

St. Louis River Watershed Mercury TMDL

Project charter – Spring 2024

Overview

This charter defines the goal, objectives, overall approach, and scope for the St. Louis River Watershed Mercury Total Maximum Daily Load (TMDL) study being completed by the Minnesota Pollution Control Agency (MPCA), emphasizing the overall process—including timelines—and the role of external groups.

Project goal

Minnesota's water quality standards call for lakes and streams to support healthy consumption of fish through numeric goals (water quality standards) for levels of mercury in fish tissue and in water. Wisconsin and the Fond du Lac band also have water quality standards for mercury to support these uses, and across the Great Lakes region, there is a shared goal (1.3 ng/L of mercury in the water column) to protect fish-eating wildlife. Mercury pollution prevents some water bodies in Minnesota, Wisconsin, and on the Fond du Lac reservation from meeting these goals.

The goal of the St. Louis River Watershed Mercury TMDL is to determine the mercury reductions needed to meet the water quality standards for mercury and support healthy consumption of fish by people and wildlife. Fishing is important in this watershed for economic and cultural reasons, including the exercise of tribal treaty rights; Fond du Lac's 0.77 ng/L water quality standard protects subsistence fishing. While this charter is for the development of a TMDL to be submitted by the MPCA for Minnesota's waters, a collaborative approach provides benefits for all working to drive mercury and methylmercury reductions. Working in partnership to complete technical TMDL work will support integrated and cohesive pollution reduction goals across the affected waters and ensure the protection of the water quality standards of downstream states and tribes.

Background

The MPCA monitors the state's major rivers and lakes and assesses them for meeting water quality standards. The MPCA places waters that fail to meet water quality standards on the state's impaired waters list. Impaired waters require a TMDL study, which determines how much of a specific pollutant the water body can assimilate and still achieve the water quality standard.

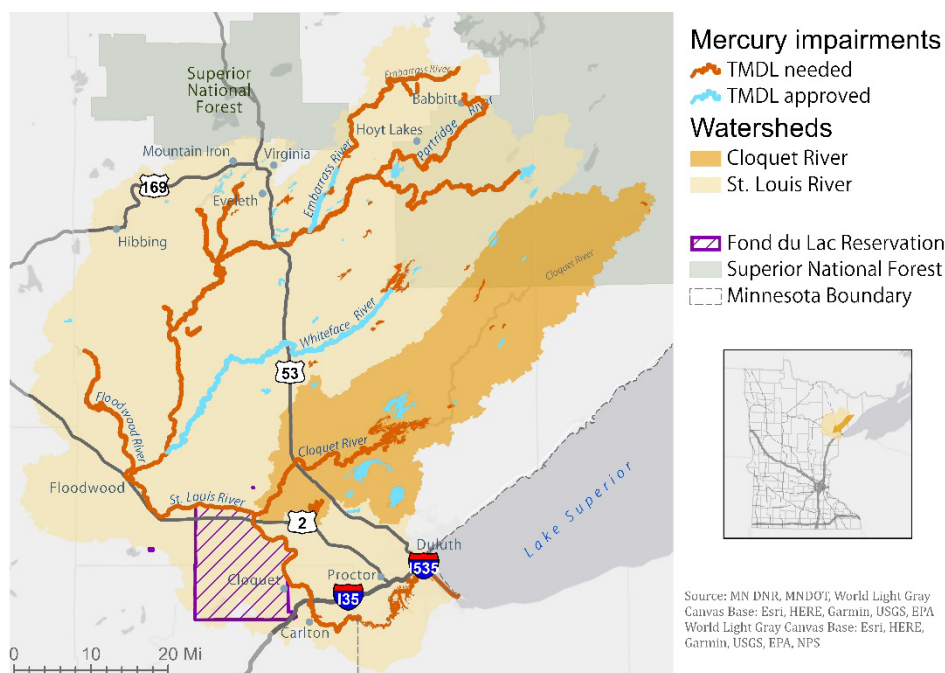
Many waters in Minnesota are impaired by mercury, primarily because high levels of mercury in fish tissue fail to meet the state standard for aquatic consumption. Mercury can be toxic to humans, and the Minnesota water quality standard (0.20 mg mercury/kg fish tissue) is designed to ensure that fish are safe to eat. Because the main source of mercury in fish is global air emissions that affect waters throughout the state, the MPCA developed the [Minnesota Statewide Mercury TMDL](#) to address impairments across Minnesota. The U.S. Environmental Protection Agency (EPA) approved this TMDL report in March 2007. The goal of the statewide TMDL is a 93% reduction in mercury air emissions from the baseline year of 1990.

