purpose of describing the sources of pollutant loads and estimating the 1990 total source load, the State included the mercury loadings from stormwater in the estimate of loadings from atmospheric deposition. Using data generated in two studies of snowmelt runoff from agriculture fields and data generated in a pilot study for the Minneapolis-St. Paul NPDES municipal stormwater permit,[3] the State determined that the source of mercury to stormwater is atmospheric deposition and that there are no other significant anthropogenic sources of mercury to stormwater.

Priority Ranking:
Minnesota has consistently included mercury impaired waters on its 303(d) lists. Minnesota's 303(d) lists have also included a footnote stating that mercury impairments are mainly regional so a regional or statewide approach to developing mercury TMDLs is appropriate. Section 303(d)(1)(A) of the Clean Water Act requires States to establish a priority ranking for the impaired waters, taking into account the severity of the pollution and the designated uses of the impaired waters. The target schedule on Minnesota's 303(d) list reflects the State's priority ranking. In establishing the priority ranking, i.e., the target schedule for developing TMDLs, the State considers factors such as the severity of the pollutant, available monitoring data and targeted monitoring schedule, designated use of the water body, and available resources. The State scheduled most of the impaired water bodies addressed by these TMDLs for development starting in 1999 and completion expected by 2011.

Future Growth
Although Section 6.5 of the TMDL Report contains a discussion of reserve capacity, the TMDLs do not contain a specific allocation that is reserved for future growth. The State's discussion states that the TMDLs provide a reserve capacity, load that is available for future growth when actual loads are less than the allocations, for point sources but not for nonpoint sources. The TMDL Report continues on to say that since the actual nonpoint source loads are in excess of the load allocations there is no reserve capacity for nonpoint sources. The TMDL Report also states that there is reserve capacity for point sources because the actual mercury load from point sources is less than the wasteload allocation. Although the TMDL report contains statements that actual loads are in excess or below the specific load and wasteload allocations, this does not mean that there is a specific allocation to address present and future growth trends in the development of these TMDLs. Any future growth of point or nonpoint sources will need to be consistent with the applicable regional load and wasteload allocations of these TMDLs and the assumptions that were used in development of these TMDLs. The State did not provide specific load or wasteload allocations for future growth nor did the State include specific mercury loads from anticipated future growth in its calculation of the total source loads used to develop these TMDLs.

[3] See April 25, 2005 electronic mail message from Bruce Monson, MPCA, to Julianne Socha, U.S. EPA.

Key Assumption Made in the Development of the TMDLs:
The State assumed that the mercury levels in fish would be reduced in proportion to the reductions in mercury deposition, based on the following rationale:[4]

a. A reduction in emissions from sources in a given source area (local, regional or global) results in a proportional reduction in the rate of deposition in Minnesota attributable to those sources.

b. A reduction in deposition results in a proportional reduction in mercury loading to water bodies.

c. Within a given water body, a proportional reduction in mercury loading in the water results in a proportional reduction in mercury concentrations in fish.

Minnesota relies on the results of two models from the U.S. EPA Mercury Maps report,[5] the Mercury Cycling Model and the IEM-2M Watershed Model, which found linear relationships between atmospheric deposition and fish tissue mercury concentrations in support of the State's assumption of proportionality. Starting with the relationship presented in the Mercury Maps report and applying some simplifying assumptions, Minnesota derived a relationship between a baseline deposition value, a target fish tissue concentration, and a baseline fish tissue concentration (see equation 5 on page 25 of TMDL Report). In deriving this equation some of the simplifying assumptions applied by Minnesota included that the area of land and water remain constant over time, bioavailability factor and runoff coefficient are constant over time,[6] and that there are no natural sources of mercury within the State. The methodology used by the State to establish the northeast and southwest TMDLs, i.e., using a fish tissue mercury concentration reduction factor to establish the loading capacities, relies on this principle of proportionality.

Assessment: U.S. EPA finds that the Mercury TMDLs submitted by the State of Minnesota adequately describe the water bodies, pollutant of concern, pollutant sources, and priority ranking. U.S. EPA finds that the State's consideration of fish tissue data, water chemistry data, and land cover and use information support the establishment of regional TMDLs. U.S. EPA finds that the State's assumption of proportionality is consistent with U.S. EPA study results and the State's use of this assumption in the establishment of the TMDLs is reasonable.

2. Description of the Applicable Water Quality Standards and Numeric Water Quality Target

The TMDL submittal must include a description of the applicable State/Tribal water quality standard, including the designated use(s) of the water body, the applicable numeric or narrative water quality criterion, and the antidegradation policy. (40 CFR §130.7(c)(1)).

[4] The rationale is an excerpt from Section 5.2 of the TMDL Report.
[5] Cocca P., *Mercury Maps, A Quantitative Spatial Link Between Air Deposition and Fish Tissue*, September 2001, EPA-823-R-01-009.
[6] The bioavailability factor accounts for the fraction of divalent mercury converted to methylmercury, which is available for bioaccumulation. The runoff coefficient is a discount applied to the watershed mercury loading to account for mercury that is buried in the soil or volatilized to the atmosphere.

U.S. EPA needs this information to review the loading capacity determination, and load and wasteload allocations, which are required by regulation.

The TMDL submittal must identify a numeric water quality target(s) – a quantitative value used to measure whether or not the applicable water quality standard is attained. Generally, the pollutant of concern and the numeric water quality target are, respectively, the chemical causing the impairment and the numeric criteria for that chemical (e.g., chromium) contained in the water quality standard. The TMDL expresses the relationship between any necessary reduction of the pollutant of concern and the attainment of the numeric water quality target. Occasionally, the pollutant of concern is different from the pollutant that is the subject of the numeric water quality target (e.g., when the pollutant of concern is phosphorus and the numeric water quality target is expressed as Dissolved Oxygen (DO) criteria). In such cases, the TMDL submittal should explain the linkage between the pollutant of concern and the chosen numeric water quality target.

Numeric and Narrative Mercury Standards:
Section 3 of the TMDL Report describes the applicable Minnesota water quality standards. Minnesota's numeric mercury water quality standards are based on total (particulate + dissolved) mercury concentrations in the water column. Minnesota has two Class 2 standards, 6.9 ng/L and 1.3 ng/L as set forth at Minnesota Rules Chapter 7050.0222 and 7052.0100. Both of the numeric standards are a chronic standard. The 1.3 ng/L is a wildlife-based standard applicable to only the waters of the Lake Superior Basin, and the 6.9 ng/L standard is a human health-based standard and applies to waters outside of the Lake Superior Basin. In addition to the numeric standards, the State's narrative standard at Minnesota Rule Chapter 7050.0150, Subpart 7, provides the basis for assessing the contaminants in fish tissue. The narrative standard states that a water body shall be considered impaired when the Minnesota Department of Health recommends a consumption frequency of less than one meal per week for any member of the population.

Linking Fish Tissue Concentrations to Standards:
Minnesota selected a water quality target of 0.2 mg/kg fish tissue mercury concentration in both the southwest and northeast TMDLs. The 0.2 mg/kg target is lower than the recommended criteria as set forth in U.S. EPA's methylmercury criterion of 2001,[7] which established a fish tissue criterion of 0.3 mg/kg. U.S. EPA's criterion considers toxicity and exposure. Minnesota's proposed 0.2 mg/kg relies on U.S. EPA's toxicity assumptions and values. Minnesota assumes a higher exposure rate than U.S. EPA's rate. Minnesota assumes an exposure rate of 30 grams of fish per day compared to U.S. EPA's assumption of 17.5 grams per day for the general population in the United States. Minnesota uses a higher exposure rate because of the importance of sport fishing in Minnesota and based on surveys of the fish eating habits of upper Midwest anglers.
In Section 4.4.3 of the TMDL Report the State demonstrates a linkage between the fish tissue mercury concentration target and the existing numeric water quality standards. Since Minnesota's standards are water column chronic standards for total mercury, and not fish tissue concentration standards, the State needed to include a link from the fish tissue target to the numeric water column

[7]Office of Science and Technology, Office of Water, U.S. Environmental Protection Agency, *Water Quality Criterion for the Protection of Human Health: Methylmercury*, January 2001, EPA-823-R-01-001.

water quality standards. The State used bioaccumulation factors for 14 lakes representing agricultural areas, urban areas, and forested areas in the northeast to calculate the water column concentration that would be equivalent to the 0.2 mg/kg fish tissue target. The water column concentrations, calculated using bioaccumulation factors, are well below the State's numeric water quality standards. Thus the State has successfully demonstrated that the water quality standards will be met when the fish tissue mercury concentration target is achieved.

Proposed Numeric Standard:
Minnesota is proposing to add a numeric fish tissue water quality standard to Minnesota Rules Chapter 7050. This proposed numeric fish tissue water quality standard is a quantification of the existing narrative standard set forth in Chapter 7050. The proposed standard is 0.2 mg/kg and will apply to total mercury concentrations in edible fish tissue of any species of fish from Minnesota's waters. The proposed fish tissue water quality standard will augment, but will not replace or change the current water column numeric chronic standards.

Assessment: U.S. EPA finds that the TMDL Report submitted by the State of Minnesota adequately describes its water quality standards, relevant criteria, and water quality target. U.S. EPA agrees that a fish tissue mercury concentration is an appropriate water quality target for these TMDLs. Minnesota's selection of a fish tissue target is linked to the State's numeric and narrative water quality standards, is consistent with U.S. EPA criterion, and it is a logical target since fish consumption is the primary exposure pathway of methylmercury to humans and wildlife. U.S. EPA also notes that the approach is consistent with Minnesota's proposed plan to adopt a fish tissue water quality standard.

3. Loading Capacity - Linking Water Quality and Pollutant Sources

A TMDL must identify the loading capacity of a water body for the applicable pollutant. U.S. EPA regulations define loading capacity as the greatest amount of a pollutant that a water can receive without violating water quality standards (40 CFR §130.2(f)). The TMDL submittal should describe the method used to establish the cause-and-effect relationship between the numeric target and the identified pollutant sources. In many instances, this method will be a water quality model. The TMDL submittal should contain documentation supporting the TMDL analysis, including the basis for any assumptions; a discussion of strengths and weaknesses in the analytical process; and results from any water quality modeling. U.S. EPA needs this information to review the loading capacity determination, and load and wasteload allocations, which are required by regulation.

TMDLs must take into account critical conditions for steam flow, loading, and water quality parameters as part of the analysis of loading capacity. (40 CFR §130.7(c)(1)). TMDLs should define applicable critical conditions and describe their approach to estimating both point and nonpoint source loadings under such critical conditions. In particular, the TMDL should discuss the approach used to compute and allocate nonpoint source loadings, e.g., meteorological conditions and land use distribution.

The loading capacity for the northeast TMDL is 1.10 kg/day, and the loading capacity for the southwest TMDL is 2.18 kg/day.

Overview of TMDL Methodology

The loading capacities established by the State for each region were calculated by multiplying a regional reduction factor[8] needed to achieve the fish tissue mercury concentration target by a baseline load[9] for each region, thus calculating a regional load reduction goal.[10] The load reduction goal was subtracted from a baseline load to arrive at the loading capacities. For each region the State calculated the baseline load as the sum of the point source load and nonpoint source load for the year 1990. In the TMDL Report the State refers to the baseline load as the total source load (TSL). The reduction factor for each region was derived by assessing existing fish tissue mercury concentration data, then determining the reduction needed to achieve the fish tissue concentration target of 0.2 mg/kg.

1990 Baseline

The State's TMDL Report and response to comments provides three primary justifications for calculating the TSL for 1990. First, the TSL is the sum of the point source load and the nonpoint source load. The nonpoint source load is represented by total (wet and dry) mercury deposition. Minnesota's estimate of both wet and dry deposition is from lake sediment cores collected in a study conducted from 1988 to 1990.[11] Minnesota's use of 1990 for the TSL, therefore, is reasonable because the State had a significant number of sediment core samples over a broad geographic area upon which to base the loading estimates. The second justification the State provided for the 1990 TSL is to remain consistent with other mercury reduction baselines. The State uses 1990 as its mercury emission inventory baseline, and other State and Federal plans such as the Great Lakes Binational Toxics Strategy and the Lake Superior Lakewide Management Plan use 1990 as a baseline for assessing mercury reductions. Thus, the State selected a baseline year that was consistent with other reduction goals and targets. The third justification provided by the State for the 1990 TSL is that mercury use was relatively high and dropped precipitously beginning around 1990 as mercury was removed from many products. For this reason 1990 represents the end of a period when mercury emissions and fish tissue concentrations were in a steady state. The studies and figures discussed in Section 5.3 of the TMDL Report support the assumption that decreases in the United States' mercury product use and mercury emissions occurred around 1990. The impact of these decreases in mercury use on fish tissue mercury concentrations is yet to be fully realized; therefore, Minnesota selected 1990 for the baseline year.

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[8] The northeast regional reduction factor is 65%. The southwest regional reduction factor is 51%. Section 4.4 of the TMDL Report sets forth how the State derived these reduction factors.

[9] The baseline load for the northeast region is 1153 kg/yr and the baseline load for the southwest region is 1628 kg/yr. Section 6 of the TMDL Report describes how the State established the baseline load, which is referred to in the TMDL Report as the total source load (TSL).

[10] The load reduction goal for the northeast region is 749 kg/yr and 830 kg/yr for the southwest region. These load reduction goals are found in Table 8 of the TMDL Report.

[11] Swain, E.B., D.R. Engstrom, M.E. Brigham, T.A. Henning, and P.L. Brezonik. 1992. *Increasing rates of atmospheric mercury deposition in midcontinental North America*. Science 257: 784-787.

Total Source Load for 1990

The sum of the point source load and nonpoint source load are the TSL for each region. The TSL for each region simply defines the baseline load for the region to which the applicable reduction factor is applied. Section 6 of the TMDL Report provides the State's calculation of the TSL.

- Point Source Load Portion of the 1990 TSL

The point source portion of the TSL was calculated for each region. Within the southwest region point sources used in the point source load calculation included water discharges from wastewater treatment facilities, one refinery, and energy facilities. Within the northeast region the State considered water discharges from wastewater treatment facilities, taconite mines, energy facilities, and pulp and paper mills.

The State used current design flows from NPDES permits (refer to Appendix B of the TMDL Report for specific NPDES permits and design flows), and effluent mercury concentrations to calculate the point source load portion of the TSL. If actual effluent mercury concentrations from WWTPs were available the mean effluent concentrations were used, as was the case for the Metro Waste Water Treatment Plant in the southwest region and the Western Lake Superior Sanitary District in the northeast region. For all other WWTPs, the State used a mercury concentration of 5 ng/L, which the State refers to as "typical". This "typical" concentration was chosen based on a study by the Association of Metropolitan Sewerage Agencies that reported a median effluent concentration value of 5 ng/L.[12] Minnesota also cites in the TMDL Report a State study of 37 NPDES facilities where the central tendency of mercury concentrations in effluent were in the range of 4 to 6 ng/L as support for the "typical" mercury concentration of 5 ng/L.

For taconite mines the State relied on the State's discharge monitoring database for effluent data from which the concentration of 1.5 ng/L was derived. For pulp & paper mills the State relied on the Mercury Maps report for the average effluent concentration of 13 ng/L.[13] According to the TMDL Report average effluent mercury concentrations from Wisconsin paper mills are 2 ng/L and average effluent concentrations at Minnesota's Boise Cascade facility are 1.6 ng/L. Remaining consistent with approaches used and information contained in the Mercury Maps report, Minnesota elected to use the effluent concentration reported in the Mercury Maps report for pulp and paper mills rather than the facility specific average effluent concentrations. In the public notice draft TMDLs, the point source load portion of the TSL did not include discharges from energy facilities or the refinery. In response to the public comments received during the public notice and comment period the State recalculated the point source load portion of the TSL to include discharges from energy facilities and the refinery.[14]

- Nonpoint Source Load Portion of the 1990 TSL

The nonpoint source load portion of the TSL was determined for each region using the total mercury deposition of 12.5 g km^{-2} $yr^{-1}$and the regional surface areas of 129,674 km^2 for the

[12] Page 12-13 of the Mercury Maps report
[13] Page 12 of the Mercury Maps report
[14] Page 17-18 of Minnesota's Responses to Mercury TMDL Issues

southwest region and 90,151 km^2 for the northeast region. Minnesota's estimate of total mercury deposition is based on sediment cores from Minnesota lakes. Minnesota's estimate includes both wet and dry deposition. The nonpoint source load portion is the product of total mercury atmospheric deposition and regional area. As previously discussed in section 1 of this Decision Document, the nonpoint source load portion of the TSL accounts for contributions from stormwater.

In calculating the portion of the TSL resulting from atmospheric deposition, the State assumed that 100% of all atmospheric mercury loads, over time, reach a water body. Public comments raised concern that this assumption of 100% delivery ratio, i.e., 100% of the mercury deposited on land is delivered to water bodies, skews the relationship between point source and nonpoint source loads. Public comments pointed out that the TMDL Report, Section 5.2, identifies the composite runoff coefficient for Minnesota in the range of 0.28, i.e., 28%, of the mercury deposited on land will be delivered to water bodies. Public comments also pointed out that the Mercury Maps report on page 18 states that 20% of air deposited mercury will reach water bodies on a long-term average annual rate. The State responded that the 28% coefficient reported for Minnesota comes from a study of relatively undisturbed headwater lakes and does not represent delivery ratios in watersheds disturbed by agriculture, urban development, or forestry. The State's response also reported that a study for large Chesapeake Bay tributaries reported delivery ratios ranging from 6.9% to 85.4%. The State suggested that true delivery factors probably vary from less than 10% to more than 90% with the potential of 100%. Given this variability in delivery ratios and given that the mercury concentration in fish tissue is largely determined by the mercury loading to the watershed, and that mercury loading to the watershed is largely impacted by the atmospheric mercury loads the State chose not to change their original assumption of the 100% delivery ratio.

U.S. EPA finds the State's response acceptable. The State has identified the primary source of mercury impairments as resulting from atmospheric deposition and provided a rationale for its use of a 100% delivery ratio. In addition, the State explained that its use of a 100% delivery ratio was related to the State's calculation of the wasteload allocation, as further discussed in section 4 of this Decision Document.

Reduction Factor

The reduction factor is the percent reduction in total mercury load needed to achieve the fish tissue target of 0.2 mg/kg for the 90th percentile of the standard length fish. Fish tissue data were reviewed for the standard size top predator fish in each region. The 90th percentile fish tissue mercury concentration and median concentrations were calculated for each region for top predator fish, i.e., walleye and northern pike. Using the difference between the 90th percentile mercury concentration in top predator fish within each region and the 0.2 mg/kg target, the State calculated reduction factors of 65% for the northeast region and 51% for the southwest region.

The 90th percentile was selected as the appropriate statistic because the State believes it is consistent with the U.S. EPA's human health water quality criteria guidance.[15] U.S. EPA's guidance states

[15] Office of Science and Technology, Office of Water, U.S. Environmental Protection Agency, *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*. October 2000. EPA-822-B-00-004.

that water quality criteria are derived to protect the general population and that U.S. EPA uses a combination of median values, mean values, and percentile estimates to calculate the national criteria. The guidance also states that the assumptions are believed to be protective of the overall population and appropriate to meet the goals of the CWA.

The reduction factor was established using fish tissue data from 1988 to 1992. The State looked at fish tissue data from 1970 to 2002; however, to be consistent with the baseline year of 1990, fish tissue data from 1988 to 1992 were selected. Multi-year data better represent real conditions over time because they account for year-to-year variability in weather, fish populations, and sampling locations.

Data for the standard size top predator fish were used to calculate the reduction factor. Mercury bioaccumulates in fish; therefore mercury concentrations are typically highest in the top predator fish. Walleye and northern pike were selected as the top predator fish for both regions by Minnesota. The TMDL Report states that if the fish tissue target concentration is met in the top predator fish, then it is likely to be met in other species and the water column because the top predator fish have the highest mercury concentrations. Section 4.4.3 of the TMDL Report and previous discussion in this Decision Document explains how the State has demonstrated that when the fish tissue target concentration is met the water column standard will also be met.

To account for temporal and spatial comparisons of mercury concentrations in the top predator fish the standard size top predator fish is used. Minnesota uses a standard size of 40 cm (approximately 22 inches) for walleye and 55 cm (approximately 16 inches) for northern pike. Top predator fish that are collected for fish tissue analysis vary in size and age. Since mercury concentrations vary with the size of fish and age of fish, it is difficult to make comparisons regarding mercury concentrations in fish without establishing a standard of comparison. Use of the standard size fish accounts for differences in mercury concentrations due to age and size and enables the State to compare mercury concentrations across water bodies. Section 4.4 of the TMDL Report explains the linear regression procedure for predicting the mercury concentration in a standard size fish. The linear regression procedure used by the State provides a method of using a set of fish tissue data from a water body rather than just a single sample point. Use of a set of fish tissue data, rather than data from a single fish, lends itself better to protection of the general fish population.

Public comments received during the public notice and comment period raised concern that water quality standards would not be met because the load reduction goals were based on the standard size top predator fish. Public comments also raised concern that the 90th percentile was used as the assessment endpoint for determining necessary reductions. In response to these comments the State provided a more detailed discussion of how the standard size is determined and how the 90th percentile is appropriate for addressing the regional impacts of the mercury impairments. The explanation in Section 4.4 of the TMDL Report shows that the standard size top predator fish falls within the highest frequency size class for the species when compared to the Department of Health's fish consumption advisory fish size classes. Falling within the highest frequency size class means that the standard lengths are representative of the most common class size. In the response

to comments the State provides further explanation of its use of the 90th percentile and why it is consistent with U.S. EPA guidance. In assessing the appropriateness of the State's use of the standard size top predator fish and the 90th percentile, U.S. EPA considered not only the State's response to public comments and the TMDL Report, but also several other sources of information: 1) the Minnesota Department of Health's Statewide Safe Eating Guidelines which recommend that the most sensitive population not eat walleye larger than 20 inches or northern pike larger than 30 inches; 2) the Minnesota Department of Natural Resources fishing regulations which provide catch and release requirements for many larger class sizes of fish on various lakes in Minnesota; and 3) U.S. EPA's own guidance for deriving ambient water quality criteria.

Critical Conditions

The regulations at 40 CFR §130.7(c) require TMDLs to take into account critical conditions as part of the analysis of the loading capacity. The State's position on critical conditions in the TMDL Report and its response to comments is very brief. The position taken by the State is that the usual factors that are considered critical in TMDL development are not relevant to mercury in fish because bioaccumulation happens gradually over time and is influenced by various factors. The critical condition identified by the State is that some water bodies are more sensitive to mercury loading because of the water body's chemistry. The State believes the regional approach to the development of the TMDLs already accounts for the sensitivity of the receiving water bodies.

Public comments pointed out some other critical conditions such as temperature, soil type, erosion, dissolved organic matter, length of the food chain, and sulfates. Although each of these suggested critical conditions were not responded to explicitly by the State, the State's regional approach does take into account many of the conditions that may impact the mercury load to a water body. Sections 4.1 and 4.2 of the TMDL Report discuss numerous factors including water quality differences, land cover and use differences, the influence of sulfates, methylmercury associated with dissolved organic carbon, and influence of nutrient-enriched lakes in support of the regional approach. In the TMDLs, the water bodies are grouped into two regions based on differences in a number of these factors. Thus, although the regional approach may not address every potential critical condition that could impact mercury load to a water body the regional approach does consider many of these conditions.

Assessment: U.S. EPA finds that the Mercury TMDLs submitted by the State of Minnesota adequately identify the loading capacity and adequately account for critical conditions. Minnesota's methodology of defining a TSL, then applying a reduction factor to arrive at the loading capacities, is an acceptable approach. Minnesota's use of sediment cores, study data, and actual facility discharge data to establish 1990 as the baseline and define the baseline TSL is acceptable. Minnesota's effort to define a steady state condition that takes into consideration the key assumption of proportionality is also acceptable. U.S. EPA finds the State's approach to developing the reduction factors reasonable after considering the State's method for determining the standard size fish. U.S. EPA also considered consistencies between how the reduction factors were determined and Department of Health guidelines and U.S. EPA guidance. U.S. EPA also finds that the State's regional approach adequately addresses the critical condition of differences in water

bodies' sensitivity to mercury loadings.

4. Wasteload Allocations (WLAs)

U.S. EPA regulations require that a TMDL include wasteload allocations, which identify the portion of the loading capacity allocated to individual existing and future point source(s) (40 CFR §130.2(h), 40 CFR §130.2(i)). In preparing the wasteload allocations, it is not necessary that each individual point source be assigned a portion of the allocation of pollutant loading capacity. When the source is a minor discharger of the pollutant of concern or if the source is contained within an aggregated general permit, an aggregated wasteload allocation can be assigned to the group of dischargers.

The wasteload allocation is 0.01 kg/day for the northeast region and 0.02 kg/day for the southwest region. Consistent with its regional approach, Minnesota did not assign wasteload allocations to individual point sources; rather the State has established a gross wasteload allocation for each region. In addition to the wasteload allocation for the northeast region, the TMDL Report states that all wastewater discharges in the Lake Superior Basin will remain subject to the 1.3 ng/L water quality standard for mercury as set forth in the Minnesota Rules, Chapter 7052.

The State assigned 1% of the TMDL to point sources as the wasteload allocation for each regional TMDL. The State chose 1% of the TMDL based on an approach used in the Mercury Maps report to screen watersheds for significant point source impacts in order to identify water bodies impaired primarily by atmospheric mercury. The northeast region wasteload allocation was set at 1% of the loading capacity while the southwest region's allocation was set equal to the point source load portion of the TSL. The State set the southwest region's wasteload allocation equal to the point source load portion of the TSL because it was slightly less than 1% of the southwest region's loading capacity and the State chose the more restrictive allocation.

Assessment: U.S. EPA finds that the wasteload allocations are adequately specified in the TMDLs at a level sufficient, when combined with the load allocation, to attain and maintain water quality standards. U.S. EPA agrees that Minnesota's water quality standards applicable to wastewater discharges in the Lake Superior Basin apply in addition to the northeast wasteload allocation.

The State explained that its choice of 1% of the TMDL was related to its assumption that 100% of atmospheric mercury loads, over time, reach a water body, as discussed in the Loading Capacity section of this Decision Document.[16] In deciding on a significance level of 1% of 100% of atmospheric mercury loads, the State considered the approach used in the Mercury Maps report. The State noted that, using the approach in Mercury Maps, the assumption would be that 20% of the atmospheric mercury loads would reach a water body. The Mercury Maps report identifies watersheds where air deposition is the predominant mercury source by screening for watersheds that are considered to have a significant contribution from point sources or other sources. Watersheds

[16] See, for example, pages 13-15 of Minnesota's Responses to Mercury TMDL Issues

are considered to have a significant point source contribution if the sum of mercury loads from the publicly owned treatment works (POTWs) within the watershed is greater than 5% of the air deposited load as delivered to the water bodies. Since Minnesota assumes a delivery ratio of 100% rather than 20%, the State chose to use 1% of the air deposited load rather than 5% of the 20% of the delivered load as used in the Mercury Maps report. Mathematically, 5% of 20% of the air deposited load is the same as 1% of 100% of the air deposited load.

In selecting a regional approach to the development of these TMDLs, the State considered air deposition as the primary source of mercury loadings. Consistent with the regional approach, Minnesota did not assign wasteload allocations to individual point sources, rather the State established one wasteload allocation for each region. U.S. EPA agrees that these wasteload allocations are reasonable in light of the significant contribution of mercury from air deposition, which as described in Section 5.1 of the TMDL Report, is approximately uniform across the State, and the relatively small contribution of other sources of mercury. The sum of the loads from existing, new, or expanded point sources (municipal WWTPs, non-municipal dischargers, and stormwater) within a region must not exceed the regional wasteload allocation. U.S. EPA notes that at the time a permit is issued or renewed for a point source the permitting authority will need to assure that the permit is consistent with the assumptions and conditions that went into development of these wasteload allocations. In addition, pursuant to Federal regulations at 40 CFR 122.4(i), no permit may be issued to a new source or a new discharger if the discharge will cause or contribute to the violation of water quality standards. For this reason, it would not be appropriate for the State to issue NPDES permits to new sources or discharges of mercury if it will cause or contribute to the violation of the mercury fish tissue or water column standards. The State recognizes in the TMDL Report that, at the time of permit issuance, the State should ensure that the specific point source discharge will not cause or contribute to an exceedance of the gross wasteload allocation for the region. To do this, the permitting authority must evaluate whether the point source discharge will cause or contribute to a localized exceedance of the water quality standard and determine permit limits accordingly.

Appendix B to the TMDL Report identifies specific point sources that the State considers subject to the wasteload allocations. In addition to the point sources identified in Appendix B, NPDES permitted stormwater sources are subject to these wasteload allocations for the region in which they are located. Therefore, NPDES stormwater permits in the southwest region will be issued consistent with the 0.02 kg/day wasteload allocation, and NPDES stormwater permits in the northeast will be issued consistent with the 0.01 kg/day wasteload allocation. The permitting authority will have to ensure that stormwater permits are issued consistent with these regional wasteload allocations. As described previously in the Decision Document, the State did not include the mercury loadings from any specific stormwater sources in the calculation of the total point source load; rather, for purposes of determining the TSL, loadings from stormwater were included in the estimate of contributions from atmospheric deposition. The State determined that the contribution of mercury from stormwater sources other than atmospheric deposition as zero and on a regional scale this is reasonable. However, in addition to ensuring that the regional wasteload allocation is not exceeded, the permitting authority must also evaluate whether there are local

stormwater discharges that will cause or contribute to a localized exceedance of the water quality standard and determine permit limits accordingly.

The wasteload allocations were established as a percentage of the loading capacity or equal to the point source load portion of the TSL. Both the loading capacity and point source loads were calculated by considering the design flows of NPDES permits within each region, and for most facilities, the State used a typical effluent mercury concentrations based on studies. When permits are issued the permitting authority should take into consideration the design flow and effluent mercury concentrations set forth in Appendix B to the TMDL Report. If site-specific data or information differs significantly from the information and assumptions used by the State the permitting authority should account for these site-specific data in the permit conditions.

In consideration of the appropriateness of these regional wasteload allocations, U.S. EPA noted the State's intent to require mercury minimization plans and monitoring for WWTPs with an average wet weather design flow of greater than 200,000 gallons per day. U.S. EPA considers this requirement part of the State's implementation plan for the TMDLs. Although U.S. EPA is taking no action through this decision on any elements of implementation included in the State's TMDL Report, U.S. EPA did consider the State's requirement for mercury minimization plans and monitoring to be important in minimizing local impacts from point sources.

5. Load Allocations (LAs)

U.S. EPA regulations require that a TMDL include LAs, which identify the portion of the loading capacity attributed to existing and future nonpoint sources and to natural background. Load allocations may range from reasonably accurate estimates to gross allotments (40 CFR §130.2(g)). Where possible, load allocations should be described separately for natural background and nonpoint sources.

The load allocation for the northeast region is 1.09 kg/day and the load allocation for the southwest region is 1.55 kg/day. These load allocations are gross allotments. The load allocation, as defined at 40 CFR §130.2(g), allows for the use of gross allotments depending on the available data and techniques for predicting the loading. The primary nonpoint source for both these TMDLs is atmospheric mercury deposition. Given that the TMDL uses a regional approach, and the State indicates in the TMDL Report that air deposition is relatively uniform across the State, a gross allotment is reasonable.

The State's discussion of load allocation assumes mercury load reductions will come from atmospheric mercury deposition; therefore, once the regional reduction factors were applied to the TSLs the State simply subtracted these load reduction goals from the TSLs to arrive at the load allocations for each region that are found in Table 8 of the TMDL Report. However, simply applying the load reduction goals to the TSLs does not consider the wasteload allocations or any margin of safety. The State used the TMDL equation, TMDL=WLA+LA+MOS, to establish the final load allocations that are being approved and are found in Section 9 of the TMDL Report.

For the northeast region there is an implicit margin of safety; therefore, the TMDL equation becomes TMDL=WLA+LA. The TMDL for the northeast region has been established at 1.10 kg/day and the wasteload allocation established at 0.01kg/day; therefore, the load allocation is 1.09 kg/day (LA = TMDL – WLA).

For the southwest region the State has applied an explicit margin of safety of 0.61 kg/day. The TMDL has been established as 2.18 kg/day and the wasteload allocation established as 0.02 kg/day; therefore, the load allocation is 1.55 kg/day (LA = TMDL – WLA – MOS (explicit)).

The definition of load allocation at 40 CFR 130.2(g), states that "[w]henever possible, natural and nonpoint source loads should be distinguished." The TMDL Report states that 30% of the atmospheric mercury deposition load is from natural sources. The State does not intend for the TMDLs to address any portion of the mercury deposition from natural sources.

Assessment: U.S. EPA finds that the load allocations are adequately specified in the TMDLs at a level sufficient, when combined with the wasteload allocations, to attain and maintain water quality standards. Section 6.4 and Tables 9 and 10 of the TMDL Report distinguish between in-state and out-of-state contributions to the load allocations, necessary load reductions from anthropogenic sources within each region, and emission reduction goals. This information, although reviewed by U.S. EPA, is not considered part of the approved load allocations. U.S. EPA considers the specifics of how the necessary reductions will be achieved to be an implementation issue, and therefore not part of the approved TMDLs.

6. Margin of Safety (MOS)

The statute and regulations require that a TMDL include a margin of safety to account for any lack of knowledge concerning the relationship between load and wasteload allocations and water quality (CWA §303(d)(1)(C), 40 CFR §130.7(c)(1)). U.S. EPA's 1991 TMDL Guidance explains that the margin of safety may be implicit, i.e., incorporated into the TMDL through conservative assumptions in the analysis, or explicit, i.e., expressed in the TMDL as loadings set aside for the margin of safety. If the margin of safety is implicit, the conservative assumptions in the analysis that account for the margin of safety must be described. If the margin of safety is explicit, the loading set aside for the margin of safety must be identified.

Northeast Region:
The State includes an implicit margin of safety for the northeast region TMDL. The implicit margin of safety comes from the impact of sulfur deposition reductions expected under the Clean Air Act; these impacts were not considered in the estimate of atmospheric mercury deposition. Sulfate deposition stimulates sulfate-reducing bacteria. Studies have shown that sulfate-reducing bacteria are responsible for the transformation of mercury into methylmercury. Section 2.1 of the TMDL Report states that "[n]early all the mercury that accumulates in fish tissue is methylmercury. Inorganic mercury, which is less efficiently absorbed and more readily eliminated from the body

than methylmercury, does not tend to bioaccumulate." Sulfur reductions required pursuant to the Clean Air Act and the Clean Air Interstate Rule (CAIR) will result in reductions in sulfur deposition. Reductions in sulfur deposition, through a decrease in sulfate-reducing bacteria activity, will decrease the efficiency of mercury methylation and in turn, decrease the production of methylmercury. This anticipated decrease in methylmercury was not accounted for in the development of the TMDL, thus providing an implicit margin of safety that the TMDL is established at a level designed to achieve water quality standards. The State applied this implicit margin of safety only to the northeast TMDL because sulfate-reducing bacteria thrive in wetland environments and the northeast region is dominated by wetlands.

Southwest Region:
The explicit margin of safety for the southwest TMDL is 0.61 kg/day. This margin of safety was established by applying the greater reduction factor for the northeast region to the TSL for the southwest region thereby creating a load allocation of 1.55 kg/day. The difference between the necessary load allocation for the southwest and the southwest's load allocation calculated with the northeast's reduction factor is 0.61 kg/day (2.16 – 1.55 = 0.61 kg/day). The State recognized that the target for the northeast would not yet be achieved when only the target for the southwest has been achieved, as the State assumed atmospheric reductions to be uniform across the State. The State therefore chose to apply the greater reduction factor for the northeast region across the State to ensure that the target in both regions would be achieved.

Assessment: U.S. EPA finds that the Mercury TMDLs submitted by the State of Minnesota provide an adequate margin of safety. The implicit margin of safety for the northeast TMDL comes from the impact of reduced sulfur deposition on mercury bioaccumulation and concentrations in fish tissue. These sulfur reductions were not factored into the load allocation for atmospheric deposition and is a conservative assumption in the analysis to account for uncertainty between mercury deposition and mercury concentrations in fish tissue. The explicit margin of safety for the southwest TMDL comes from the application of a greater reduction factor to the southwest's load allocation. Since the primary nonpoint source subject to the load allocation is atmospheric deposition and since the State assumed that deposition is uniform across the State, the State's application of the higher northeast reduction factor to both regions is a reasonable approach.

7. Seasonal Variation

The statute and regulations require that a TMDL be established with consideration of seasonal variations. The TMDL must describe the method chosen for including seasonal variations. (CWA §303(d)(1)(C), 40 CFR §130.7(c)(1)).

Section 8 of the TMDL Report states that seasonal variation of mercury deposition and water concentrations are not significant to these TMDLs.[17] Seasonal fluctuations can occur in mercury

[17] Some language in the discussion of seasonal variation in the TMDL Report might suggest that the TMDLs are expressed as annual loads. This is not the case. The public notice draft TMDLs included only annual loads however, in

deposition, mercury methylation, and water concentrations. However, since mercury bioaccumulates over a long time period and since the resulting risks to humans are considered a long-term phenomenon, annual variations over many years are of greater significance than seasonal variations. The fish tissue mercury concentration at the time of sampling represents an integration of the variability up to the time of sampling.

Assessment: U.S. EPA finds that the Mercury TMDLs submitted by the State of Minnesota adequately accounted for seasonal variation. The daily TMDLs that are being approved were calculated from annual mercury loads and fish tissue concentrations over five years. Consideration of annual loads and concentrations over time is appropriate because mercury's bioaccumulation properties over the life of the fish are considered to outweigh the effect of seasonal variations.

8. Reasonable Assurances

When a TMDL is developed for waters impaired by point sources only, the issuance of a NPDES permit(s) provides the reasonable assurance that the wasteload allocations contained in the TMDL will be achieved. This is because 40 CFR §122.44(d)(1)(vii)(B) requires that effluent limits in permits be consistent with "the assumptions and requirements of any available wasteload allocation" in an approved TMDL.

When a TMDL is developed for waters impaired by both point and nonpoint sources, and the wasteload allocation is based on an assumption that nonpoint source load reductions will occur, U.S. EPA's 1991 TMDL Guidance states that the TMDL should provide reasonable assurances that nonpoint source control measures will achieve expected load reductions in order for the TMDL to be approvable. This information is necessary for U.S. EPA to determine that the TMDL, including the load and wasteload allocations, has been established at a level necessary to implement water quality standards.

U.S. EPA's August 1997 TMDL Guidance also directs Regions to work with States to achieve TMDL load allocations in waters impaired only by nonpoint sources. However, U.S. EPA cannot disapprove a TMDL for nonpoint source-only impaired waters, which do not have a demonstration of reasonable assurance that LAs will be achieved, because such a showing is not required by current regulations.

Section 12 of the TMDL Report provides discussion of reasonable assurances for both point and nonpoint sources. Within Minnesota there are many existing programs already in place that target mercury reductions. Some of these programs target mercury used in products while others regulate air sources known to emit mercury. As documented in the TMDL Report, Minnesota has seen success in achieving mercury reductions through these existing programs. Table ES-1 of the TMDL Report shows that as of 2005, there has been a 70% reduction in mercury emissions from the 1990 levels. U.S. EPA has no reason to believe that Minnesota will not continue these existing programs

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light of the April 25, 2006 Decision by the U.S. Court of Appeals for the D.C. Circuit in *Friends of the Earth, Inc. v. EPA, et al.*, No. 05-5015, the State included daily loads in the TMDLs submitted to U.S. EPA for review and approval.

and that the programs will not continue to be implemented successfully. In addition to the existing programs, U.S. EPA considered recent regulatory actions within the State and at the Federal level in the review of reasonable assurance.

Some of the existing programs, such as the health care outreach and dental office outreach, in addition to requiring mercury minimization plans can positively impact reductions in mercury entering wastewater treatment facilities, thus allowing for reductions in mercury effluent concentrations. Minnesota's regulatory program requires wastewater facilities to monitor using U.S. EPA Method 1631, ensuring the best available analysis in detecting mercury. In addition to these existing actions, the State will be proposing rulemaking where new or expanding water dischargers receive a 1 mg/L total phosphorus limit. In order to achieve this limit the State believes many facilities will need to add Bio-P[18] to their process. The State has data from other Minnesota point sources that show Bio-P helps reduce mercury effluent concentrations.

Existing voluntary reduction programs and existing laws for municipal and medical waste incinerators help provide reasonable assurance for the load allocations. Mercury emission reductions have already been demonstrated in response to Minnesota's incinerator rules. In May 2006, the Minnesota Governor signed the Mercury Emissions Reduction Act. This new law requires 90 percent emission reductions from three specific coal-fired power plants in Minnesota by 2014.

The State recognizes that all the necessary reductions will not come from within the State of Minnesota. Although the State does not take responsibility for implementing these programs, the State identified national and international programs focused on mercury reductions. Taken together, the federal Clear Air Interstate Rule and Clean Air Mercury Rule will reduce electric utility mercury emissions by nearly 70 percent on a nationwide basis from the 1999 levels when fully implemented.

Assessment: U.S. EPA finds that the Mercury TMDLs submitted by the State of Minnesota provide reasonable assurances that the wasteload allocations and load allocations will be achieved.

9. Monitoring Plan to Track TMDL Effectiveness

U.S. EPA's 1991 document, Guidance for Water Quality-Based Decisions: The TMDL Process (U.S. EPA 440/4-91-001) recommends a monitoring plan to track the effectiveness of a TMDL.

The TMDL recognizes the need for monitoring and further study of factors affecting mercury contamination of fish tissue. On page 42 of the TMDL Report, the State identifies five monitoring options that will be considered by the State. The TMDL Report also identifies two areas of current study related to better understanding the impacts of local factors on mercury contamination. U.S. EPA encourages the State to include more specific discussion of future monitoring efforts in the

[18] Biological phosphorus removal

State's implementation plan for these TMDLs. If future monitoring efforts and the results of current studies provide new information that would change any assumptions used to establish these TMDLs, or which would change the allocations in these TMDLs, the State should take measures to revise the TMDLs as soon as possible or if more appropriate, develop water body specific TMDLs.

Assessment: U.S. EPA finds the Mercury TMDLs submitted by the State of Minnesota adequately describes recommendations for future monitoring to track the effectiveness of the TMDLs, although U.S. EPA is not approving any recommendations for monitoring contained in this TMDL Report or any other aspect of Minnesota's monitoring program through this decision.

10. Implementation

U.S. EPA policy[19] encourages Regions to work in partnership with States/Tribes to achieve nonpoint source load allocations established for 303(d) listed waters impaired by nonpoint sources. Regions may assist States/Tribes in developing implementation plans that include reasonable assurances that nonpoint source load allocations established in TMDLs for waters impaired solely or primarily by nonpoint sources will in fact be achieved. In addition, U.S. EPA policy recognizes that other relevant watershed management processes may be used in the TMDL process. U.S. EPA is not required to and does not approve TMDL implementation plans.