The statewide TMDL does not cover mercury impairments in fish where exceptionally high mercury concentrations preclude those waters from meeting the water quality standard even with the 93% reduction in mercury sources. Among the waters needing their own mercury TMDL are a subset of lakes and streams of the St. Louis River Watershed, which includes the Cloquet River Watershed. The State of Wisconsin and the Fond du Lac Band have also identified waters under their jurisdictions that are impaired for aquatic consumption due to mercury.

Mercury emissions in Minnesota, as well as in the U.S. and Canada, have dropped 87% from 1990, which is approaching the 93% reduction goal in the statewide TMDL. Several parties, including the MPCA, other state agencies, and tribal governments, have expressed strong interest in developing a St. Louis River Watershed mercury TMDL now rather than waiting until the statewide TMDL goal is fully achieved.

This TMDL project picks up from a U.S. EPA-led project that concluded in 2013 with a “Road Map for Moving Forward.” The Road Map compiled a table of seven potential project paths and tasks.

Figure 1. St. Louis River Watershed mercury TMDL project area and impairments.



Objectives

The MPCA is moving forward to develop mercury TMDLs for the remaining impairments in the St. Louis River Watershed. In order to reduce mercury beyond the state goal, Minnesota will need to address the sources of methylmercury in the watershed. There is long-standing interest in understanding and addressing the issue of methylmercury in the St. Louis River Watershed. The states of Minnesota and Wisconsin and the Fond du Lac Band all have strong interests in reducing mercury in the St. Louis River Watershed, and particularly in the St. Louis River itself, which forms the boundary between parts of Minnesota and Wisconsin and parts of Minnesota and the Fond du Lac reservation.

In addition to the project’s technical objectives, the project also has objectives for communication, transparency, and partnership.

The MPCA has identified the following **technical goals for the project**:

- Identify the total mercury deposited in the watershed.
- Identify the sources of methylmercury within the watershed.
- Calculate a TMDL.
- Develop a TMDL report.

The following are the project’s **partnership goals**:

- Fully recognize and discuss all applicable water quality standards, including those applicable to the parts of the waters in Wisconsin and within or bordering the Fond du Lac reservation.
- Work toward agreement between the three bodies that establish water quality standards (Minnesota, Wisconsin, and Fond du Lac) on the technical approach to the TMDL, to support concurrence on the approach for waters with shared jurisdiction and the creation of integrated TMDLs for all waters in the watershed.
- Communicate clearly and in a timely manner about technical concerns that may result in an inability to reach agreement on the TMDL approach, and to document the reasoning behind any decision made by MPCA to move forward on an approach for Minnesota if agreement is not reached.

The following are the project’s **external engagement and communication goals**:

- Provide transparency about MPCA’s approach and decisions.
- Provide a foundation of cooperative and meaningful engagement with a broad range of interested parties, including technical and scientific advisors; partners in state, federal, and tribal governments; and stakeholders including regulated parties and environmental interest groups.
 - Provide advisors, partners, and stakeholders with relevant technical information.
 - Provide advisors, partners, and stakeholders an opportunity to collaboratively discuss and contribute to the technical foundations of the TMDL.
 - Provide advisors, partners, and stakeholders an opportunity to receive information and provide input regarding topics such as available data, studies, and planned and active watershed projects related to mercury reductions.

MPCA project team

The MPCA project team consists of staff and leadership who will be the primary staff and decision makers.

Table 1. MPCA project team members

Name	Division	Role
Jennifer Brentrup	Environmental Analysis and Outcomes (EAO)	Project lead
Andrea Plevan	Watershed	TMDL lead
Paul Pestano	EAO	Manager, Water Assessment Section
Tom Estabrooks	Watershed	WRAPS project manager
Stephen Mikkelson	Operations	Communications/Public Information
Marco Graziani	Municipal	Wastewater–TMDL liaison
Anna Bosch	Municipal	Stormwater–TMDL liaison
Erik Smith	EAO	Supervisor, Environmental Analysis & Groundwater Services
Hassan Bouchareb	EAO	Statewide Mercury TMDL implementation coordinator
Amy Adrihan	Watershed	Supervisor, NE Watershed Unit
Theresa Haugen	Watershed	Manager, North Section

MPCA project team role

- Responsible and accountable for completion of the TMDL report and submittal to EPA for approval. Document important decisions in TMDL report and associated work products.
- Consult with Technical Advisory Team (TAT) on evaluation of technical information, proposed approaches to the TMDL, and TMDL report content.
- Inform external engagement groups of TMDL activities, decisions, and deliverables.
 - Coordinate Technical Advisory Team.
 - Connect with development of the St. Louis River Watershed Restoration and Protection Strategy (WRAPS) project and the One Watershed, One Plan (1W1P) to share important technical information that supports inclusion of strategies to reduce methylated mercury in those strategies and plans.
 - Provide updates to teams developing the St. Louis River WRAPS and the 1W1P.
 - Provide information to the public engaged in WRAPS and 1W1P.
 - Provide updates to the St. Louis River Watershed mercury Public Forum through the project website, GovDelivery,¹ and public events.

Logistics

- MPCA project team meetings: Hold meetings (approximately monthly or bimonthly) to provide project updates and to discuss technical information, challenges, and next steps.
- Decisions: The decision-making process for the MPCA project team is by group consensus for most decisions. MPCA managers from the Environmental Analysis and Outcomes (EAO) Division and the Watershed Division will make decisions if consensus cannot be reached.
- Documentation: The MPCA project team will maintain documentation of meeting agendas, minutes, work plans, and work products with coordination by Jennifer Brentrup, the project lead.

External engagement

The St. Louis River Watershed Mercury TMDL will involve two key spaces for external engagement: the Technical Advisory Team (TAT) and a St. Louis River Watershed Public Forum that is open to all who wish to participate. The MPCA will provide information to and solicit input from these two groups, as described below.

Ultimately, the MPCA has the final authority on the contents of the TMDL report for Minnesota. The final TMDL report must go through a formal public notice and comment period, which is separate from the engagement components of this charter. The MPCA submits the final TMDL, with comments and responses, to EPA for approval.

¹ Web-based email subscription system to provide news and information to subscribers

Technical Advisory Team

The Technical Advisory Team (TAT) is a group of government partners (tribal, federal, and state) and scientists (Table 2) whose primary role is to provide technical, scientific, and policy expertise to the MPCA project team.

Table 2. Technical Advisory Team members

Name	Affiliation
Donalea Dinsmore	Wisconsin Department of Natural Resources
Joel Hoffman	Great Lakes Toxicology and Ecology Division (GLTED), EPA
Nate Johnson	University of Minnesota–Duluth
Tyler Kaspar	1854 Treaty Authority
Dave Krabbenhoft	U.S. Geological Survey (USGS, retired)
Caren Ackley	Great Lakes Indian Fish & Wildlife Commission
Ken Powell	Board of Water and Soil Resources (BWSR)
Paul Proto	EPA Region 5
Nancy Schuldt	Fond du Lac Band of Lake Superior Chippewa
Christine Urban	EPA Region 5
Randy Kolka	Northern Research Station, U.S. Forest Service
Kevin Kirsch	Wisconsin Department of Natural Resources
Xiaochun Zhang	Wisconsin Department of Natural Resources

Technical Advisory Team role

- Provide technical expertise and input to support completion of the primary project components:
 - Science of mercury methylation and its transport and transformation throughout the St. Louis River Watershed.
 - Identification of mercury and methylmercury sources in the St. Louis River Watershed.
 - TMDL development for EPA approval.
 - Identification of implementation strategies.
- Review materials produced by the MPCA project team.
- Participate in meetings to discuss project progress and provide technical input, with a focus on the project work plan, technical approach to TMDL development, and TMDL report.