The TMDL Report discusses in many places the development of an implementation plan upon approval of the TMDLs. The State's discussions mention stakeholder involvement in the development of the implementation plan. U.S. EPA encourages the State to move forward in an expeditious manner with the development of such a plan. The State identified mercury minimization plans and Bio-P as possible ways to implement the wasteload allocation. As previously stated in this Decision Document, U.S. EPA considered the State's requirement for mercury minimization plans an important mechanism in minimizing local impacts from point sources. Also, the State has seen some success in reducing mercury effluent concentrations at facilities operating with Bio-P. U.S. EPA encourages the State to pursue all treatment technology options available in its plans to implement the wasteload allocations.

The State included discussion about implementation of the load allocation in many sections of the TMDL Report. Natural sources of mercury are not included in the State's implementation plans as described in Section 11 of the TMDL Report. The State has also made it clear that because of jurisdictional limitations, contributions from out-of-state nonpoint sources will not be directly addressed during implementation. The State's implementation section of the TMDL Report indicates that Minnesota participates in national and international mercury reduction initiatives. These implementation activities will have an impact on out-of-state sources. The State's implementation discussions regarding nonpoint sources included other short-term actions such as development of monitoring and reporting protocols, development of a permitting strategy for new or expanding air emission sources, continuation of current reduction strategies, and continuation of

[19] Perciasepe, B., U.S. EPA, Office of Water, *New Policies for Establishing and Implementing Total Maximum Daily Loads (TMDLs)*, August 8, 1997.

current collection programs. All of these actions should have positive impacts on reducing mercury loads throughout the State.

As part of its review of the TMDLs, U.S. EPA considered the Minnesota Mercury Emissions Reduction Act of 2006, as an implementation tool for achieving the load allocations of these TMDLs. On May 11, 2006, the Governor signed this Act into law. When fully implemented, a 90% reduction in emissions from three large coal-fired power plants in Minnesota should be achieved. When implemented, this new law should have a positive impact on the State's efforts at achieving the load allocations.

Assessment: U.S. EPA is taking no action on the implementation section of the TMDL Report but notes that the State appears to have good basis for the development of a more detailed implementation plan.

11. Public Participation

U.S. EPA policy is that there should be full and meaningful public participation in the TMDL development process. The TMDL regulations require that each State/Tribe must subject calculations to establish TMDLs to public review consistent with its own continuing planning process (40 CFR §130.7(c)(1)(ii)). In guidance, U.S. EPA has explained that final TMDLs submitted to U.S. EPA for review and approval should describe the State's/Tribe's public participation process, including a summary of significant comments and the State's/Tribe's responses to those comments.

Provision of inadequate public participation may be a basis for disapproving a TMDL. If U.S. EPA determines that a State/Tribe has not provided adequate public participation, U.S. EPA may defer its approval action until adequate public participation has been provided for, either by the State/Tribe or by U.S. EPA.

Section 13 of the TMDL Report includes a summary of the public participation process. The State also submitted a public participation package in the August 25, 2006 correspondence submitting the final TMDLs for U.S. EPA review and approval. The public participation package included copies of public comments received during the public notice and comment period, a summary of public comments received and the issues raised in these public comments, MPCA's responses to the issues raised in public comments, and dates and descriptions of public participation opportunities along with supporting documentation.

The draft TMDLs were on public notice from July 18 to October 18, 2005. The State held eight public information meetings throughout the State between July 14 and July 25, 2005. More than 900 comments were received. MPCA received comments by letter, electronic mail and postcard. The National Wildlife Federation filed a contested case petition during the public notice and comment period. On January 18, 2006, National Wildlife Federation withdrew its petition for a contested case hearing. After consideration of public comments received, MPCA made available

through its website a revised TMDL Report dated June 1, 2006. Additionally, MPCA made available a summary of the public comments received and the State's responses. On July 25, 2006, MPCA requested approval from the MPCA Citizens' Board to submit the revised TMDLs to U.S. EPA for review and approval. The MPCA Citizens' Board concurred unanimously that the revised TMDLs be submitted to U.S. EPA. Three organizations, Minnesota Center for Environmental Advocacy (MCEA), Indigenous Women's Mercury Investigation, and Minnesota Power, and one individual provided written comments to the Citizens' Board. On July 26, 2006, MPCA submitted a copy of these four written comments to U.S. EPA. The State did not provide a response to these four comments since they were not submitted during the formal public notice and comment period. On August 25, 2006, MPCA submitted the final TMDLs to U.S. EPA for review and approval. On August 28, 2006, MPCA submitted to U.S. EPA a copy of the transcript from the July 25th Citizens' Board meeting.

Assessment: In reviewing the TMDLs, U.S. EPA reviewed the public participation package submitted by the State in the August 25th correspondence. U.S. EPA reviewed the public comments, the State's summary of the issues raised in public comments, and the State's responses and has determined that the State's summary and responses reasonably reflect the issues included in the 900 plus public comments. In reviewing the TMDLs, U.S. EPA also reviewed the transcript from the July 25th Citizens' Board meeting and the four comment letters submitted to the Citizens' Board. U.S. EPA finds that the State of Minnesota's public participation process satisfies the requirement that calculations to establish TMDLs shall be subject to public review in accordance with State procedures thus satisfying the requirement at 40 CFR §130.7(c)(1)(ii).

12. Submittal Letter

A submittal letter should be included with the TMDL, and should specify whether the TMDL is being submitted for a technical review or final review and approval. Each final TMDL submitted to U.S. EPA should be accompanied by a submittal letter that explicitly states that the submittal is a final TMDL submitted under Section 303(d) of the Clean Water Act for U.S. EPA review and approval. This clearly establishes the State's/Tribe's intent to submit, and U.S. EPA's duty to review, the TMDL under the statute. The submittal letter, whether for technical review or final review and approval, should contain such identifying information as the name and location of the water body, and the pollutant(s) of concern.

Assessment: MPCA's August 25, 2006 correspondence signed by Brad Moore, Acting Commissioner, addressed to Jo Lynn Traub, Director, U.S. EPA, Region 5, Water Division, states that the final draft Mercury TMDL Report and the public participation package are submitted under Section 303(d) of the Clean Water Act for U.S. EPA review and approval.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:
W-16J

March 16, 2021

Todd Biewen, Director
Environmental Analysis and Outcomes Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Dear Mr. Biewen:

The U.S. Environmental Protection Agency has conducted a complete review of the 2020 revisions to Appendix A of the Minnesota Statewide Mercury Total Maximum Daily Load (TMDL) received by EPA on February 17, 2021. The 2020 revisions include 40 new waterbody segments added to Appendix A and updates to Appendix B of the final TMDL.

EPA has determined that no changes are being made to the original elements of the Statewide Mercury TMDL as approved on March 27, 2007, and subsequently revised on April 3, 2008, September 28, 2010, May 31, 2013, September 25, 2014 and October 23, 2018. This decision addresses amendments to waterbody segments included in Appendix A and updates to Appendix B of the final TMDL.

EPA has determined that the revisions to Appendix A meet the requirement of Section 303(d) of the Clean Water Act, 33 U.S.C. Section 1313(d), and EPA's implementing regulations of 40 C.F.R. Part 130. Therefore, EPA approves the revisions to Appendix A. The statutory and regulatory requirements, and EPA's review of Minnesota's compliance with these requirements, are described in the enclosed decision document.

We wish to acknowledge Minnesota's effort in submitting the 2020 revisions to the Statewide Mercury TMDL. If you have any questions, please contact Mr. Paul Proto, at 312-353-8657 or at proto.paul@epa.gov.

Sincerely,

Digitally signed by TERA FONG
Date: 2021.03.16 17:42:09 -05'00'

Tera L. Fong
Division Director, Water Division

cc: Miranda Nichols, MPCA

TMDL Decision Document

TMDL: 2020 Revision to the Minnesota Statewide Mercury Total Maximum Daily Load
Approval Date: March 16, 2021

Background

On March 27, 2007, the United States Environmental Protection Agency approved the northeast (NE) and southwest (SW) regional mercury Total Maximum Daily Loads (TMDLs) submitted by the State of Minnesota.[1] For purposes of this Decision Document, the NE and SW regional mercury TMDLs approved on March 27, 2007 will be referred to as the "Original TMDL." The Original TMDL addresses certain water bodies not meeting designated uses for fish consumption due to exceedances of the numeric mercury water column water quality standard (WQS) and/or certain elevated mercury concentrations in fish tissue. It does not cover all mercury-impaired waters of the State, rather, as explained below, it covers only those water bodies where the fish tissue mercury concentration data ranges from, and including, 0.2 mg/kg to not greater than 0.572 mg/kg.

The Original TMDL was developed by the Minnesota Pollution Control Agency (MPCA) and established a load allocation (LA) for the primary nonpoint source, atmospheric deposition. MPCA assigned wasteload allocations (WLA) to point sources, including electricity generators, wastewater treatment facilities, and industrial discharges (e.g., pulp & paper mills, taconite processing facilities and refineries).[2] Attachment #3 of this Decision Document identifies National Pollutant Discharge Elimination System (NPDES) permitted facilities which are covered via the WLA of the Statewide Mercury TMDL (i.e., Statewide TMDL). An explicit margin of safety (MOS) was established for the SW regional mercury TMDL while an implicit MOS was employed for the NE regional mercury TMDL.[3]

MPCA assesses fish tissue concentration data and mercury water column data on a biennial basis in accordance with its water quality monitoring strategy. These data are most currently assessed according to MPCA's approach described in its 2020 Methodology document.[4] MPCA completes its water quality data assessment (i.e., whether a water body is deemed to be impaired or not impaired) on an annual basis and presents the results of those determinations in the Minnesota biennial 303(d) list. There are three possible outcomes of the State's assessment of new fish tissue data.

1. If the fish tissue mercury concentration data is greater than 0.572 mg/kg and the data meet MPCA's Quality Assurance/Quality Control (QA/QC) criteria described in the 2020 Methodology, the water body segment is not covered by the Statewide TMDL and, instead, is added to the Minnesota 303(d) list as an impaired water (i.e., Category 5 water body segment).

2. If the fish tissue mercury concentration data is greater than 0.2 mg/kg or equal to or less than 0.572 mg/kg, then the water body segment is included in those addressed by implementation

[1] A copy of EPA's March 27, 2007 approval is included as Attachment #1 to this Decision Document. EPA subsequently approved this TMDL to address updates to Appendix A in the 2008, 2010, 2012, 2014, 2016 and 2018 303(d) listing cycles as further discussed below.
[2] MPCA, *Minnesota Statewide Mercury Total Maximum Daily Load*, March 27, 2007, Section 6.3, p. 37.
[3] MPCA, *Minnesota Statewide Mercury Total Maximum Daily Load*, March 27, 2007, Section 7, pp. 40-41.
[4] MPCA, *Guidance Manual for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment: 305(b) Report and 303(d) List, 2020 Assessment and Listing Cycle*, wq-iw1-04k, pp. 29-35.

efforts under the Statewide TMDL.[5] Instead of being listed in Category 5, however, the specific water body segment is added to the list of water bodies in Appendix A of the Statewide TMDL.[6] Appendix A is updated as part of the efforts to revise and update the Original TMDL every two years which coincides with the state's biennial 303(d) process.

3. If the fish tissue mercury concentration data are less than 0.2 mg/kg, the water body segment is deemed to be not impaired. Also, if MPCA deems the fish tissue mercury concentration data to be inconclusive, the water body segment may be classified in Category 3 of the State's 303(d) list, as a water body segment whose impairment cannot be determined due to insufficient data.

MPCA analyzes and assesses new fish tissue mercury concentration data every 2 years and revises the list of waters in Appendix A accordingly. Biennial revisions to Appendix A have included adding individual water body segments, removing water body segments, re-naming water body segments, and updating water body segment assessment unit identification (AUID) numbers. Appendix A of the Original TMDL has been revised five times to date.

- 1st Revision: Approved by EPA on April 3, 2008, the 2008 Revision addressed updates to Appendix A of the Original TMDL.
- 2nd Revision: Approved by EPA on September 28, 2010, the 2010 Revision, addressed updates to Appendix A made in the 2010 303(d) listing cycle.
- 3rd Revision: Approved by EPA on May 31, 2013, the 2012 Revision, addressed updates to Appendix A made in the 2012 303(d) listing cycle.
- 4th Revision: Approved by EPA on September 25, 2014, the 2014 Revision, addressed updates to Appendix A made in the 2014 303(d) listing cycle.
- 5th Revision: Approved by EPA on October 23, 2018, the 2016-2018 Revisions, addressed updates to Appendix A made in the 2016 and 2018 303(d) listing cycles.

A copy of the most recent revision to the Statewide TMDL, the 2016-2018 Revisions, is included as Attachment 2 of this Decision Document.

2020 Revision to the Minnesota Statewide Mercury Total Maximum Daily Load

On February 17, 2021, MPCA submitted its final Revisions to the Minnesota Statewide Mercury TMDL to EPA. This included MPCA's proposed 2020 amendments to Appendix A of the Original TMDL for review and approval. The proposed revisions to Appendix A will be referred to as the "2020 Revision".

MPCA also completed updates to Appendix B as part of its biennial review of the Statewide TMDL. Appendix B is a list of NPDES permitted facilities which are covered by the Statewide TMDL. Biennial updates to Appendix B include: the addition of new facilities, removal of facilities, and/or changes to

[5] MPCA webpage, https://www.pca.state.mn.us/quick-links/plan-reduce-mercury-releases-2025 (last visited 3/5/21).
[6] Water body segments in Appendix A of the Statewide TMDL are reflected in the State's "Mercury TMDL Appendix A" and "Inventory of Impaired Waters" tabs of State's 303(d) spreadsheet.

facility names or permit numbers. An updated Appendix B, from January 2020[7] is available on MPCA's Statewide Mercury Reduction Plan webpage[8] and is also included at Attachment 3 to this Decision Document.

EPA is approving the 2020 Revision to Appendix A based on the information submitted by the State of Minnesota in February 2021. The 2020 Revision was completed using water quality data collected and analyzed for the 2020 integrated reporting cycle. As was the case for the 2008, 2010, 2012, 2014, 2016 and 2018 Revisions, the 2020 Revision process does not make any changes to the TMDL targets of the Original TMDL, reduction factors, loading capacities, allocations, reduction goals or other TMDL equation elements of the TMDL established in the Original TMDL.

Identification of water bodies for the 2020 Revision

During the 2020 303(d) listing cycles MPCA collected and analyzed mercury fish tissue concentration data and mercury water column data and compiled a list of water body segments which demonstrated mercury impairments within the thresholds of the Statewide TMDL (e.g., fish tissue concentration values greater than 0.2 mg/kg or equal to or less than 0.572 mg/kg). MPCA proposed adding this subset of water body segments to the Statewide TMDL's Appendix A.

The State identified forty (40) new lake and river water body segments for inclusion in Appendix A for the 2020 Revision to the Statewide TMDL (Table 1 of this Decision Document).

EPA considered all existing and readily available water quality data and information shared by MPCA in February 2021 related to MPCA's request to add these water body segments to Appendix A as part of the 2020 Revision to the Statewide TMDL. EPA reviewed these proposed water body segments and determined that the proposed water body segments are acceptable to be included in the 2020 Revision to the Statewide TMDL.

EPA Assessment:

EPA finds the State's decision to include 40 new water body segments to Appendix A as part of the 2020 Revision is reasonable and appropriate. Water bodies added to Appendix A were identified by the State as having fish tissue mercury concentrations greater than 0.2 mg/kg and equal to or less than 0.572 mg/kg. Water bodies having fish tissue mercury concentrations within this range are consistent with the types of waters for which the reduction factors used to develop the Original TMDL are designed to apply.[9]

Table 1 (for the 2020 Revision) of this Decision Document identifies the new water body segments being added to Appendix A of the Original TMDL, as revised in 2008, 2010, 2012, 2014, 2016 and 2018.

[7] MPCA document, https://www.pca.state.mn.us/sites/default/files/wq-iw4-01z2.pdf (last visited 3/5/21).
[8] MPCA webpage, https://www.pca.state.mn.us/water/statewide-mercury-reduction-plan (last visited 3/5/21).
[9] Table ES-1 of the Original TMDL, MPCA, 2007.

Other Changes to Appendix A for the 2020 Revision

EPA encourages States to review previously assessed water body segments during each integrated reporting cycle. During this review process, the State may determine that changes to the listing of an existing water body segment may be necessary because of administrative renumbering, resegmentation of the original waterbody, or combining segments. When such changes are made, EPA refers to the original assessment unit as being removed. These changes to Appendix A of the Minnesota's 2020 are summarized in Table 2 (2020 changes and corrections) of this Decision Document.

Additionally, the 2020 303(d) submittal and the Statewide Mercury Revision submittal information included water body segments which MPCA had identified as "partial" tribal waters. MPCA defined a partial tribal water in the context of the 303(d) list as,

> This body of water is partially within a federally recognized Indian reservation. The state and tribe have worked cooperatively on this water quality assessment and agree that the water should be included on the State's impaired waters list. For the purposes of the 303(d) list, the assessment of the portion of the water body within the reservation is advisory to EPA only because EPA has stated that it does not approve the State's impaired waters listings for waters within the boundaries of an Indian reservation.[10]

EPA acknowledges MPCA's effort to communicate water quality information for certain multijurisdictional water bodies (i.e., waters which are partially on state lands and tribal reservation lands) in order to comply with Minnesota state laws which govern MPCA's responsibly to measure and communicate water quality information as part of its 303(d) program.[11] EPA is taking no action on those portions of any water body segment located Indian country as that term is defined in 18 U.S.C. 1151.[12] EPA's approval of those water body segments designated by Minnesota as a "partial" tribal water applies only to those portions of the water body segment located on state lands. EPA's approval does not apply to the portion of such water body segments that are in Indian country.

EPA Assessment:

EPA finds these corrections and changes to assessment units are acceptable. MPCA's review of previously assessed water body segments during the 2020 integrated reporting cycles resulted in corrections to existing assessment units, splitting lake and river assessment units and combining existing assessment units. MPCA included all corrections and changes pertaining to water body segments in its final 2020 303(d) submittal.

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[10] 2020 303(d) submittal spreadsheet, Tribal Designation Notation tab, Tribal Designation Notation tab, 2020 Proposed Impaired Waters List (wq-iw1-65) at https://www.pca.state.mn.us/water/minnesotas-impaired-waters-list, (last visited 3/5/21).

[11] MPCA, *Guidance Manual for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment: 305(b) Report and 303(d) List, 2020 Assessment and Listing Cycle*, wq-iw1-04k, Appendix E, pp. 59-61.

[12] EPA continues to encourage MPCA to resegment transboundary water segments at the borders of Indian reservations to facilitate informal coordination with tribes who may wish to implement complementary and/or voluntary TMDLs for the reservation portion of affected water bodies and to encourage formal coordination with those tribes who may implement TMDLs under approved CWA 303(d) programs in the future.

Public Participation for the 2020 Revision

MPCA includes information related to the revision of its Statewide TMDL as part of its biennial 303(d) submittal to EPA. Minnesota submits its 303(d) list to EPA every two years to fulfill the reporting requirements of Sections 303(d) of the CWA. As part of this submission process, MPCA must provide the public with the opportunity to review and comment on assessment decisions made for the 303(d) list, including the opportunity to provide input on water bodies included or not included within MPCA's efforts to revise its Statewide TMDL.

MPCA made available its draft 2020 303(d) list, which included draft 2020 Revision information, for public comment from November 12, 2019 to January 14, 2020. Information regarding the availability of the 303(d) public notice materials were communicated to the general public through news releases, MPCA's gov.delivery emailing database, MPCA's website, and via a publication in the State Register.[13]

Mercury related comments presented during the public notice period for the 2020 303(d) List

MPCA received one comment during the 2020 303(d) public notice period which referenced mercury related topics and mercury TMDLs. This commenter expressed concern regarding the timeline and prioritization for developing mercury TMDLs for mercury impaired segments included on the Minnesota 2020 303(d) list and requested that the state resume its work on the St. Louis River watershed mercury TMDL. MPCA, in its response to the commenter, explained that it has renewed its efforts to address mercury impaired waters in the St. Louis River and Cloquet River Watersheds. MPCA's actions in these watersheds will be coordinated with MPCA efforts to develop and finalize Watershed Restoration and Protection Strategy (WRAPS) studies and One Watershed, One Plan (1W1P) planning documents. Other initiatives which will benefit TMDL developmental efforts TMDL include; MPCA will be establishing a St. Louis River TMDL Partnership Advisory Committee, compiling mercury studies in the St. Louis River watershed, re-assessing mercury concentrations in fish to examine spatial and temporal trends in the St. Louis River watershed, evaluating mercury and methylmercury loading from peatland areas with the help of the United States Geological Survey (USGS) and determining additional data collection and modeling needs. MPCA intends to develop mercury TMDLs for the St. Louis River and Cloquet River watersheds sometime in 2022-2023.[14] Additionally, MPCA mentioned its ongoing work to conduct and support research which aims to augment their understanding of different landscape and watershed processes which convert inorganic mercury to methylmercury.