Logistics

- Meetings: Regularly, likely every six weeks, but will vary based on project activity.
- Decisions: MPCA will request technical input from this group. The decision-making process is primarily by group consensus, with MPCA having the final decision-making authority.
- Documentation: Documentation of meeting agendas, minutes, work plans, and work products is maintained by the MPCA project team. The project team will also maintain documents shared on the project’s webpage.

St. Louis River Watershed mercury TMDL Public Forum

Public Forum role

The Public Forum is how the public will learn about the St. Louis River Watershed mercury TMDL and be able to ask questions of the MPCA and contribute input. All interested members of the public will have the opportunity to review project components and provide input through a variety of means.

- Who: All members of the public interested in mercury in the St. Louis River Watershed.
- Role: Review and provide feedback on materials at key milestones and discuss at scheduled forums.

Logistics

- Information from TAT meetings will be made available on the project website and communicated, approximately quarterly, through GovDelivery after the public project kick-off.
- Meetings at key milestones (e.g., mercury impacts and science; mercury sources and movement in the St. Louis River Watershed; TMDL calculations and mercury reduction options). The MPCA project team and TAT will develop agendas for each meeting with clear goals for sharing information and gathering input from this group.
- The MPCA project team will share how the input received from the Public Forum is being considered.

Deliverables

Project deliverables include technical deliverables and additional deliverables such as reports, updates, and information for the public. Deliverables will be provided by the MPCA project team through the MPCA website and GovDelivery.

- Technical deliverables:
 - Draft mercury source assessment.
 - Draft and final TMDL calculations.
 - Draft and final TMDL report (including technical support document, source assessment, TMDL calculations, reasonable assurances and a general implementation section).
- Additional deliverables:
 - Meeting agendas and minutes.
 - TAT presentation materials and other work products.
 - Presentation materials for the Public Forum.

Out of scope

TMDL Implementation—The TMDL establishes the allowable mercury loads and identifies strategies or types of actions intended to reduce mercury in fish. The MPCA, along with input from the external engagement groups described in this charter, will propose implementation strategies in the TMDL report. However, the TMDL report does not specify which implementation actions will be taken to reach the goals.

Wild Rice/Sulfate—The toxicity of high sulfate concentrations on wild rice is a concern in the St. Louis River Watershed, but the impact of sulfate on wild rice is not in scope for this effort.

Timeline

Saint Louis River Watershed Mercury TMDL project element	SFY 2021		SFY 2022				SFY 2023				SFY 2024				SFY 2025				SFY 2026				SFY2027		
	CY 2020		CY 2021		CY 2022		CY 2023		CY 2024		CY 2025		CY 2026		CY2027										
	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	
Communications																									
Prepare Communications Plan & Project Charter			X	X																					
Send MPCA Letter to Tribes				X																					
MPCA Project Team Meetings (monthly)				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Technical Advisory Team Meetings (6–8 weeks)				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Public Forum (kick-off meeting, meetings at key milestones, quarterly updates)										X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Public Notice and Public Meeting																					X	X			
TMDL development																									
Develop Work Plan & Modeling Approach	X	X	X	X	X	X	X	X	X																
Modeling							X	X	X	X	X	X	X	X	X	X									
Source Assessment— Evaluate Data and Modeling										X	X	X	X	X	X	X									
Develop Allocation Approach										X	X	X	X	X	X	X									
TMDL Calculations and Reduction Scenarios										X	X	X	X	X	X	X									
Prepare TMDL Report										X	X	X	X	X	X	X									
MPCA and TAT Report Review															X	X	X	X	X						
TMDL EPA Preliminary Review																	X	X	X						
TMDL Public Notice & Responses																					X	X	X	X	
TMDL EPA Approval																					X	X	X	X	

SFY: State fiscal year
CY: Calendar year