EPA Assessment:

EPA reviewed the public participation information submitted by the State and concluded that the MPCA adequately addressed public comments regarding mercury impairments and other mercury related topics. EPA also reviewed information made available by MPCA to the public for review and comment, and MPCA's announcement of the public comment period. EPA finds that the State of Minnesota's public participation processes for the 2020 Revision to the Statewide TMDL were appropriate and that MPCA provided the general public with reasonable opportunity to review and comment on the proposed revisions to the Statewide TMDL for the 2020 303(d) listing cycle.

[13] State Register. Volume 44, Number 20, Tuesday 12 November 2019, pp. 583-585.
[14] MPCA presentation from Bruce Monson (MPCA Research Scientist), *Mercury TMDL for the St. Louis River,* (February 4, 2021), slide 19 of 23.

Tribal Consultation

Pursuant to Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* and with the *EPA Policy on Consultation and Coordination with Indian Tribes (May 2011)*,[15] EPA invited tribal consultation on its review of the 2020 Revision.[16] Representatives from the Fond du Lac Band of Lake Superior Chippewa (Fond du Lac), the Leech Lake Band of Ojibwe (Leech Lake) and the Red Lake Band of Chippewa Indians (Red Lake) requested consultation with EPA. EPA hosted a tribal consultation conference call on March 4, 2021.

EPA considered the Tribes' comments during its deliberations related to the approval of the 2020 Revision.[17] EPA provided Fond du Lac, Leech Lake and Red Lake with a written response that explained how EPA considered their input in EPA's final decision (Attachment 4 – EPA Response to Tribal Issues Raised During Tribal Consultation on the 2020 Revision).

Conclusion

EPA has completed a full review of the information provided by MPCA in February 2021, and other appropriate supporting information. EPA finds that pursuant to Section 303(d) of the CWA, 33 U.S.C. Section 1313(d), and EPA's implementing regulations at 40 CFR Part 130, the 2020 Revision satisfies the elements of an approvable TMDL. This approval addresses changes to Appendix A and Appendix B of the Minnesota Statewide TMDL as described in the State's 2020 Revision. No other elements or documentation relating to the original or subsequent approvals of this TMDL are being revised.

[15] EPA Policy on Consultation and Coordination with Indian Tribes, May 4, 2011. https://www.epa.gov/sites/production/files/2013-08/documents/cons-and-coord-with-indian-tribes-policy.pdf .
[16] EPA letter to tribal leaders, February 17, 2021.
[17] EPA letter to Fond du Lac, March 16, 2021.

Facility name	Permit number	Region
35W North MnPASS Design Build	MNG790251	SW
3M Cottage Grove	MN0001449	SW
40th Avenue West - Saint Louis River Estuary	MN0071226	NE
7-Clans Casino WWTP	MNG585172	SW
AaCron Inc	MNG250002	SW
ACSC - Moorhead	MN0065846	SW
Ada WWTP	MNG585095	SW
Adams WWTP	MN0021261	SW
ADM - Marshall	MN0057037	SW
ADM - Red Wing	MNG250009	SW
Adrian WWTP	MNG585001	SW
Ag Processing Inc - Dawson	MN0040134	SW
Aggregate Industries Inc - Larson	MN0030473	SW
Aggregate Industries Inc - Nelson Plant	MN0001309	SW
Aggregate Industries Pit 21	MN0069515	SW
Agra Resources LLC dba POET Biorefining -Glenville	MN0065692	SW
Agri-Energy LLC	MN0064033	SW
Agropur	MN0060216	SW
Aitkin Agri-Peat Inc - Cromwell	MN0055662	NE
Aitkin Agri-Peat Inc - Floodwood Operation	MN0057428	NE
Aitkin Agri-Peat Inc - McGregor	MN0062375	NE
Aitkin WWTP	MN0020095	NE
Albany WWTP	MN0020575	SW
Albert Lea WTP	MNG640002	SW
Albert Lea WWTP	MN0041092	SW
Alberta WWTP	MNG585002	SW
Albertville WWTP	MN0050954	SW
Al-Corn Clean Fuel LLC	MN0063002	SW
Alden WWTP	MNG585118	SW
Alexandria Lake Area Sanitary District	MN0040738	SW
Alexandria Light & Power	MNG250004	SW
All Terrain Excavating	MNG490598	SW
Alpha WTP	MNG640102	SW
Altona Hutterian Brethren WWTP	MN0067610	SW
Altura WWTP	MN0021831	SW
Alvarado WWTP	MNG585171	SW
Amboy WWTP	MN0022624	SW
American Crystal Sugar - East Grand Forks	MN0001937	SW
American Crystal Sugar - Moorhead	MN0001945	SW
American Crystal Sugar Co - Crookston	MN0001929	SW
American Peat Technology LLC	MN0057533	NE
AMPI - Paynesville	MN0044326	SW
Anchor Bay Mobile Home Park	MNG585058	NE
Anchor Glass Container Corp	MN0003042	SW
Andersen Corp	MN0001724	SW
Anderson Contracting Inc	MNG490109	Both NE / SW

Facility name	Permit number	Region
Anderson Custom Processing	MNG255005	SW
Annandale/Maple Lake/Howard Lake WWTP	MN0066966	SW
Appleton WWTP	MN0021890	SW
Argyle WWTP	MNG585140	SW
Arkema Inc	MN0041521	SW
Arlington WWTP	MN0020834	SW
Ashby WWTP	MNG580087	SW
Askov WWTP	MNG585229	NE
Aspen Hills WWTP	MN0066028	SW
Atwater WWTP	MN0022659	SW
Audubon WWTP	MNG585148	SW
Aurora WWTP	MN0020494	NE
Austin WWTP	MN0022683	SW
Avoca & Iona WWTP	MNG585165	SW
Avon WWTP	MN0047325	SW
Babbitt WWTP	MN0020656	NE
Badger Foundry Company	MNG250010	SW
Badger WWTP	MNG585155	SW
BAE Systems Land & Armaments LP	MNG255087	SW
BAE Systems Land & Armaments-Minneapolis	MNG790184	SW
Bagley WWTP	MN0022691	NE
Balaton WWTP	MN0020559	SW
Barnesville WWTP	MN0022501	SW
Barnum WWTP	MNG585142	NE
Barrett WWTP	MNG580173	SW
Baudette WWTP	MNG585174	NE
Beaver Bay WWTP	MN0040754	NE
Beaver Creek WWTP	MNG585055	SW
Becker County Sanitary Landfill - Closed	MNG790128	SW
Becker WWTP - Municipal	MN0025666	SW
Bel Clare Estates WWTP	MN0045721	SW
Belgrade WWTP	MN0051381	SW
Belle Plaine WWTP	MN0022772	SW
Bellechester WWTP	MN0022764	SW
Bellingham WWTP	MNG585152	SW
Belview WWTP	MNG585003	SW
Bemidji WWTP	MN0022462	NE
Benson WWTP	MN0020036	SW
Benton Utilities WWTP	MN0065391	SW
Berger Horticultural Products - Pine Island Bog	MN0066052	NE
Bertha WWTP	MNG585371	SW
Big Falls WWTP	MNG585135	NE
Big Lake WWTP	MN0041076	SW
Big Stone Hutterite Colony	MNG585168	SW
Bigelow WWTP	MNG585224	SW
Bigfork WWTP	MNG585363	NE

Facility name	Permit number	Region
Bird Island WWTP	MN0022829	SW
Biwabik WWTP	MN0053279	NE
Blomkest Svea Sewer Board WWTP	MNG585372	SW
Blooming Prairie WWTP	MN0021822	SW
Blue Earth WWTP	MN0020532	SW
Bluefin Bay on Lake Superior WWTP	MN0054593	NE
BNSF Railway Co - Willmar	MN0000779	SW
Boise White Paper LLC	MN0001643	NE
Bongards' Creameries - Perham	MN0047228	SW
Bongard's Creameries Inc	MN0002135	SW
Boomerang Laboratories	MN0066508	SW
Borup WWTP	MN0022853	SW
Bovey WTP	MNG640018	NE
Bowlus WWTP	MN0020923	SW
BP Pipelines North America Inc	MN0063754	SW
Braham WWTP	MN0022870	SW
Brainerd WWTP	MN0049328	NE
Brakemeier Properties Inc	MN0054518	SW
Breckenridge WWTP	MN0022900	SW
Brewster WWTP	MN0021750	SW
Bricelyn WWTP	MNG585129	SW
Brooten WWTP	MNG585271	SW
Browerville WWTP	MN0022926	SW
Brownsdale WWTP	MN0022934	SW
Brownsville WWTP	MN0053562	SW
Brownton WWTP	MN0022951	SW
Bruening Rock Products Inc - Harmony	MNG490115	SW
Buffalo Lake Advanced Biofuels LLC	MN0063151	SW
Buffalo Lake WWTP	MNG585373	SW
Buffalo WWTP	MN0040649	SW
Butterfield WWTP	MN0022977	SW
Byron WWTP	MN0049239	SW
Calco of Minneapolis	MN0059960	SW
Caledonia WWTP	MN0020231	SW
Cambridge WWTP	MN0020362	SW
Camp Ripley - Area 22 Washrack	MN0063070	SW
Camp Ripley WWTP	MN0025721	SW
Camp Victory WWTP	MN0067032	SW
Campbell WWTP	MNG585130	SW
Canby WWTP	MNG585154	SW
Cannon Falls WWTP	MN0022993	SW
Canton WWTP	MN0023001	SW
Captain Kens Foods Inc	MN0059765	SW
Cargill Meat Solutions	MNG255077	SW
Caribou Highlands Lodge WWTP	MN0053252	NE
Carlos WWTP	MN0023019	SW

Facility name	Permit number	Region
Cedar Mills WWTP	MN0066605	SW
CenterPoint Energy - GWTF	MN0063126	SW
CenterPoint Energy - Waterville	MN0063967	SW
Central Boiler, Inc	MNG250110	SW
Central City Tunnel	MNG790264	SW
Central Iron Range Sanitary Sewer District WWTP	MN0020117	NE
Central Specialties Inc	MNG490071	Both NE / SW
Ceylon WWTP	MNG585006	SW
CF Industries Distribution Facilities LLC - Pine Bend Terminal	MN0069418	SW
Chandler WWTP	MN0039748	SW
Chard Grading and Excavation LLCD	MNG490589	SW
Chatfield WWTP	MN0021857	SW
Chisago Lakes Joint STC	MN0055808	SW
Chokio WTP	MNG640022	SW
Chokio WWTP	MNG585007	SW
CHS Hallock	MN0068969	SW
CHS Mankato	MN0001228	SW
Cimarron Park WWTP	MN0050636	SW
Clara City WWTP	MN0023035	SW
Claremont WWTP	MN0022187	SW
Clarissa WWTP	MNG585008	SW
Clarkfield WWTP	MNG585093	SW
Clarks Grove WWTP	MNG585067	SW
Clear Lake/Clearwater WWTP	MN0047490	SW
Clearbrook WWTP	MNG585098	SW
Clements WWTP	MNG585094	SW
Cleveland WWTP	MNG585009	SW
Cleveland-Cliffs Minorca Mine Inc.	MN0055964	NE
Clevland Cliffs Minorca Mine Inc	MN0059633	NE
Cliffs - Dunka Mining Area	MN0042579	NE
Cliffs Erie LLC - Mine Area	MN0042536	NE
Cliffs Erie-Taconite Harbor Dock	MN0067962	NE
Climax WWTP	MN0023060	SW
Clinton WWTP	MNG580193	SW
Clontarf WWTP	MNG585108	SW
Cokato WWTP	MN0049204	SW
Cold Spring Granite Co	MNG490143	Both NE / SW
Cold Spring Granite Co - Main Campus	MN0062481	SW
Cold Spring WWTP	MN0023094	SW
Coleraine-Bovey-Taconite Joint WWTP	MN0053341	NE
Cologne WWTP	MN0023108	SW
Comfrey WWTP	MN0021687	SW
Community of Roseland WWTP	MN0070092	SW
Comstock WWTP	MNG585131	SW
ConAgra Foods Packaged Foods LLC	MN0001686	SW
Conger WWTP	MNG585222	SW

Facility name	Permit number	Region
Cook WWTP	MNG585179	NE
Corey's Quarry	MNG490165	NE
Cosmos WWTP	MNG585056	SW
Cottonwood WWTP	MNG580010	SW
Covia Holdings Corp - Kasota Plant	MN0053082	SW
Covia Holdings Corp – Ottawa Plant	MN0001716	SW
Crane Lake WWTP	MN0066371	NE
Cromwell WWTP	MN0051101	NE
Crookston WWTP	MN0021423	SW
Crosslake WWTP	MN0064882	NE
Crystal Lake Flocculation Treatment Facility	MN0069957	SW
CS McCrossan Construction Inc	MNG490009	SW
Cummins Power Systems	MNG255029	SW
Currie WWTP	MN0025682	SW
Dairy Farmers of America	MN0003671	SW
Danfoss	MNG255120	SW
Danube WWTP	MNG580057	SW
Danvers WWTP	MNG585119	SW
Darling Ingredients Inc - Blue Earth	MN0002313	SW
Darwin WWTP	MNG585150	SW
Dassel WWTP	MN0054127	SW
Davidson Ready Mix Inc	MNG490593	SW
Dawson WWTP	MN0021881	SW
Deer Creek WWTP	MNG585180	SW
Deer River WWTP	MN0051616	NE
DeGraff WWTP	MN0071234	SW
Delano WTP	MNG640123	SW
Delano WWTP	MN0051250	SW
Delavan WWTP	MNG585109	SW
Delft Sanitary District WWTP	MN0066541	SW
Delhi WWTP	MN0067008	SW
Delta Air Lines Inc - Mpls/Saint Paul	MN0054194	SW
DENCO II LLC	MN0060232	SW
Dennison WWTP	MN0022195	SW
Detroit Lakes Water Reclamation Facility	MN0020192	SW
Dexter WWTP	MNG585228	SW
Dodge Center WWTP	MN0021016	SW
Duininck Concrete Inc	MNG490597	SW
Duininck Inc	MNG490046	SW
Duluth Ready Mix - Saginaw	MNG490287	NE
Duluth Steam Plant 1	MN0055719	NE
Dumont WWTP	MN0064831	SW
Dundee WWTP	MNG585349	SW
Dunnell WWTP	MNG585279	SW
Dyno Nobel Inc	MN0060704	NE
Eagle Bend WWTP	MNG585383	SW

Facility name	Permit number	Region
Earth, Ponds and Beyond LLC	MNG490560	SW
East Grand Forks WWTP	MN0021814	SW
East Gull Lake WWTP	MN0059871	NE
Echo WWTP	MNG585059	SW
Eden Prairie Well House 6 & 7	MNG250084	SW
Edgerton WWTP	MNG585011	SW
Effie WWTP	MN0067555	NE
Eitzen WWTP	MN0049531	SW
Elbow Lake WWTP	MNG580082	SW
Elizabeth WWTP	MNG585012	SW
Elk River Municipal Utilities	MNG250016	SW
Elk River WWTP	MN0020788	SW
Elkton WWTP	MNG585013	SW
Ellendale WWTP	MNG585014	SW
Ellsworth WWTP	MNG585015	SW
Elmore WWTP	MNG585110	SW
Ely WTP	MNG640109	NE
Ely WWTP	MN0020508	NE
Elysian WWTP	MNG585285	SW
Emmons WWTP	MN0023311	SW
Enbridge Energy Ltd - Clearbrook	MN0056324	Both NE / SW
Enbridge Line 3	MN0071366	NE
Evan WWTP	MNG585202	SW
Evansville WWTP	MNG585074	SW
Eveleth WTP	MNG640031	NE
Eveleth WWTP	MN0023337	NE
Fabcon Inc	MN0068284	SW
Fairfax WWTP	MNG585060	SW
Fairmont Foods, Inc	MN0001996	SW
Fairmont WTP	MN0045527	SW
Fairmont WWTP	MN0030112	SW
Faribault Foods Inc	MN0050491	SW
Faribault WWTP	MN0030121	SW
Farwell Kensington Sanitary District WWTP	MNG585220	SW
Federal Dam WWTP	MN0063487	NE
Federal-Mogul Powertrain LLC	MN0001147	SW
Felton WWTP	MNG585149	SW
Fergus Falls WWTP	MN0050628	SW
Fertile WWTP	MNG585138	SW
Finlayson WWTP	MNG580203	NE
Fisher WWTP	MNG585170	SW
Flensburg WWTP	MNG585016	SW
Flint Hills Resources Pine Bend Refinery	MN0000418	SW
Flint Hills RPB Airport & Wisconsin Pipelines	MN0064696	SW
Floodwood WWTP	MN0023442	NE
Foley WWTP	MN0023451	SW

Facility name	Permit number	Region
Foremost Farms USA Cooperative	MN0001333	SW
Forest Hills Golf & RV Resort WWTP	MN0056685	SW
Forest Lake WTP	MNG640118	SW
Foreston WWTP	MNG585017	SW
Former Advance Machine Co	MN0066648	SW
Former Naval Industrial Reserve Ordinance Plant	MNG790159	SW
Fosston WWTP	MN0022128	SW
Fountain WWTP	MN0050873	SW
Franklin Heating Station	MN0041271	SW
Franklin WWTP	MN0021083	SW
Freeborn WWTP	MNG585018	SW
Freeport WWTP	MNG580019	SW
Frost WWTP	MNG585120	SW
Fulda WWTP	MNG585188	SW
GAF Materials Corp	MN0002119	SW
Garfield WWTP	MNG585158	SW
Garvin WWTP	MNG580101	SW
Gary WWTP	MNG585175	SW
Gaylord WWTP	MNG580204	SW
GEM Sanitary District	MNG580205	SW
Geneva WWTP	MNG585292	SW
Genova-Minnesota Inc	MN0046957	SW
Georgetown WWTP	MNG585132	SW
Gerdau Ameristeel - Duluth	MNG250105	SW
Ghent WWTP	MNG585121	SW
Gibbon WWTP	MNG580020	SW
Gilbert WWTP	MN0020125	NE
Gilman WWTP	MNG585021	SW
Glacial Lakes SSWD	MN0052752	SW
Glencoe WWTP	MN0022233	SW
Glenville WWTP	MN0021245	SW
Glyndon WWTP	MN0020630	SW
Gonvick WWTP	MN0020541	SW
Good Thunder WWTP	MNG580206	SW
Goodhue WWTP	MN0020958	SW
Goodridge WWTP	MNG585022	SW
Graceville WWTP	MNG580159	SW
Granada WWTP	MNG585023	SW
Grand Marais WWTP	MN0020010	NE
Grand Meadow WWTP	MN0023558	SW
Grand Rapids WWTP	MN0022080	NE
Granite Falls Energy LLC	MN0066800	SW
Granite Falls WWTP	MN0021211	SW
Granite Valley Quarry	MNG490117	SW
Grasston WWTP	MN0025691	SW
Great Lakes Aquarium	MNG250101	NE

Facility name	Permit number	Region
Great Lakes Gas Transmission LP	MN0052540	Both NE / SW
Great River Energy - Cambridge	MN0068098	SW
Great River Energy - Lakefield Junction Station	MN0067709	SW
Great River Energy - Pleasant Valley Station	MN0067717	SW
Great River Energy of Dickinson	MN0049077	SW
Green Plains Fairmont LLC	MN0068063	SW
Green Plains Otter Tail LLC	MN0068357	SW
Greenbush WWTP	MNG585156	SW
Greenfield WWTP	MN0063762	SW
Grey Eagle WWTP	MN0023566	SW
Grove City WWTP	MN0023574	SW
Grygla WWTP	MNG585139	SW
H.B. Fuller Co. - Willow Lake	MN0051811	SW
Hallmark Terrace WWTP	MN0030368	SW
Hallock WWTP	MNG585147	SW
Halstad WWTP	MN0020770	SW
Hamburg WWTP	MN0025585	SW
Hammond WWTP	MN0066940	SW
Hampton WWTP	MN0021946	SW
Hancock WWTP	MNG585299	SW
Hanley Falls WWTP	MNG580122	SW
Hanska WWTP	MN0052663	SW
Hardwick WWTP	MNG585194	SW
Harmony WWTP	MN0022322	SW
Harris WWTP	MN0050130	SW
Hartland WWTP	MNG585102	SW
Hastings Sand and Gravel	MNG490592	Both NE / SW
Haven Hutterian Brethren	MNG585071	SW
Hawkes Co Inc - Peat Harvesting	MN0062715	SW
Hawley WWTP	MN0020338	SW
Hayfield WWTP	MN0023612	SW
Hayward WWTP	MN0041122	SW
Heartland Corn Products	MN0062561	SW
Heartland Hutterian Brethren/Heartland Colonies	MNG585195	SW
Hector WWTP	MN0025445	SW
Hendricks WWTP	MNG585377	SW
Hendrum WWTP	MNG585176	SW
Hennepin County Energy Center	MN0057509	SW
Hennepin Energy Recovery Center	MN0057525	SW
Herman WWTP	MNG585177	SW
Heron Lake BioEnergy LLC	MN0067385	SW
Heron Lake WWTP	MNG585189	SW
Hewitt WWTP	MNG585024	SW
Hiawatha Metalcraft, Inc.	MNG250061	SW
Hibbing Taconite Co	MN0001465	NE
Hibbing Taconite Co - Tails Basin Area	MN0049760	NE

Facility name	Permit number	Region
Hibbing WWTP South Plant	MN0030643	NE
Highwater Ethanol LLC	MN0068586	SW
Hill City WWTP	MNG585182	NE
Hills WWTP	MNG585196	SW
Hinckley WWTP	MN0023701	SW
Hitterdal WWTP	MNG585178	SW
Hoffman WWTP	MNG585134	SW
Hokah WWTP	MN0021458	SW
Holdingford WWTP	MN0023710	SW
Holland WWTP	MN0021270	SW
Hollandale WWTP	MNG585374	SW
Honeywell - Aerospace - Minneapolis	MN0042641	SW
Hope - Somerset Township WWTP	MN0068802	SW
Hope Creamery, LLC	MN0001317	SW
Hopkins Well 4 WTP	MNG640045	SW
Hormel Foods Corp/Quality Pork Processors - Austin	MN0050911	SW
Houston WWTP	MN0023736	SW
Hoya Optical Labs of America, Inc.	MN0065501	SW
Hoyt Lakes WWTP	MN0020206	NE
Hubbard Feeds Inc - Worthington	MN0033375	SW
Hutchinson WWTP	MN0055832	SW
Ideal Construction Steven F Kobliska and Sons LLC	MNG490584	Both NE / SW
Iron Junction WWTP	MNG585049	NE
Isanti WWTP	MN0023795	SW
ISD 2142 Pre-Kindergarten to Grade 12 N School	MN0069850	NE
ISD 2853 Lac qui Parle Valley High School	MNG585091	SW
ISD 363 - Indus School	MN0049263	NE
Isle WWTP	MN0023809	NE
Ivanhoe WWTP	MNG585103	SW
J&S Gravel Inc	MNG490027	SW
Jackson WWTP	MN0021377	SW
Janesville WWTP	MNG580025	SW
Jansen-Hard Rock Quarries Inc	MNG490228	SW
Jasper WWTP	MNG585026	SW
JC and J Trucking	MNG490595	SW
Jeffers WWTP	MNG585111	SW
Jordan Sands LLC	MN0070581	SW
Jordan WWTP	MN0020869	SW
Karlstad WWTP	MNG585146	SW
Kasota Stone Fabricators Inc - L231	MNG490404	NE
Kasson WWTP	MN0050725	SW
Keewatin WWTP	MN0022012	NE
Kelliher WWTP	MNG585068	NE
Kellogg WWTP	MNG585027	SW
Kemps, LLC - Farmington	MNG250109	SW
Kennedy WWTP	MNG585028	SW

Facility name	Permit number	Region
Kenyon WWTP	MN0021628	SW
Kerkhoven WWTP	MN0020583	SW
Kerry Inc	MNG250047	SW
Kettle River WWTP	MNG585183	NE
Kiester WWTP	MNG585097	SW
Kilkenny WWTP	MNG585084	SW
Kingsbury Bay-Grassy Point Habitat Restoration Project	MN0071285	NE
Knife River Central Minnesota	MNG490003	Both NE / SW
Koch - Wood River Pipeline	MN0064700	SW
Koch Inc - Quarry 3	MNG490112	SW
Kraemer Mining & Materials - Burnsville	MN0002224	SW
Kraemer Mining & Materials - Mille Lacs	MN0067806	NE
L G Everist Inc	MNG490313	SW
La Salle WWTP	MN0067458	SW
Lafayette WWTP	MN0023876	SW
Lake Andrew WWTP	MN0067733	SW
Lake Benton WWTP	MN0023884	SW
Lake Bronson WWTP	MNG585029	SW
Lake City WWTP	MN0020664	SW
Lake Crystal WWTP	MN0055981	SW
Lake Henry WWTP	MN0020885	SW
Lake Lillian WWTP	MNG585225	SW
Lake Park WWTP	MNG585157	SW
Lake Wilson WWTP	MNG585061	SW
Lakefield WWTP	MN0020427	SW
Lakehead Trucking	MNG490594	NE
Lakeside Foods Inc - Owatonna Plant	MN0001571	SW
Lakeside Foods Inc - Plainview	MN0047465	SW
Laketown Community WWTP	MN0054399	SW
Lamberton WWTP	MNG585100	SW
Lancaster WWTP	MNG585066	SW
Lanesboro State Fish Hatchery	MN0004430	SW
Lanesboro WWTP	MN0020044	SW
Lansing Township WWTP	MN0063461	SW
Le Center WWTP	MN0023931	SW
Le Roy WWTP	MN0021041	SW
Le Sueur WWTF	MN0068195	SW
Leota Sanitary District WWTP	MNG585219	SW
Lester Prairie WWTP	MN0023957	SW
Lewiston WWTP	MN0023965	SW
Lewisville WWTP	MNG585314	SW
LG Everist Inc	MN0068764	SW
Lifecore Biomedical, LLC	MN0060747	SW
Lincoln Pipestone Rural Wtr Holland Well	MN0064351	SW
Linwood Terrace	MN0054372	SW
Lismore WWTP	MNG585076	SW

Facility name	Permit number	Region
Litchfield WWTP	MN0023973	SW
Little Falls WTP	MN0003182	SW
Little Falls WWTP	MN0020761	SW
Littlefork WWTP	MNG585081	NE
Long Prairie Ground Water Remediation	MNG790134	SW
Long Prairie WWTP - Municipal	MN0066079	SW
Longville WWTP	MNG580208	NE
Lonsdale WWTP	MN0031241	SW
Lookout Mountain Village WWTP	MN0060691	NE
Loretto WWTP	MN0023990	SW
Lowry WWTP	MNG585123	SW
Lucan WWTP	MN0031348	SW
Luverne WTP - Plant 1	MNG640056	SW
Luverne WWTP	MN0020141	SW
Lyle WWTP	MN0022101	SW
Lynd WWTP	MNG585030	SW
M A Gedney Co	MN0022446	SW
Mabel WWTP	MN0020877	SW
MAC-Minneapolis/St Paul Intl Airport-GWP	MN0065404	SW
Madelia WWTP	MN0024040	SW
Madison WWTP	MN0051764	SW
Magellan Pipeline Co LP - Hydrostatic	MN0063304	SW
Magellan Pipeline Co LP - Marshall	MN0059838	SW
Magellan Pipeline Co LP - Minneapolis Terminal	MN0045896	SW
Magnolia WWTP	MNG585190	SW
Mankato Water Resource Recovery Facility	MN0030171	SW
Mapleton WWTP	MN0021172	SW
Marble WWTP	MN0020214	NE
Marietta WWTP	MNG585160	SW
Marshall WWTP	MN0022179	SW
Martie Pit - Leased by Johnson Materials Inc	MNG490582	SW
Martin Marietta Materials Inc - Saint Cloud Quarry	MN0004031	SW
Martin Marietta Materials Inc - Yellow Medicine	MNG490195	SW
Marvin and Lisa Drill	MNG490596	SW
Marvin Windows and Doors	MN0055026	NE
Mathiowetz Construction Co	MNG490137	SW
Mathy Construction - Aggregate	MNG490081	SW
Mayer WWTP	MN0021202	SW
Maynard WWTP	MN0056588	SW
Mazeppa WWTP	MN0046752	SW
McGregor WWTP	MN0024023	NE
McIntosh WWTP	MNG585031	SW
McKinley WWTP	MNG585367	NE
McLaughlin Gormley King Co - Chaska	MN0058033	SW
MDNR Crystal Springs State Fish Hatchery	MN0004421	SW
MDNR Father Hennepin State Park	MN0033723	NE

Facility name	Permit number	Region
MDNR Myre Big Island State Park	MN0033740	SW
MDNR Peterson State Fish Hatchery	MN0061221	SW
MDNR Scenic State Park	MN0049891	NE
MDNR Soudan State Park	MN0060151	NE
MDNR Spire Valley Hatchery	MN0069710	NE
ME Global Inc	MN0053830	NE
Meadowlands WWTP	MNG585034	NE
Meadows of Whisper Creek WWTP	MN0066753	SW
Medford Sand & Gravel	MNG490273	SW
Medford WWTP	MN0024112	SW
Medivators	MN0063541	SW
Melrose WWTP	MN0020290	SW
Menahga WWTP	MNG585032	SW
Meriden Township WWTP	MNG585319	SW
Mesabi Metallics Co LLC	MN0020249	NE
Mesabi Metallics Company LLC	MN0068241	NE
Mesabi Mining Area	MN0069078	NE
Mesabi Nugget Delaware LLC	MN0067687	NE
Met Council - Blue Lake WWTP	MN0029882	SW
Met Council - Empire WWTP	MN0045845	SW
Met Council - Metropolitan WWTP	MN0029815	SW
Met Council - Mississippi Basin Total Phosphorus	MN0070629	SW
Met Council - Rogers WWTP	MN0029629	SW
Met Council - Seneca WWTP	MN0030007	SW
Met Council - St Croix Valley WWTP	MN0029998	SW
Met Council Eagles Point WWTP	MN0029904	SW
Met Council Hastings WWTP	MN0029955	SW
Metal Matic Inc	MNG255065	SW
Metropolitan Airports Commission	MN0002101	SW
MG Waldbaum Co	MN0060798	SW
Michalek Excavating	MNG490319	NE
Middle River WWTP	MNG585163	SW
Milaca WWTP	MN0024147	SW
Milan WWTP	MNG585141	SW
Milestone Materials - Golberg Quarry	MN0062227	SW
Milestone Materials - North Quarry	MN0069523	SW
Milestone Materials - Stewartville I-90 Quarry 496	MN0069531	SW
Millerville WWTP	MN0054305	SW
Milroy WWTP	MNG585124	SW
Miltona WWTP	MN0024155	SW
Minn-Dak Asphalt Inc - Boeing 300	MNG490144	SW
Minn-Dak Farmers Cooperative	MN0070386	SW
Minneapolis Water Works - Fridley	MN0003247	SW
Minneota WWTP	MNG585033	SW
Minnesota City WWTP	MN0069817	SW
Minnesota Pipe Line Company, LLC - Cottage Grove Station	MN0056472	SW

Facility name	Permit number	Region
Minnesota Power - Boswell Energy Center	MN0001007	NE
Minnesota Power - Hibbard Renewable Energy Center	MN0001015	NE
Minnesota Power - Laskin Energy Center	MN0000990	NE
Minnesota Power - Rapids Energy Center	MN0066559	NE
Minnesota Power - Taconite Harbor Energy Center	MN0002208	NE
Minnesota Power Inc - Arrowhead HVDC	MN0046256	NE
Minnesota Specialty Yeast, LLC	MNG250099	SW
MNDOT - Heath Creek Rest Area	MN0069639	SW
MNDOT Albert Lea Travel Information Ctr	MNG580065	SW
MNDOT Enterprise Rest Area	MN0048844	SW
MnDOT SP 3104-60	MNG790267	NE
MnDOT SP 3608-48 International Falls	MNG790265	NE
MNDOT Straight River Rest Area	MN0049514	SW
Montevideo WWTP	MN0020133	SW
Montgomery WWTP	MN0024210	SW
Monticello WWTP	MN0020567	SW
Montrose WWTP	MN0024228	SW
Moorhead RR Underpass Project	MNG790250	SW
Moorhead WWTP	MN0049069	SW
Moose Lake WWTP	MN0020699	NE
Mora WWTP	MN0021156	SW
Morgan WWTP	MN0020443	SW
Morris WWTP	MN0021318	SW
Morristown WWTP	MN0025895	SW
Morton WWTP	MN0051292	SW
Motley WWTP	MN0024244	NE
Mountain Iron WWTP	MN0040835	NE
Mountain Lake WWTP	MN0021466	SW
Murdock WWTP	MNG585086	SW
Nashwauk WWTP	MN0053392	NE
Nerstrand WWTP	MN0065668	SW
Neuhof Hutterian Brethren	MNG585113	SW
New Brighton WTP - Wells 10 & 11	MNG640068	SW
New Germany WWTP	MN0024295	SW
New Pirates Cove LLC	MN0066109	SW
New Prague Utilities Commission	MNG640117	SW
New Prague WWTP	MN0020150	SW
New Richland WWTP	MN0021032	SW
New Ulm WWTP	MN0030066	SW
New York Mills WTP	MNG640121	SW
Newfolden WWTP	MNG585145	SW
Nichols Wastewater Ponds	MN0071111	NE
Nicollet WWTP	MNG585037	SW
Nielsville WWTP	MNG585166	SW
NKASD WWTP	MN0020257	SW
North Branch WWTP	MN0024350	SW

Facility name	Permit number	Region
North Pine Aggregate Inc - Fogt Pit	MNG490210	NE
Northern Metal Recycling	MN0063380	SW
Northern Natural Gas Co	MN0050041	Both NE / SW
Northfield WWTP	MN0024368	SW
Northome WWTP	MNG585185	NE
Northrop WWTP	MN0024384	SW
Northshore Mining Co	MN0055301	NE
Northshore Mining Co - Peter Mitchell	MN0046981	NE
Northstar Materials Inc dba Knife River Materials	MNG490038	Both NE / SW
Northwoods Ice of Bemidji Inc	MNG250027	NE
Norwood Young America WWTP	MN0024392	SW
NuStar - Moorhead Terminal	MN0000485	SW
NuStar - Pipeline Corridor	MN0066141	SW
NuStar - Sauk Centre Terminal	MN0057771	SW
Nu-Tek BioSciences LLC	MNG250143	SW
Oakland Sanitary District WWTP	MN0040631	SW
Odessa WWTP	MNG585099	SW
Odin-Ormsby WWTP	MNG585369	SW
Ogilvie WWTP	MN0021997	SW
Okabena WWTP	MN0050288	SW
Oklee WWTP	MNG585038	SW
Olivia WWTP	MN0020907	SW
OMG Midwest dba Minnesota Paving and Materials - Office & Shop	MNG490131	Both NE / SW
Onamia WWTP	MNG580050	NE
Orange Line BRT - Southern Portion	MNG790255	SW
Order of St Benedict WWTP	MN0022411	SW
Oronoco WWTP	MN0071421	SW
Orr WWTP	MN0024422	NE
Ortonville WWTP	MNG585151	SW
Osakis WWTP	MN0020028	SW
O'Shaughnessy Distillery	MNG250141	SW
Oslo WWTP	MNG585379	SW
Ostrander WWTP	MN0024449	SW
Otsego East WWTP	MN0064190	SW
Otsego WWTP West	MN0066257	SW
Otter Tail Power Co - General Office	MNG250043	SW
Otter Tail Power Co - Hoot Lake Plant	MN0002011	SW
Owatonna WWTP	MN0051284	SW
Owens Corning - Minneapolis Plant	MN0048810	SW
Palisade WWTP	MN0050997	NE
Pease WWTP	MNG585167	SW
Peerless Chain Co	MN0001325	SW
Pelican Rapids WWTP	MN0022225	SW
Pemberton WWTP	MNG585075	SW
Pennock WWTP	MNG585104	SW
Perham Resource Recovery Facility	MN0067415	SW

Facility name	Permit number	Region
Perley WWTP	MNG585326	SW
Peterson WWTP	MN0024490	SW
Pilgrims	MN0047261	SW
Pillager WWTP	MNG585209	NE
Pine City WWTP	MN0021784	SW
Pine Island WWTP	MN0024511	SW
Pine River Area Sanitary District	MN0046388	NE
Pipestone WWTP	MN0054801	SW
Plainview Milk Products Cooperative	MN0000311	SW
Plainview-Elgin Sanitary District	MN0055361	SW
Plaisted Companies Inc	MNG490185	SW
Plummer WWTP	MNG585327	SW
POET Biorefining - Bingham Lake	MN0063118	SW
POET Biorefining - Lake Crystal LLC	MN0067172	SW
POET Biorefining - Preston	MN0064017	SW
Polar Semiconductor LLC	MN0064661	SW
Polish Palace	MNG790266	SW
Poly Met Mining, Inc.	MN0054089	NE
Porter WWTP	MNG580128	SW
Prairie Farms Dairy Inc - Caves of Faribault	MNG255092	SW
Premier Horticulture Inc - Black Lake and Wright Bogs - Plant Site	MN0055115	NE
Preston WWTP	MN0020745	SW
Princeton WWTP	MN0024538	SW
Prinsburg WWTP	MN0063932	SW
Prior Lake/Spring Lake Ferric Chloride WTP	MN0067377	SW
Puris Proteins LLC	MN0048968	SW
RA Muecke Sand & Gravel Inc	MNG490093	SW
Racine WWTP	MN0024554	SW
Rahr Malting Co.	MN0031917	SW
Randall WWTP	MN0024562	SW
Raymond WWTP	MNG585197	SW
Red Lake Falls WWTP	MNG585161	SW
Red Rock Rural WS - Windom WTP No 1	MNG640077	SW
Red Wing WWTP	MN0024571	SW
Redwood Falls Kaolin Mine	MN0059331	SW
Redwood Falls WWTP	MN0020401	SW
Remer WWTP	MNG585210	NE
Renville WWTP	MN0020737	SW
Resideo - Golden Valley	MNG255088	SW
Revere WWTP	MNG585114	SW
Rice WWTP	MN0056481	SW
Rich Prairie Sewer Treatment Facility	MNG585211	SW
Richmond WWTP	MN0024597	SW
RJ Zavoral and Sons Inc	MNG490590	SW
Robinson Rubber Products Co	MNG250048	SW
Rochester Athletic Club	MN0062537	SW

Facility name	Permit number	Region
Rochester WWTP/Water Reclamation Plant	MN0024619	SW
Rock County Rural WTP	MNG640079	SW
Rockford WWTP	MN0024627	SW
Rollingstone WWTP	MNG585078	SW
Rose Creek WWTP	MN0024651	SW
Roseau WWTP	MN0024643	SW
Rothsay WWTP	MNG585064	SW
Round Lake WWTP	MNG585198	SW
Royalton WWTP	MN0020460	SW
RTP Co	MN0053350	SW
Rush City WWTP	MNG585212	SW
Rushford WWTP	MN0024678	SW
Rushmore WWTP	MNG585201	SW
Russell WWTP	MNG585062	SW
Ruthton WWTP	MNG585105	SW
Sabin WWTP	MNG585133	SW
Sacred Heart WWTP	MN0024708	SW
Saint Anthony WTP	MNG640081	SW
Saint Clair WWTP	MN0024716	SW
Saint Cloud WWTP	MN0040878	SW
Saint Croix Forge Inc	MN0069051	SW
Saint Francis WWTP	MN0021407	SW
Saint George District Sewer System	MN0064785	SW
Saint Hilaire WWTP	MNG585334	SW
Saint James WWTP	MN0024759	SW
Saint John's University	MN0046035	SW
Saint Leo WWTP	MN0024775	SW
Saint Louis Park GWP - Reilly Tar Site	MN0045489	SW
Saint Martin WWTP	MN0024783	SW
Saint Michael WWTP	MN0020222	SW
Saint Paul Park Refining Co LLC dba Marathon Saint Paul Park Refinery	MN0000256	SW
Saint Paul Regional Water Services McCarron WTP	MN0045829	SW
Saint Peter WWTP	MN0022535	SW
Sanborn WWTP	MNG585115	SW
Sandstone WWTP	MN0056910	NE
Sappi Cloquet LLC	MN0001431	NE
Saputo Dairy Foods USA LLC	MNG255067	SW
Sargeant WWTP	MNG585214	SW
Sauk Centre WWTP	MN0024821	SW
Savage Riverport LLC	MNG790237	SW
Schumacher Sand Pit	MNG490320	SW
Searles WWTP	MNG585080	SW
Sebeka WWTP	MN0024856	SW
Seneca Foods Corp	MN0001279	SW
Seneca Foods Corp - Blue Earth	MN0001287	SW
Seneca Foods Corp - Glencoe	MN0001236	SW

Facility name	Permit number	Region
Serpent Lake WWTP	MNG585215	NE
Shafer WWTP	MN0030848	SW
Shelly WWTP	MNG585227	SW
Sherburn WWTP	MN0024872	SW
Shetek Area Water & Sewer District WWTP	MN0070947	SW
Shorewood Park Sanitary District	MNG580216	SW
Shot Rock - Margie Quarry	MNG490574	NE
Silver Bay WWTP	MN0024899	SW
Silver Lake WWTP	MNG585164	SW
Sinnott Contracting LLC	MNG490588	NE
SkyWater Technology Foundry INC	MN0056723	SW
Slayton WWTP	MNG580191	SW
Sleepy Eye WWTP	MNG585041	SW
Sobieski WWTP	MNG585217	SW
Solvay dba Cytec Engineered Materials Inc	MNG255099	SW
Southern Minnesota Beet Sugar Coop	MN0040665	SW
Spokely Farms	MN0069981	SW
Spring Grove WWTP	MN0021440	SW
Spring Prairie Colony	MN0070467	SW
Spring Valley WWTP	MN0051934	SW
Springfield WWTP	MN0024953	SW
Springsteel Island Sanitary District	MN0068322	NE
St Louis County Highway Dept	MNG490140	NE
St Louis Park WTP	MNG640084	SW
Staples WWTP	MN0024988	SW
Starbuck WWTP	MN0021415	SW
Starland Hutterian Brethren Inc	MN0067334	SW
Steen WWTP	MNG585199	SW
Stephen WWTP	MNG585162	SW
Stewart WWTP	MN0053210	SW
Stewartville Sand	MNG490585	SW
Stewartville WWTP	MN0020681	SW
Stockton WWTP	MNG585079	SW
Stoney Creek Sand & Gravel	MNG490531	NE
Storden WWTP	MNG585106	SW
Strata Corp	MNG490108	Both NE / SW
Stussy Construction Inc	MNG490134	SW
SUEZ WTS Solutions USA Inc	MN0059013	SW
Sunburg WWTP	MNG585125	SW
Superior Minerals Co	MN0063584	SW
Superior Refining Company LLC - Duluth Petroleum Products	MN0041556	NE
Swanville WWTP	MN0020109	SW
Sweetman Sand & Gravel Inc	MNG490079	SW
Sysco Western Minnesota	MN0052728	SW
Taft Lake Flocculation Treatment Facility	MN0070173	SW
Tamarack WWTP	MN0064564	NE

Facility name	Permit number	Region
Tate & Lyle Americas LLC	MNG255070	NE
Taunton WWTP	MNG585090	SW
Taylors Falls WWTP	MNG580218	SW
Technical Die-Casting, Inc	MNG250065	SW
Terrace Point Development WWTP	MN0057436	SW
Thief River Falls Power Plant	MNG250058	SW
Thief River Falls WWTP	MN0021431	SW
Tower/Breitung WWTP	MNG585186	NE
Tracy WWTP	MN0021725	SW
Trident Seafoods - Motley	MNG250142	NE
Trimont WWTP	MN0022071	SW
Truman WTP	MNG640129	SW
Truman WWTP	MN0021652	SW
Twin Lakes WWTP	MNG585042	SW
Twin Ports Interchange Project	MNG790260	NE
Twin Valley WWTP	MNG585137	SW
Two Harbors WWTP	MN0022250	NE
Tyler WWTP	MNG585116	SW
U of M - Minnesota Library Access Center	MN0063436	SW
Ulen WWTP	MNG585088	SW
Ulland Brothers Inc	MNG490069	Both NE / SW
UMD - Coleraine Minerals Research Lab	MN0051802	NE
United & Children's Hospital	MN0002968	SW
United States Steel Corp - Keetac	MN0031879	NE
United Taconite LLC - Fairlane Plant	MN0052116	NE
United Taconite LLC - Thunderbird Mine	MN0044946	NE
Upsala WWTP	MNG585053	SW
Urbank WWTP	MNG585343	SW
US Air Force Reserve/934th Airlift Wing	MN0052141	SW
US Bank Stadium	MN0071188	SW
US EPA - MED-Duluth	MN0110914	NE
US Steel - Minntac Mining Area	MN0052493	NE
US Steel Corp - MN Ore Operations - Minntac Tailings Basin	MN0057207	NE
US Steel Corp - Tailings	MN0055948	NE
USCOE Leech Lake Rec Area WWTP	MN0110027	NE
USG Interiors LLC	MNG250102	NE
Utica WWTP	MN0022055	SW
Valero Renewable Fuels Co LLC - Welcome Plant	MN0068161	SW
Vergas WTP	MNG640119	SW
Vergas WWTP	MN0025097	SW
Vermillion WWTP	MN0025101	SW
Vernon Center WWTP	MN0030490	SW
Vesta WWTP	MNG585043	SW
Vetter Stone Co	MNG490173	SW
Viking WWTP	MNG585370	SW
Viracon Inc	MNG255078	SW

Facility name	Permit number	Region
Virginia Department of Public Utilities	MN0003379	NE
Virginia WWTP	MN0030163	NE
Wabasha WWTP	MN0025143	SW
Wabasso WWTP	MN0025151	SW
Wadena WWTP	MN0020672	SW
Wahkon WWTP	MNG585051	NE
Waldorf WWTP	MN0021849	SW
Walmart Supercenter 1757	MN0060372	NE
Walnut Grove WWTP	MN0021776	SW
Walters WWTP	MNG585223	SW
Waltham WWTP	MNG585380	SW
Wanamingo WWTP	MN0022209	SW
Wanda WWTP	MNG585126	SW
Warba WWTP	MN0020974	NE
Warren WWTP	MNG585073	SW
Warroad WWTP	MN0025194	NE
Waseca WWTP	MN0020796	SW
Watertown WWTP	MN0020940	SW
Waterville WWTP	MN0025208	SW
Waupaca NorthWoods LLC	MN0061549	NE
Welcome WWTP	MN0021296	SW
Wells Public Utilities	MN0025224	SW
Wencl Construction Inc	MNG490565	SW
Wendell WWTP	MN0051501	SW
West Concord WWTP	MN0025241	SW
Westbrook WWTP	MNG585127	SW
WestRock MN Corp	MN0048984	SW
Wheaton WWTP	MNG585044	SW
White Bear Township WTP	MNG640099	SW
Whitewater River Regional WWTP	MN0046868	SW
Williams WWTP	MN0021679	NE
Willmar WWTP	MN0025259	SW
Willow River WWTP	MN0021971	NE
Wilmont WWTP	MNG585200	SW
Winchester Interconnect Hermetics LLC	MNG255036	SW
Windom WWTP	MN0022217	SW
Winger WWTP	MN0046671	SW
Winnebago WWTP	MN0025267	SW
Winona GW/Leaf Services	MNG790164	SW
Winona WWTP	MN0030147	SW
Winsted WWTP	MN0021571	SW
Winthrop WWTP	MN0051098	SW
Winton WWTP	MNG585187	NE
Wisconsin Central Ltd	MN0053384	NE
Wisconsin Central Ltd - Two Harbors Facility	MN0049018	NE
Wisconsin Central Ltd Proctor Yard	MN0000361	NE

Facility name	Permit number	Region
Witte Brothers Inc	MNG490156	SW
WLSSD WWTP	MN0049786	NE
Wm D Scepaniak Inc	MNG490591	SW
Wm Mueller & Sons Inc	MNG490042	SW
Wolf Lake WWTP	MNG585226	SW
Wondra Pit	MNG490130	SW
Wood Lake WWTP	MNG580107	SW
Woodstock WWTP	MNG585192	SW
Worthington Industrial WWTP	MN0031178	SW
Worthington WTP	MNG640105	SW
Worthington WWTP	MN0031186	SW
Wykoff WWTP	MN0020826	SW
Xcel Energy - Allen S King Generating Plant	MN0000825	SW
Xcel Energy - Black Dog Generating Plant	MN0000876	SW
Xcel Energy - Fifth Street Substation	MN0003301	SW
Xcel Energy - High Bridge Combined Cycle Plant	MN0000884	SW
Xcel Energy - Key City/Wilmarth	MN0000914	SW
Xcel Energy - Minnesota Valley	MN0000906	SW
Xcel Energy – Monticello Nuclear Generating Facility	MN0000868	SW
Xcel Energy - Prairie Island Nuclear Plant	MN0004006	SW
Xcel Energy - Red Wing Generating Plant	MN0000850	SW
Xcel Energy - Rice Street Service Center	MN0060755	SW
Xcel Energy - Riverside Generating Plant	MN0000892	SW
Xcel Energy - Sherburne County Generating Plant	MN0002186	SW
Xcel Energy Hydrostatic Testing	MN0060089	SW

Attachment 4: EPA Response to Tribal Issues Raised during Tribal Consultation on the 2022 Revisions to the Statewide Mercury TMDL

Tribal Participants:

- **Fond du Lac Band of Lake Superior Chippewa (Minnesota)**
- **Leech Lake Band of Ojibwe (Minnesota)**
- **Match-e-be-nash-she-wish Band of Pottawatomi Indians (Michigan)**
- **Mille Lacs Band of Ojibwe (Minnesota)**
- **Oneida Nation (Wisconsin)**

Tribal Concern: Tribal representatives shared their concern that until mercury reduction goals are met by every sector, especially industrial facilities (i.e., mining facilities) in northern and northeastern Minnesota, the Statewide Mercury TMDL and other future mercury TMDL efforts in northern Minnesota will not achieve mercury reduction targets. Tribal representatives urged EPA to expedite its action on Maximum Achievable Control Technology (MACT) standards under the Clean Air Act, which they believe will help regulate mercury emissions from mining permittees and reduce mercury contributions from those permittees.

A tribal representative requested that EPA reconsider mercury emissions from air permittees in Minnesota as part of EPA's review of the 2022 Revisions to the Statewide Mercury TMDL but did not identify any specific facilities during consultation. Tribal representatives expressed the desire that regulatory agencies focus particularly on those areas whose air permittees may be disproportionately contributing to atmospheric mercury sources, although no specific facilities were identified.

EPA Response: EPA understands that water quality in northern Minnesota is of great concern to Tribes in Minnesota. Tribes hold judicially affirmed rights to hunt, fish, and gather throughout areas of northern Minnesota. EPA recognizes that tribal populations in northern Minnesota generally have higher risk of mercury exposure because their lifeways depend on greater consumption of fish than non-tribal populations. Additionally, children's mercury exposure can impair brain and nervous system development.[1]

EPA recognizes that industrial facilities in northern and northeastern Minnesota may contribute mercury to the airshed, via air emissions, and to the watershed via discharges of pollutants to surface waters from their facilities. As we have previously explained, if the Tribes are aware of facilities that are discharging elevated concentrations of mercury to receiving waters or are in violation of air permits, EPA recommends communicating those concerns to the Minnesota Pollution Control Agency (MPCA) for those sources on state lands, and to EPA for those sources within Indian country. EPA also encourages the Tribes to work with MPCA toward greater understanding of air deposition of mercury from in- and out-of-state sources.

As part of its ongoing oversight, EPA will continue to monitor implementation efforts of the Statewide Mercury TMDL and will share with MPCA the Tribes' concerns regarding the

[1] EPA webpage, https://www.epa.gov/mercury/health-effects-exposures-mercury, (last visited 3/2/22).

feasibility of attaining mercury reduction goals for the Statewide Mercury TMDL and other future mercury TMDL projects.

Additionally, EPA has shared tribal comments received with Mr. Ben Giwojna of Region 5's Air and Radiation Division. EPA invites tribal representatives to contact Mr. Giwojna directly at giwojna.benjamin@epa.gov to further discuss the status of the MACT standards and any other taconite air permit related inquiries.

Tribal Concern: A tribal representative stated that there are many mercury impaired waters in areas where Tribes exercise treaty rights or that are within the boundaries of tribal reservation lands and/or ceded territories that are not covered by the Statewide Mercury TMDL and whose water quality improvements may not be attained through the implementation efforts of this Statewide Mercury TMDL. The tribal representative advocates that additional action be taken, beyond the sector-specific reduction targets of Statewide Mercury TMDL, to reduce mercury contributions to surface waters and to biological communities.

EPA Response: The 2007 Statewide Mercury TMDL ("Statewide TMDL") does not cover all mercury-impaired waters in Minnesota, but rather, includes only those water bodies that do not meet designated uses for fish consumption because of exceedances within a limited range of the numeric mercury water column water quality standard (WQS) and/or fish tissue concentrations. The Statewide TMDL addresses waters with mercury fish tissue concentration exceedances that are equal to or above 0.2 mg/kg and those that are equal to or below 0.572 mg/kg. If the water body falls into the specified concentration range, that water body eventually should be restored via implementation efforts of the Statewide Mercury TMDL.[2] Any waters included in the Statewide TMDL are designated as Category 4A waters (i.e., impaired or threatened but a TMDL study has been approved by EPA[3]) and added to Appendix A of the Statewide TMDL, which is included as part of the State's Clean Water Act (CWA) Section 303(d) impaired waters submittal.

Those water bodies that have measured fish tissue mercury concentration values greater than 0.572 mg/kg are not covered by the Statewide TMDL and MPCA lists those as Category 5 impaired waters on its CWA Section 303(d) list. Minnesota intends to address these waters through separate TMDL development efforts, such as the St. Louis River Watershed Mercury TMDL, which addresses mercury impairments in the St. Louis River and Cloquet River Watersheds.[4]

EPA acknowledges the concern that certain waters in northern Minnesota are not being addressed by the Statewide Mercury TMDL because those waters have measured mercury concentrations above the threshold of 0.572 mg/kg. EPA regulations codify and interpret the

[2] MPCA webpage, https://www.pca.state.mn.us/quick-links/plan-reduce-mercury-releases-2025. (last visited 3/2/22).
[3] MPCA, *Guidance Manual for Assessing the Quality of Minnesota Surface Waters for Determination of Impairment: 305(b) Report and 303(d) List, 2022 Assessment and Listing Cycle*, wq-iw1-04l, p. 50, https://www.pca.state.mn.us/sites/default/files/wq-iw1-04l.pdf (last visited 3/2/22).
[4] MPCA webpage, https://www.pca.state.mn.us/water/st-louis-river-watershed-mercury-tmdl (last visited 3/2/22).

requirements of CWA Section 303(d)(1)(A) that states or approved Tribes establish a priority ranking for listed waters. The regulations at 40 C.F.R. Section 130.7(b)(4) require states or approved Tribes prioritize waters on their Section 303(d) lists for TMDL development, and identify those water quality limited segments targeted for TMDL development in the next two years. In prioritizing and targeting waters, states or approved Tribes must, at a minimum, take into account the severity of the pollution and the uses to be made of such waters. EPA does not approve these priority rankings.

EPA believes that implementation efforts undertaken consistent with the Statewide Mercury TMDL will generally help reduce overall mercury inputs to all the State's waters, including the State's existing Category 5 mercury waters. Category 5 waters will remain on Minnesota's CWA Section 303(d) Impaired Waters List until such time that MPCA develops a specific TMDL to address them, it can demonstrate that mercury concentration levels in those waters have decreased to a level where they can be addressed by the Statewide Mercury TMDL, or mercury in these waters decreases to below 0.2 mg/kg.

EPA will share concerns raised during consultation with MPCA regarding those waters that are not addressed through the Statewide Mercury TMDL, including what additional implementation actions and approaches may be feasible in northern Minnesota. In the interim, EPA encourages the Tribes to continue to collect mercury data and to continue to work with state agencies in their efforts to identify mercury impaired surface waters in northern Minnesota.

Tribal Concern: A tribal representative recommended that EPA encourage, and participate in, greater coordination between MPCA and the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) on mercury monitoring and fish consumption guidance.

EPA Response: EPA is part of the Technical Advisory Team for the St. Louis River Watershed Mercury TMDL, comprised of federal, state, tribal and university partners. EPA supports continued collaboration among federal, state and tribal partners on other mercury related topics. EPA understands that MPCA and other state agencies, along with federal, tribal and university partners continue to measure and analyze mercury water quality data in Minnesota surface waters. EPA encourages all interested parties to collaborate on identifying mercury impaired waters in Minnesota and on effectively and consistently communicating fish consumption guidance and fish consumption advisory information.

Facility list for Appendix B. Facilities covered by the Sand and Gravel general permit (MNG49) without dewatering discharge are not included.

Facility Name	Permit number	Region
3M - Cottage Grove	MN0001449	SW
7-Clans Casino WWTP	MNG585172	SW
AaCron Inc	MNG250002	SW
AB Mauri Food Inc dba Ohly Americas	MNG250099	SW
ACSC - East Grand Forks MN	MN0065846	SW
Ada WWTP	MNG585095	SW
Adams WWTP	MN0021261	SW
ADM Corn Processing - Marshall	MN0057037	SW
Adrian WWTP	MNG585001	SW
Ag Processing Inc - Dawson	MN0040134	SW
Aggregate Industries Inc - Larson	MN0030473	SW
Aggregate Industries Inc - Nelson Plant	MN0001309	SW
Agri-Energy	MN0064033	SW
Aitkin Agri-Peat Inc - Cromwell	MN0055662	NE
Aitkin Agri-Peat Inc - Floodwood Operation	MN0057428	NE
Aitkin agri-peat Inc - McGregor	MN0062375	NE
Aitkin WWTP	MN0020095	NE
Albany WWTP	MN0020575	SW
Albert Lea city of	MNG870006	no sd station
Albert Lea WTP	MNG640002	SW
Albert Lea WWTP	MN0041092	SW
Alberta WWTP	MNG585002	SW
Albertville WWTP	MN0050954	SW
Al-Corn Clean Fuel LLC	MN0063002	SW
Alden WWTP	MNG585118	SW
Alexandria Lake Area Sanitary District	MN0040738	SW
Alexandria Light & Power	MNG250004	SW
Alpha WTP	MNG640102	SW
Altona Hutterian Brethren WWTP	MNG585385	SW
Altura WWTP	MN0021831	SW
Alvarado WWTP	MNG585171	SW
Amboy WWTP	MN0022624	SW
American Crystal Sugar - Crookston	MN0001929	SW
American Crystal Sugar - East Grand Forks	MN0001937	SW
American Crystal Sugar - Moorhead	MN0001945	SW
American Peat Technology LLC	MN0057533	NE
AMPI - Paynesville	MN0044326	SW
Anchor Bay Mobile Home Park	MNG585058	NE
Anchor Glass Container Corp	MN0003042	SW
Andersen Corp	MN0001724	SW
Anderson Contracting Inc	MNG490109	NE
Anderson Custom Processing Inc	MNG255005	SW
Annandale/Maple Lake/Howard Lake WWTP	MN0066966	SW
Appleton WWTP	MN0021890	SW
ArcelorMittal Minorca Mine Inc	MN0055964	NE
ArcelorMittal Minorca Mine Inc - Laurentian	MN0059633	NE
Archer Daniels Midland Co	MNG250009	SW
Argyle WWTP	MNG585140	SW
Arkema Inc	MN0041521	SW
Arlington WWTP	MN0020834	SW
Ashby WWTP	MNG580087	SW
Askov WWTP	MNG585229	NE
Aspen Hills WWTP	MN0066028	SW
Atwater WWTP	MN0022659	SW
Audubon WWTP	MNG585148	SW
Aurora WWTP	MN0020494	NE
Austin WWTP	MN0022683	SW
Avoca & Iona WWTP	MNG585165	SW
Avon WWTP	MN0047325	SW
Babbitt WWTP	MN0020656	NE
Badger Foundry Company	MNG250010	SW
Badger WWTP	MNG585155	SW
BAE Systems Land & Armaments LP	MNG255087	SW
BAE Systems Land & Armaments-Minneapolis	MNG790184	SW
Bagley WWTP	MN0022691	NE
Balaton WWTP	MN0020559	SW
Barnesville WWTP	MN0022501	SW
Barnum WWTP	MNG585142	NE
Barrett WWTP	MN0022713	SW
Baudette WWTP	MNG585174	NE
Baytown GW Contamination Site	MNG790156	SW
Beaver Bay WWTP	MN0040754	NE
Beaver Creek WWTP	MNG585055	SW
Becker County Sanitary Landfill - Closed	MNG790128	SW
Becker WWTP	MN0025666	SW
Bel Clare Estates WWTP	MN0045721	SW
Belgrade WWTP	MN0051381	SW
Belle Plaine WWTP	MN0022772	SW
Bellechester WWTP	MN0022764	SW
Bellingham WWTP	MNG585152	SW
Beltline Blvd and MN-7 Development	MNG790276	SW
Belview WWTP	MNG585003	SW
Bemidji WWTP	MN0022462	NE
Benson WWTP	MN0020036	SW
Benton Utilities WWTP	MN0065391	SW
Berger Horticultural Products - Pine Island Bog	MN0066052	NE

Facility Name	Permit number	Region
Bertha WWTP	MNG585371	SW
Big Falls WWTP	MNG585135	NE
Big Lake WWTP	MN0041076	SW
Big Stone Hutterite Colony	MNG585168	SW
Bigelow WWTP	MNG585224	SW
Bigfork WWTP	MNG585363	NE
Bird Island WWTP	MNG585390	SW
Biwabik WWTP	MN0053279	NE
Blomkest Svea Sewer Board WWTP	MNG585372	SW
Blooming Prairie WWTP	MN0021822	SW
Blue Earth WWTP	MN0020532	SW
Bluefin Bay on Lake Superior WWTP	MN0054593	NE
BNSF Railway Co - Willmar	MN0000779	SW
Boise White Paper LLC	MN0001643	NE
Bongards' Creameries - Perham	MN0047228	SW
Bongards' Creameries Inc	MN0002135	SW
Boomerang Laboratories Inc	MN0066508	SW
Borup WWTP	MN0022853	SW
Bovey WTP	MNG640018	NE
Bowlus WWTP	MN0020923	SW
BP Pipelines North America Inc	MN0063754	SW
Braham WWTP	MN0022870	SW
Brainerd WWTP	MN0049328	NE
Brakemeier Properties Inc	MN0054518	SW
Breckenridge WWTP	MN0022900	SW
Brewster WWTP	MN0021750	SW
Bricelyn WWTP	MNG585129	SW
Brooten WWTP	MNG585271	SW
Browerville WWTP	MN0022926	SW
Brownsdale WWTP	MN0022934	SW
Brownsville WWTP	MN0053562	SW
Brownton WWTP	MN0022951	SW
Buffalo Lake WWTP	MNG585373	SW
Buffalo WWTP	MN0040649	SW
Butterfield WWTP	MN0022977	SW
Byron WWTP	MN0049239	SW
Calco of Minneapolis	MN0059960	SW
Caledonia WWTP	MN0020231	SW
Calumet Superior LLC - Duluth Petroleum	MN0041556	NE
Cambridge WWTP	MN0020362	SW
Camp Ripley	MN0025721	SW
Camp Ripley - Area 22 Washrack	MN0063070	SW
Camp Victory WWTP	MN0067032	SW
Campbell WWTP	MNG585130	SW
Canby WWTP	MNG585154	SW
Cannon Falls WWTP	MN0022993	SW
Canton WWTP	MN0023001	SW
Captain Ken's Foods Inc	MN0059765	SW
Cargill AgHorizons - East and West Elevator Dredge	MN0062201	SW
Cargill Meat Solutions	MNG255077	SW
Carlos WWTP	MN0023019	SW
Cedar Mills WWTP	MN0066605	SW
CenterPoint Energy - GWTF	MN0063126	SW
CenterPoint Energy - Waterville	MN0063967	SW
CenterPoint Energy Distribution System	MN0063649	SW
Central Boiler, Inc	MNG250110	SW
Central City Tunnel	MNG790264	SW
Central Iron Range Sanitary Sewer District WWTP	MN0020117	NE
Ceylon WWTP	MNG585006	SW
CF Industries Distribution Facilities LLC - Pine Bend Terminal	MN0069418	SW
Chandler WWTP	MN0039748	SW
Chatfield WWTP	MN0021857	SW
Chisago Lakes Joint STC	MN0055808	SW
CHL Holding LLC	MN0053252	NE
Chokio WTP	MNG640022	SW
Chokio WWTP	MNG585007	SW
CHS	MN0068969	SW
CHS Inc - Savage	MN0068454	SW
CHS Mankato	MN0001228	SW
CITY OF MOORHEAD	MNG870008	no sd station
City of Willmar	MNG870004	no sd station
Clara City WWTP	MN0023035	SW
Claremont WWTP	MN0022187	SW
Clarissa WWTP	MNG585008	SW
Clarkfield WWTP	MNG585093	SW
Clarks Grove WWTP	MNG585067	SW
Clear Lake/Clearwater WWTP	MN0047490	SW
Clearbrook WWTP	MNG585098	SW
Clements WWTP	MNG585094	SW
Cleveland WWTP	MNG585009	SW
Cliffs - Dunka Mining Area	MN0042579	NE
Cliffs Erie LLC - Mine Area	MN0042536	NE
Cliffs Erie-Taconite Harbor Dock	MN0067962	NE
Climax WWTP	MN0023060	SW
Clinton WWTP	MNG585193	SW
Clontarf WWTP	MNG585108	SW
Cokato WWTP	MN0049204	SW
Cold Spring Granite Co	MNG490143	Both NE / SW
Cold Spring Granite Co - Main Campus	MN0062481	SW

Facility Name	Permit number	Region
Cold Spring WWTP	MN0023094	SW
Coleraine-Bovey-Taconite Joint WWTP	MN0053341	NE
Cologne WWTP	MN0023108	SW
Comfrey WWTP	MN0021687	SW
Community of Roseland WWTP	MNG585393	SW
Comstock WWTP	MNG585131	SW
ConAgra Foods Packaged Foods LLC	MN0001686	SW
Concord Street Pipe Jacking	MNG790277	SW
Conger WWTP	MNG585222	SW
Cook WWTP	MNG585179	NE
Corey's Quarry	MNG490165	NE
Cormorant Park Place Estates	MN0067440	SW
Cosmos WWTP	MNG585056	SW
Cottonwood WWTP	MNG585010	SW
Covia Holdings Corp - Kasota Plant	MN0053082	SW
Covia Holdings Corp - Ottawa Plant	MN0001716	SW
Crane Lake WWTP	MN0066371	NE
Cromwell WWTP	MN0051101	NE
Crookston WWTP	MN0021423	SW
Crosslake WWTP	MN0064882	NE
Crystal Lake Flocculation Treatment Facility	MN0069957	SW
Currie WWTP	MN0025682	SW
Dairy Farmers of America Inc - Winthrop	MN0003671	SW
Danfoss	MNG255120	SW
Danube WWTP	MNG585057	SW
Danvers WWTP	MNG585119	SW
Darling International Inc - Blue Earth	MN0002313	SW
Darwin WWTP	MNG585150	SW
Dassel WWTP	MN0054127	SW
Dawson WWTP	MN0021881	SW
Deer Creek WWTP	MNG585180	SW
Deer River WWTP	MN0051616	NE
DeGraff WWTP	MN0071234	SW
Delano WTP	MNG640123	SW
Delano WWTP	MN0051250	SW
Delavan WWTP	MNG585109	SW
Delft Sanitary District WWTP	MN0066541	SW
Delhi WWTP	MN0067008	SW
Delta Air Lines Inc - Mpls/Saint Paul	MN0054194	SW
DENCO II LLC	MN0060232	SW
Dennison WWTP	MN0022195	SW
Detroit Lakes Water Reclamation Facility	MN0020192	SW
Dexter WWTP	MNG585228	SW
Dodge Center WWTP	MN0021016	SW
Duininck Inc	MNG490046	SW
Duluth Energy Systems/Ever-Green Energy	MN0055719	NE
Duluth Seaway Port Authority	MN0052612	NE
Dumont WWTP	MN0064831	SW
Dundee WWTP	MNG585349	SW
Dunnell WWTP	MNG585279	SW
Dyno Nobel Inc	MN0060704	NE
Eagle Bend WWTP	MNG585383	SW
Earth, Ponds and Beyond LLC	MNG490560	SW
East County Gas Line	MNG790279	SW
East Grand Forks WWTP	MN0021814	Changed permit type, no surface discharge
East Gull Lake WWTP	MN0059871	NE
Echo WWTP	MNG585059	SW
Eden Prairie Well House 6 & 7	MNG250084	SW
Edgerton WWTP	MNG585011	SW
Effie WWTP	MN0067555	NE
Eitzen WWTP	MN0049531	SW
Elbow Lake WWTP	MN0051535	SW
Elizabeth WWTP	MNG585012	SW
Elk River Municipal Utilities	MNG250016	SW
Elk River WWTP	MN0020788	SW
Elkton WWTP	MNG585013	SW
Ellendale WWTP	MNG585014	SW
Ellsworth WWTP	MNG585015	SW
Elmore WWTP	MNG585110	SW
Ely WTP	MNG640109	NE
Ely WWTP	MN0020508	NE
Elysian WWTP	MNG585285	SW
Emmons WWTP	MN0023311	SW
Enbridge Energy Ltd - Clearbrook	MN0056324	Both NE / SW
Encore Mineral Resources LLC	MN0020249	NE
Essar Steel Minnesota LLC	MN0068241	NE
Evan WWTP	MNG585202	SW
Evansville WWTP	MNG585074	SW
Eveleth WTP	MNG640031	NE
Eveleth WWTP	MN0023337	NE
Fabcon Inc	MN0068284	SW
Fairfax WWTP	MNG585060	SW
Fairmont Foods Inc	MN0001996	SW
Fairmont WTP	MN0045527	SW
Fairmont WWTP	MN0030112	SW
Faribault Foods Inc	MN0050491	SW
Faribault WWTP	MN0030121	SW
Farwell Kensington Sanitary District WWTP	MNG585220	SW
Federal Dam WWTP	MN0063487	NE

Facility Name	Permit number	Region
Federal-Mogul Powertrain LLC	MN0001147	SW
Felton WWTP	MNG585149	SW
Fergus Falls WWTP	MN0050628	SW
Fertile WWTP	MNG585138	SW
Finlayson WWTP	MNG585203	NE
Fisher WWTP	MNG585170	SW
Flensburg WWTP	MNG585016	SW
Flint Hills Resources Pine Bend Refinery	MN0000418	SW
Flint Hills RPB Airport & Wisconsin Pipelines	MN0064696	SW
Floodwood WWTP	MN0023442	NE
Foley WWTP	MN0023451	SW
Foremost Farms USA Cooperative	MN0001333	SW
Forest Hills Golf & RV Resort WWTP	MN0056685	SW
Foreston WWTP	MNG585017	SW
Former Moose Lake Oil and Tire Inc	MNG790284	NE
Former Naval Industrial Reserve Ordinance Plant	MNG790159	SW
Fosston WWTP	MN0022128	SW
Fountain WWTP	MN0050873	SW
Franklin Heating Station	MN0041271	SW
Franklin WWTP	MN0021083	SW
Freeborn WWTP	MNG585018	SW
Freeport WWTP	MNG585019	SW
Frost WWTP	MNG585120	SW
Fulda WWTP	MNG585188	SW
GAF Materials Corp	MN0002119	SW
Garfield WWTP	MNG585158	SW
Garvin WWTP	MN0029602	SW
Gary WWTP	MNG585175	SW
Gascoyne Materials Handling & Recycling LLC	MN0069612	SW
Gaylord WWTP	MNG585204	SW
GE Osmonics Inc	MN0059013	SW
GEM Sanitary District	MNG585205	SW
Geneva WWTP	MNG585292	SW
Georgetown WWTP	MNG585132	SW
Gerdau Ameristeel - Duluth	MNG250105	SW
Ghent WWTP	MNG585121	SW
Gibbon WWTP	MNG585020	SW
Gilbert WWTP	MN0020125	NE
Gilman WWTP	MNG585021	SW
Glacial Lakes SSWD	MN0052752	SW
Glencoe WWTP	MN0022233	SW
Glenville WWTP	MN0021245	SW
Glyndon WWTP	MN0020630	SW
Gonvick WWTP	MN0020541	SW
Good Thunder WWTP	MNG585206	SW
Goodhue WWTP	MN0020958	SW
Goodridge WWTP	MNG585022	SW
Graceville WWTP	MN0023540	SW
Granada WWTP	MNG585023	SW
Grand Marais WWTP	MN0020010	NE
Grand Meadow WWTP	MN0023558	SW
Grand Rapids WWTP	MN0022080	NE
Granite Falls Energy LLC	MN0066800	SW
Granite Falls WWTP	MN0021211	SW
Grasston WWTP	MN0025691	SW
Great Lakes Aquarium	MNG250101	NE
Great Lakes Gas Transmission LP	MN0052540	NE
Great River Energy - Cambridge	MN0068098	SW
Great River Energy - Lakefield Junction Station	MN0067709	SW
Great River Energy - Pleasant Valley Station	MN0067717	SW
Great River Energy of Dickinson	MN0049077	SW
Green Plains Fairmont LLC	MN0068063	SW
Green Plains Otter Tail LLC	MN0068357	SW
Greenbush School ISD 2683	MNG790273	SW
Greenbush WWTP	MNG585156	SW
Greenfield WWTP	MN0063762	SW
Grey Eagle WWTP	MN0023566	SW
Grove City WWTP	MN0023574	SW
Grygla WWTP	MNG585139	SW
Hallmark Terrace WWTP	MN0030368	SW
Hallock WWTP	MNG585147	SW
Halstad WWTP	MN0020770	SW
Hamburg WWTP	MNG585386	SW
Hammond WWTP	MN0066940	SW
Hampton WWTP	MN0021946	SW
Hancock WWTP	MNG585299	SW
Hanley Falls WWTP	MNG585122	SW
Hanska WWTP	MN0052663	SW
Hardwick WWTP	MNG585194	SW
Harmony WWTP	MN0022322	SW
Harris WWTP	MN0050130	SW
Hartland WWTP	MNG585102	SW
Haven Hutterian Brethren	MNG585071	SW
Hawkes Co Inc - Peat Harvesting	MN0062715	SW
Hawley WWTP	MN0020338	SW
Hayfield WWTP	MN0023612	SW
Hayward WWTP	MNG585391	SW
HB Fuller Co - Willow Lake	MN0051811	SW
Heartland Corn Products	MN0062561	SW

Facility Name	Permit number	Region
Heartland Hutterian Brethren/Heartland Colonies	MNG585195	SW
Hector WWTP	MN0025445	SW
Hendricks WWTP	MNG585377	SW
Hendrum WWTP	MNG585176	SW
Hennepin County Energy Center	MN0057509	SW
Hennepin Energy Recovery Center	MN0057525	SW
Herman WWTP	MNG585177	SW
Heron Lake BioEnergy LLC	MN0067385	SW
Heron Lake WWTP	MNG585189	SW
Hewitt WWTP	MNG585024	SW
Hiawatha Metalcraft Inc	MNG250061	SW
Hibbing Taconite Co	MN0001465	NE
Hibbing Taconite Co - Tails Basin Area	MN0049760	NE
Hibbing WWTP South Plant	MN0030643	NE
Highwater Ethanol LLC	MN0068586	SW
Hill City WWTP	MNG585182	NE
Hills WWTP	MNG585196	SW
Hinckley WWTP	MN0023701	SW
Hitterdal WWTP	MNG585178	SW
Hoffman WWTP	MNG585134	SW
Hokah WWTP	MN0021458	SW
Holcim - Pit 21	MN0069515	SW
Holdingford WWTP	MN0023710	SW
Holland WWTP	MN0021270	SW
Hollandale WWTP	MNG585374	SW
Honeywell - Aerospace Minneapolis	MN0042641	SW
Hope - Somerset Township WWTP	MN0068802	SW
Hope Creamery, LLC	MN0001317	SW
Hopkins Well 4 WTP	MNG640045	SW
Hormel Foods Corp/Quality Pork Processors (QPP)	MN0050911	SW
Houston WWTP	MN0023736	SW
Hoyt Lakes WWTP	MN0020206	NE
Hubbard Feeds Inc - Worthington	MN0033375	SW
Hutchinson WWTP	MN0055832	SW
Iron Junction WWTP	MNG585049	NE
Isanti WWTP	MN0023795	SW
ISD 2142 Pre-Kindergarten to Grade 12 N School	MN0069850	NE
ISD 2853 Lac qui Parle Valley High School	MNG585091	SW
ISD 363 - Indus School	MN0049263	NE
Isle WWTP	MN0023809	NE
Ivanhoe WWTP	MNG585103	SW
Jackson WWTP	MN0021377	SW
Janesville WWTP	MNG585025	SW
Jasper WWTP	MNG585026	SW
JC and J Trucking	MNG490595	SW
Jeffers WWTP	MNG585111	SW
Jordan WWTP	MN0020869	SW
JR Enterprise LLC	MNG490604	SW
Karlstad WWTP	MNG585146	SW
Kasota Stone Fabricators Inc - L231	MNG490404	Both NE / SW
Kasson WWTP	MN0050725	SW
Keewatin Taconite Operations - Tailings	MN0055948	NE
Keewatin WWTP	MN0022012	NE
Kelliher WWTP	MNG585068	NE
Kellogg WWTP	MNG585027	SW
Kemps, LLC - Farmington	MNG250109	SW
Kennedy WWTP	MNG585028	SW
Kenyon WWTP	MN0021628	SW
Kerkhoven WWTP	MN0020583	SW
Kern Residence	MNG790281	NE
Kerry Inc	MNG250047	SW
Kettle River WWTP	MNG585183	NE
Kiester WWTP	MNG585097	SW
Kilkenny WWTP	MNG585084	SW
Knife River Central Minnesota	MNG490003	Both NE / SW
Koch - Wood River Pipeline	MN0064700	SW
Koch Inc - Quarry 3	MNG490112	SW
Kraemer Mining & Materials - Burnsville	MN0002224	SW
Kraemer Mining & Materials - Mille Lacs	MN0067806	NE
Kwik Trip #1255	MNG790282	SW
L G Everist Inc	MNG490313	SW
La Salle WWTP	MN0067458	SW
Lafayette WWTP	MN0023876	SW
Lake Andrew WWTP	MN0067733	SW
Lake Benton WWTP	MN0023884	SW
Lake Bronson WWTP	MNG585029	SW
Lake City WWTP	MN0020664	SW
Lake Crystal WWTP	MN0055981	SW
Lake Henry WWTP	MN0020885	SW
Lake Lillian WWTP	MNG585225	SW
Lake Park WWTP	MNG585157	SW
Lake Wilson WWTP	MNG585061	SW
Lakefield WWTP	MN0020427	SW
Lakeside Foods Inc - Owatonna Plant	MN0001571	SW
Lakeside Foods Inc - Plainview	MN0047465	SW
Laketown Community WWTP	MN0054399	SW
Lamberton WWTP	MNG585100	SW
Lancaster WWTP	MNG585066	SW
Lanesboro State Fish Hatchery	MN0004430	SW

Facility Name	Permit number	Region
Lanesboro WWTP	MN0020044	SW
Lansing Township WWTP	MN0063461	SW
Le Center WWTP	MN0023931	SW
Le Roy WWTP	MN0021041	SW
Le Sueur Cheese Co	MN0060216	SW
Le Sueur WWTF	MN0068195	SW
Leota Sanitary District WWTP	MNG585219	SW
Lester Prairie WWTP	MN0023957	SW
Lewiston WWTP	MN0023965	SW
Lewisville WWTP	MNG585314	SW
LG Everist Inc	MN0068764	SW
Lincoln Pipestone Rural Wtr Holland Well	MN0064351	SW
Linwood Terrace	MN0054372	SW
Lismore WWTP	MNG585076	SW
Litchfield WWTP	MN0023973	SW
Little Falls WTP	MN0003182	SW
Little Falls WWTP	MN0020761	SW
Littlefork WWTP	MNG585081	NE
Long Prairie Ground Water Remediation	MNG790134	SW
Long Prairie WWTP - Municipal	MN0066079	SW
Longville WWTP	MNG585208	NE
Lonsdale WWTP	MN0031241	SW
Lookout Mountain Village WWTP	MN0060691	NE
Loretto WWTP	MN0023990	Changed permit type, no surface discharge
Lowry WWTP	MNG585123	SW
Lucan WWTP	MN0031348	SW
Luverne WTP - Plant 1	MNG640056	SW
Luverne WWTP	MN0020141	SW
Lyle WWTP	MN0022101	SW
Lynd WWTP	MNG585030	SW
Mabel WWTP	MN0020877	SW
MAC-Minneapolis/St Paul Intl Airport-GWP	MN0065404	SW
Madelia WWTP	MN0024040	SW
Madison WWTP	MN0051764	SW
Magellan Pipeline Co LP - Hydrostatic	MN0063304	SW
Magellan Pipeline Co LP - Marshall	MN0059838	SW
Magellan Pipeline Co LP - Saint Paul Terminal	MN0045896	SW
Magellan Pipeline Company - Rochester	MN0059820	SW
Magellan Pipeline Pump Station	MN0060976	NE
Magnolia WWTP	MNG585190	SW
Mankato Water Resource Recovery Facility	MN0030171	SW
Mapleton WWTP	MN0021172	SW
Marble WWTP	MN0020214	NE
Marietta WWTP	MNG585160	SW
Marshall WWTP	MN0022179	SW
Martin Marietta Materials Inc - Saint Cloud Quarry	MN0004031	SW
Martin Marietta Materials Inc - Yellow Medicine	MNG490195	SW
Marvin Windows and Doors	MN0055026	NE
Mathiowetz Construction Co	MNG490137	SW
Mathy Construction - Aggregate	MNG490081	SW
Mayer WWTP	MN0021202	SW
Maynard WWTP	MN0056588	SW
Mazeppa WWTP	MN0046752	SW
McGregor WWTP	MN0024023	NE
McIntosh WWTP	MNG585031	SW
McKinley WWTP	MNG585367	NE
McLaughlin Gormley King Co	MN0058033	SW
MDNR Crystal Springs State Fish Hatchery	MN0004421	SW
MDNR Father Hennepin State Park	MN0033723	NE
MDNR Itasca State Park	MN0033758	Changed permit type, no surface discharge
MDNR Myre Big Island State Park	MN0033740	SW
MDNR Peterson State Fish Hatchery	MN0061221	SW
MDNR Soudan State Park	MN0060151	NE
MDNR Spire Valley Hatchery	MN0069710	NE
ME Global Inc	MN0053830	NE
Meadowlands WWTP	MNG585034	NE
Meadows of Whisper Creek WWTP	MN0066753	SW
Medford Sand & Gravel	MNG490273	SW
Medford WWTP	MN0024112	SW
Medivators	MN0063541	SW
Melrose WWTP	MN0020290	SW
Menahga WWTP	MNG585032	SW
Meriden Township WWTP	MNG585319	SW
Mesabi Mining Area	MN0069078	NE
Mesabi Nugget Delaware LLC	MN0067687	NE
Met Council - Blue Lake WWTP	MN0029882	SW
Met Council - Empire WWTP	MN0045845	SW
Met Council - Mississippi Basin Total Phosphorus	MN0070629	SW
Met Council - Rogers WWTP	MN0029629	SW
Met Council - Saint Croix Valley WWTP	MN0029998	SW
Met Council - Seneca WWTP	MN0030007	SW
Met Council Eagles Point WWTP	MN0029904	SW
Met Council Hastings WWTP	MN0029955	SW
Met Council Metropolitan WWTP	MN0029815	SW
Metal Matic Inc	MNG255065	SW
Metropolitan Airports Commission	MN0002101	SW
Metropolitan Mosquito Control District	MNG870001	no sd station
MG Waldbaum Co	MN0060798	SW
MHC Cimarron LLC - Cimarron Park & Golf	MN0050636	SW

Facility Name	Permit number	Region
Middle River WWTP	MNG585163	SW
Milaca WWTP	MN0024147	SW
Milan WWTP	MNG585141	SW
Milestone Materials - Golberg Quarry	MN0062227	SW
Milestone Materials - North Quarry	MN0069523	SW
Milestone Materials - Stewartville I-90 Quarry 496	MN0069531	SW
Millerville WWTP	MN0054305	SW
Milroy WWTP	MNG585124	SW
Miltona WWTP	MN0024155	SW
Minn-Dak Farmers Cooperative	MN0070386	SW
Minneapolis Water Works - Fridley	MN0003247	SW
Minneota WWTP	MNG585033	SW
Minnesota City WWTP	MN0069817	SW
Minnesota Department of Agriculture	MNG870002	no sd station
Minnesota Paving and Materials - Mankato	MNG490131	SW
Minnesota Pipe Line Co	MN0056472	NE
Minnesota Power - Hibbard Renewable Energy Center	MN0001015	NE
Minnesota Power - Laskin Energy Center	MN0000990	NE
Minnesota Power - Taconite Harbor Energy Center	MN0002208	NE
Minnesota Power Inc - Arrowhead HVDC	MN0046256	NE
Minnesota Power Inc - Boswell Energy Ctr	MN0001007	NE
Minnesota Power Inc - Rapids Energy Ctr	MN0066559	NE
MNDNR Division of Fisheries and Wildlife	MNG870005	no sd station
MNDOT - Heath Creek Rest Area	MN0069639	SW
MNDOT Albert Lea Travel Information Ctr	MN0044458	SW
MNDOT Enterprise Rest Area	MN0048844	SW
MNDOT Straight River Rest Area	MN0049514	SW
Modern Ready Mix, Inc	MNG490293	SW
Montevideo WWTP	MN0020133	SW
Montgomery WWTP	MN0024210	SW
Monticello WWTP	MN0020567	SW
Montrose WWTP	MN0024228	SW
Moorhead WWTP	MN0049069	SW
Moose Lake WWTP	MN0020699	NE
Mora WWTP	MN0021156	SW
Morgan WWTP	MN0020443	SW
Morris WWTP	MN0021318	SW
Morristown WWTP	MN0025895	SW
Morton WWTP	MN0051292	SW
Mosaic Crop Nutrition LLC - Pine Bend Warehouse	MN0064521	SW
Motley WWTP	MN0024244	NE
Mountain Iron WWTP	MN0040835	NE
Mountain Lake WWTP	MN0021466	SW
Murdock WWTP	MNG585086	SW
Nashwauk WWTP	MN0053392	NE
Nerstrand WWTP	MN0065668	SW
Neuhof Hutterian Brethren	MNG585113	SW
New Brighton WTP No 4 - Well 10	MNG640068	SW
New Germany WWTP	MN0024295	SW
New Pirates Cove LLC	MN0066109	SW
New Prague Utilities	MNG640117	SW
New Prague WWTP	MN0020150	SW
New Richland WWTP	MN0021032	SW
New Ulm WWTP	MN0030066	SW
New York Mills WTP	MNG640121	SW
Newfolden WWTP	MNG585145	SW
Nicollet WWTP	MNG585037	SW
Nielsville WWTP	MNG585166	SW
Nilfisk-Advance Inc	MN0066648	SW
NKASD WWTP	MN0020257	SW
North Branch WWTP	MN0024350	SW
Northern Con-Agg LLP - Redwood Falls	MN0059331	SW
Northern Natural Gas Co	MN0050041	NE
Northfield WWTP	MN0024368	SW
Northland Pier	MN0069141	NE
Northome WWTP	MNG585185	NE
Northrop WWTP	MN0024384	SW
Northshore Mining - Silver Bay	MN0055301	NE
Northshore Mining Co - Babbitt	MN0046981	NE
Northstar Materials Inc dba Knife River Materials	MNG490038	Both NE / SW
Northwoods Ice of Bemidji Inc	MNG250027	NE
Norwood Young America WWTP	MN0024392	SW
NuStar - Moorhead Terminal	MN0000485	SW
NuStar - Pipeline Cooridor	MN0066141	SW
NuStar - Sauk Centre Terminal	MN0057771	SW
Nu-Tek BioSciences LLC	MNG250143	SW
Oakland Sanitary District WWTP	MN0040631	SW
Odessa WWTP	MNG585099	SW
Odin-Ormsby WWTP	MNG585369	SW
Ogilvie WWTP	MN0021997	SW
Okabena WWTP	MN0050288	SW
Oklee WWTP	MNG585038	SW
Olivia WWTP	MN0020907	SW
Onamia WWTP	MN0052906	NE
Order of St Benedict WWTP	MN0022411	SW
Order of St Benedict/St John's Abbey	MN0046035	SW
Oronoco WWTP	MN0071421	SW
Orr WWTP	MN0024422	NE
Ortonville WWTP	MNG585151	SW

Facility Name	Permit number	Region
Osakis WWTP	MN0020028	SW
O'Shaughnessy Distillery	MNG250141	SW
Oslo WWTP	MNG585379	SW
Ostrander WWTP	MN0024449	SW
Otsego East WWTP	MN0064190	SW
Otsego WWTP West	MN0066257	SW
Otter Tail Power Co - General Office	MNG250043	SW
Owatonna WWTP	MN0051284	SW
Owens Corning - Minneapolis Plant	MN0048810	SW
Palisade WWTP	MN0050997	NE
Paul Shain & Sons Inc	MNG490700	NE
Pease WWTP	MNG585167	SW
Peerless Chain Co	MN0001325	SW
Pelican Rapids WWTP	MN0022225	SW
Pemberton WWTP	MNG585075	SW
Pennock WWTP	MNG585104	SW
Pentagon Materials Inc	MNG490250	SW
Perham Resource Recovery Facility	MN0067415	SW
Perley WWTP	MNG585326	SW
Peterson WWTP	MN0024490	SW
Pilgrims	MN0047261	SW
Pillager WWTP	MNG585209	NE
Pine City WWTP	MN0021784	SW
Pine Island WWTP	MN0024511	SW
Pine River Area Sanitary District	MN0046388	NE
Pipestone WWTP	MN0054801	SW
Plainview Milk Products Coop	MN0000311	SW
Plainview-Elgin Sanitary District	MN0055361	SW
Plaisted Companies Inc	MNG490185	SW
Plummer WWTP	MNG585327	SW
PM Beef Holdings LLC Windom	MN0067482	SW
POET Biorefining - Bingham Lake	MN0063118	SW
POET Biorefining - Glenville LLC	MN0065692	SW
POET Biorefining - Lake Crystal	MN0067172	SW
POET Biorefining - Preston	MN0064017	SW
Polar Semiconductor LLC	MN0064661	SW
Poly Met Mining, Inc.	MN0054089	NE
Porter WWTP	MNG585128	SW
Prairie Farms Dairy Inc - Caves of Faribault	MNG255092	SW
Premier Horticulture Inc - Black Lake and Wright Bogs - Plant Site	MN0055115	NE
Preston WWTP	MN0020745	SW
Primary Products Ingredients Americas LLC	MNG255070	NE
Princeton WWTP	MN0024538	SW
Prinsburg WWTP	MN0063932	SW
Prior Lake/Spring Lake Ferric Chloride WTP	MN0067377	SW
Puris Proteins LLC	MN0048968	SW
Racine WWTP	MN0024554	SW
Radio Tower Bay Restoration	MN0070611	NE
Rahr Malting Co	MN0031917	SW
Randall WWTP	MN0024562	SW
Raymond WWTP	MNG585197	SW
Red Lake Falls WWTP	MNG585161	SW
Red Rock Rural WS - Windom WTP No 1	MNG640077	SW
Red Wing WWTP	MN0024571	SW
Redwood Falls WWTP	MN0020401	SW
Remer WWTP	MNG585210	NE
Renville WWTP	MN0020737	SW
Resideo - Golden Valley	MNG255088	SW
Revere WWTP	MNG585114	SW
Rice WWTP	MN0056481	SW
Rich Prairie Sewer Treatment Facility	MNG585211	SW
Richmond WWTP	MN0024597	SW
RJ Zavoral and Sons Inc	MNG490590	SW
Robinson Rubber Products Co Inc	MNG250048	SW
Rochester Athletic Club	MN0062537	SW
Rochester WWTP/Water Reclamation Plant	MN0024619	SW
Rock County Rural WTP	MNG640079	SW
Rockford WWTP	MN0024627	SW
Rollingstone WWTP	MNG585078	SW
Rose Creek WWTP	MN0024651	SW
Roseau WWTP	MN0024643	SW
Rothsay WWTP	MNG585064	SW
Round Lake WWTP	MNG585198	SW
Royalton WWTP	MN0020460	SW
RTP Co	MN0053350	SW
Rush City WWTP	MNG585212	SW
Rushford WWTP	MN0024678	SW
Rushmore WWTP	MNG585201	SW
Russell WWTP	MNG585062	SW
Ruthton WWTP	MNG585105	SW
Sabin WWTP	MNG585133	SW
Sacred Heart WWTP	MN0024708	SW
Saint Anthony WTP	MNG640081	SW
Saint Clair WWTP	MN0024716	SW
Saint Cloud Nutrient Energy and Water Recovery Facility	MN0040878	SW
Saint Croix Forge Inc	MN0069051	SW
Saint Francis WWTP	MN0021407	SW
Saint George District Sewer System	MN0064785	SW
Saint Hilaire WWTP	MNG585334	SW

Facility Name	Permit number	Region
Saint James WWTP	MN0024759	SW
Saint Leo WWTP	MN0024775	SW
Saint Louis County Highway Dept	MNG490140	NE
Saint Louis Park WTP	MNG640084	SW
Saint Martin WWTP	MN0024783	SW
Saint Michael WWTP	MN0020222	SW
Saint Paul Park Refining Co LLC	MN0000256	SW
Saint Paul Port Authority-Multiple Dredge/Southport Terminal Storage Site	MN0056081	SW
Saint Paul Regional Water Services	MN0045829	SW
Saint Peter WWTP	MN0022535	SW
Sanborn WWTP	MNG585115	SW
Sandstone WWTP	MN0056910	NE
Sappi Cloquet LLC	MN0001431	NE
Saputo Cheese USA Inc	MNG255067	SW
Sargeant WWTP	MNG585214	SW
Sauk Centre WWTP	MN0024821	SW
Savage Riverport LLC	MN0069035	SW
Savage Riverport LLC	MNG790237	SW
Schumacher Sand Pit	MNG490320	SW
Searles WWTP	MNG585080	SW
Sebeka WWTP	MN0024856	SW
Seneca Foods Corp	MN0001279	SW
Seneca Foods Corp - Blue Earth	MN0001287	SW
Seneca Foods Corp - Glencoe	MN0001236	SW
Serpent Lake WWTP	MNG585215	NE
Shafer WWTP	MN0030848	SW
Shelly WWTP	MNG585227	SW
Sherburn WWTP	MN0024872	SW
Shetek Area Water & Sewer District WWTP	MN0070947	SW
Shorewood Park Sanitary District	MNG580216	SW
Silver Bay WWTP	MN0024899	SW
Silver Lake WWTP	MNG585164	SW
Sioux Trail Quarry - Pit 7	MNG490685	SW
SkyWater Technology Foundry	MN0056723	SW
Slayton WWTP	MNG585191	SW
Sleepy Eye WWTP	MNG585041	SW
Sobieski WWTP	MNG585217	SW
Solvay dba Cytec Engineered Materials Inc	MNG255099	SW
Southern Minnesota Beet Sugar Coop	MN0040665	SW
SP 6510-67 TH212 Sacred Heart-Renville MN	MNG790280	SW
Spring Grove WWTP	MN0021440	SW
Spring Prairie Colony	MNG585387	SW
Spring Valley WWTP	MN0051934	SW
Springfield WWTP	MN0024953	SW
Springsteel Island Sanitary District	MN0068322	NE
St Louis Park GWP - Reilly Tar Site	MN0045489	SW
Staples WWTP	MN0024988	SW
Starbuck WWTP	MN0021415	SW
Starland Hutterian Brethren Inc	MN0067334	SW
Steen WWTP	MNG585199	SW
Stephen WWTP	MNG585162	SW
Stewart WWTP	MN0053210	SW
Stewartville Sand	MNG490585	SW
Stewartville WWTP	MN0020681	SW
Stockton WWTP	MNG585079	SW
Stoney Creek Sand & Gravel	MNG490531	NE
Storden WWTP	MNG585106	SW
Strata Corp	MNG490108	SW
Stussy Construction Inc	MNG490134	SW
Sunburg WWTP	MNG585125	SW
Superior Minerals Co	MN0063584	SW
Swanville WWTP	MN0020109	SW
Sweetman Sand & Gravel Inc	MNG490079	SW
Sysco Western Minnesota	MN0052728	SW
Taft Lake Flocculation Treatment Facility	MN0070173	SW
Tamarack WWTP	MN0064564	NE
Taunton WWTP	MNG585090	SW
Taylors Falls WWTP	MNG585218	SW
Technical Die-Casting Inc	MNG250065	SW
Terrace Point Development WWTP	MN0057436	SW
Thief River Falls Power Plant	MNG250058	SW
Thief River Falls WWTP	MN0021431	SW
Tower/Breitung WWTP	MNG585186	NE
Tracy WWTP	MN0021725	SW
Trident Seafoods - Motley	MNG250142	NE
Trimont WWTP	MN0022071	SW
Trosky WWTP	MN0071633	SW
Truman WTP	MNG640129	SW
Truman WWTP	MN0021652	SW
Twin Lakes WWTP	MNG585042	SW
Twin Ports Interchange Project	MNG790260	NE
Twin Valley WWTP	MNG585137	SW
Two Harbors WWTP	MN0022250	NE
Tyler WWTP	MNG585116	SW
U of M - Minnesota Library Access Center	MN0063436	SW
Ulen WWTP	MNG585088	SW
Ulland Brothers Inc	MNG490069	Both NE / SW
UMD - NRRI Coleraine Labs	MN0051802	NE
United & Children's Hospital	MN0002968	SW

Facility Name	Permit number	Region
United Taconite LLC - Fairlane Plant	MN0052116	NE
United Taconite LLC - Thunderbird Mine	MN0044946	NE
Upsala WWTP	MNG585053	SW
Urbank WWTP	MNG585343	SW
US Air Force Reserve/934th Airlift Wing	MN0052141	SW
US Bank Stadium	MN0071188	SW
US EPA - MED-Duluth	MN0110914	NE
US Fish and Wildlife Service	MNG870007	no sd station
US Steel - Minntac Mining Area	MN0052493	NE
US Steel Corp - Keetac	MN0031879	NE
US Steel Corp - MN Ore Operations - Minntac Tailings Basin	MN0057207	NE
USCOE Leech Lake Rec Area WWTP	MN0110027	NE
USG Interiors LLC	MNG250102	NE
Utica WWTP	MN0022055	SW
Valero Renewable Fuels Co LLC - Welcome Plant	MN0068161	SW
Veit & Company LLC	MNG490183	SW
Vergas WTP	MNG640119	SW
Vergas WWTP	MN0025097	SW
Vermillion WWTP	MN0025101	SW
Vernon Center WWTP	MN0030490	SW
Vesta WWTP	MNG585043	SW
Vetter Stone Co	MNG490173	SW
Viking Gas Transmission	MN0060755	SW
Viking WWTP	MNG585370	SW
Viracon Inc	MNG255078	SW
Virginia Department of Public Utilities	MN0003379	NE
Virginia WWTP	MN0030163	NE
Wabasha WWTP	MN0025143	SW
Wabasso WWTP	MN0025151	SW
Wadena WWTP	MN0020672	SW
Wahkon WWTP	MNG585051	NE
Waldorf WWTP	MN0021849	SW
Walnut Grove WWTP	MN0021776	SW
Walters WWTP	MNG585223	SW
Waltham WWTP	MNG585380	SW
Wanamingo WWTP	MN0022209	SW
Wanda WWTP	MNG585126	SW
Warba WWTP	MNG585345	NE
Warren WWTP	MNG585073	SW
Warroad WWTP	MN0025194	NE
Waseca Sand and Gravel	MNG490673	SW
Waseca WWTP	MN0020796	SW
Watertown WWTP	MN0020940	SW
Waterville WWTP	MN0025208	SW
Waupaca NorthWoods LLC	MN0061549	NE
Welcome WWTP	MN0021296	SW
Wells Public Utilities	MN0025224	SW
Wencl Construction Inc	MNG490565	SW
Wendell WWTP	MNG585153	SW
West Concord WWTP	MN0025241	SW
Westbrook WWTP	MNG585127	SW
WestRock MN Corp	MN0048984	SW
Wheaton WWTP	MNG585044	SW
White Bear Township WTP	MNG640099	SW
Whitewater River Regional WWTP	MN0046868	SW
Wilkin County Highway Department - Gronseth Pit	MNG490182	SW
Williams WWTP	MNG585388	NE
Willmar WWTF	MN0025259	SW
Willow River WWTP	MN0021971	NE
Wilmes Lake Alum Treatment Facility	MN0071749	SW
Wilmont WWTP	MNG585200	SW
Windom WWTP	MN0022217	SW
Winger WWTP	MNG585045	SW
Winnebago WWTP	MN0025267	SW
Winona GW/Leaf Services	MNG790164	SW
Winona WWTP	MN0030147	SW
Winsted WWTP	MN0021571	SW
Winthrop WWTP	MN0051098	SW
Winton WWTP	MNG585187	NE
Wisconsin Central Limited - Duluth Ore Dock	MN0053384	NE
Wisconsin Central Ltd - Two Harbors Facility	MN0049018	NE
Wisconsin Central Ltd Proctor Yard	MN0000361	NE
Witte Brothers Inc	MNG490156	SW
WLSSD WWTP	MN0049786	NE
Wm D Scepaniak Inc	MNG490591	SW
Wm Mueller & Sons Inc	MNG490042	SW
Wolf Lake WWTP	MNG585226	SW
Wondra Pit	MNG490130	SW
Wood Lake WWTP	MNG585107	SW
Woodstock WWTP	MNG585192	SW
Worthington Industrial WWTP	MN0031178	SW
Worthington WTP	MNG640105	SW
Worthington WWTP	MN0031186	SW
Wykoff WWTP	MN0020826	SW
Xcel Energy - Allen S King Generating Plant	MN0000825	SW
Xcel Energy - Black Dog Generating Plant	MN0000876	SW
Xcel Energy - Fifth Street Substation	MN0003301	SW
Xcel Energy - High Bridge Combined Cycle Plant	MN0000884	SW
Xcel Energy - Key City/Wilmarth	MN0000914	SW

Facility Name	Permit number	Region
Xcel Energy - Minnesota Valley	MN0000906	SW
Xcel Energy - Monticello Nuclear Generating Facility	MN0000868	SW
Xcel Energy - Prairie Island Nuclear Plant	MN0004006	SW
Xcel Energy - Red Wing Generating Plant	MN0000850	SW
Xcel Energy - Riverside Generating Plant	MN0000892	SW
Xcel Energy - Sherburne County Generating Plant	MN0002186	SW
Xcel Energy Hydrostatic Testing	MN0060089	SW
Zimmerman WWTP	MN0042331	SW
Zumbro Falls WWTP	MN0051004	SW
Zumbrota WWTP	MN0025330	SW

Attachment 4: EPA Response to Tribal Issues Raised during Tribal Consultation on the 2024 Revisions to the Statewide Mercury TMDL

Tribal Participants:

- **Lac du Flambeau Band of Lake Superior Chippewa Indians (Wisconsin)**
- **Leech Lake Band of Ojibwe (Minnesota)**

Tribal Concern: Tribal representatives expressed their concern that mercury emissions from air permittees (i.e., the electricity generating and taconite mining sectors) continue to contribute mercury, via air deposition, to Tribal and Minnesota surface waters. Additionally, Tribal representatives shared that Tribal members that rely on fish as a dietary resource are at greater risk of mercury exposure.

EPA Response: Thank you for reiterating the importance of water quality in northern Minnesota to Tribes in Minnesota. Tribes hold judicially affirmed rights to hunt, fish, and gather throughout areas of northern Minnesota. EPA recognizes that tribal populations in northern Minnesota generally have higher risk of mercury exposure because their lifeways depend on greater consumption of fish and other natural resources than non-tribal populations.

Minnesota's statewide mercury Total Maximum Daily Load (TMDL) recognizes that industrial facilities in northern and northeastern Minnesota contribute mercury to the airshed, via air emissions, and to the watershed via discharges of pollutants to surface waters from their facilities. The TMDL identifies sources and assigns pollutant load allocations that will attain water quality standards and protect uses. EPA notes that, consistent with all TMDLs, the Minnesota statewide mercury TMDL can be revised as new data and information become available. EPA will continue to monitor Minnesota's implementation efforts to address mercury point and nonpoint sources via the statewide mercury TMDL[1] and/or individual TMDL projects such as the St. Louis River Watershed mercury.[2]

Tribal Concern: Tribal representatives shared their concern regarding EPA's January 31, 2024, amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Taconite Iron Ore Processing Plants and the local impact of those amendments on air emissions from taconite facilities in northern Minnesota. Tribes expressed their understanding that the amendments could lead to taconite facilities not achieving the load reductions called for in Minnesota's statewide mercury TMDL.

[1] Minnesota Pollution Control Agency webpage, https://www.pca.state.mn.us/business-with-us/statewide-mercury-tmdl, (last visited 2/29/24).
[2] Minnesota Pollution Control Agency webpage, https://www.pca.state.mn.us/business-with-us/st-louis-river-watershed-mercury-tmdl, (last visited 2/29/24).

In the event that EPA reconsiders the amendments to the NESHAP, Tribal representative urged the EPA Water Program to discuss the concerns shared by the Tribes with the EPA Air program, especially mercury nonpoint source contributions (i.e., a portion of the air depositional load allocation) of the Minnesota statewide mercury TMDL.

EPA Response: EPA acknowledges the Tribes' concerns regarding the January 31, 2024, amendments to the NESHAP and shared the Tribes' comments with the EPA Air Program.

Tribal Concern: Tribal representatives asked whether EPA had considered potential contingencies to Clean Water Act programming in the event that the Supreme Court of the United States (SCOTUS) overturns its previous ruling in the *Chevron, U.S.A. Inc. v. Natural Resources Defense Council, Inc.* (1984)[3] via its decision in *Loper Bright Enterprises Inc. v. Raimondo* (2024)[4] and *Relentless, Inc. v. Department of Commerce* (2024)[5].

EPA Response: EPA cannot speculate on the SCOTUS revisiting its decision on *Chevron v. Natural Resources Defense Council* in the *Loper Bright Enterprises Inc. v. Raimondo* and *Relentless, Inc. v. Department of Commerce* cases.

[3] Library of Congress.gov webpage, https://tile.loc.gov/storage-services/service/ll/usrep/usrep467/usrep467837/usrep467837.pdf, (last visited 2/29/24).
[4] Docket No. 22-451.
[5] Docket No. 22-1219.