

Impaired

Waters

Program

WISCONSIN
DEPT. OF NATURAL RESOURCES



TMDL Overview



Introduction

States are continually challenged with the task of providing clean water to their citizens: protecting drinking water supplies, providing adequate sewage and infrastructure, assuring that people can swim in clean water, and providing protection to aquatic life for safe and healthy fishing opportunities. The U.S. Environmental Protection Agency (EPA) provides federal oversight to the states to protect and improve water quality. One mechanism that EPA requires states to use to fully implement the Clean Water Act is the "Total Maximum Daily Load" or TMDL. This document is designed to provide state and local governmental staff with information about the TMDL process.



303(d) List of Impaired Waters

Section 303(d) of the federal Clean Water Act requires states to develop a list of impaired waters, commonly referred to as the "303(d) list." Impaired waters are those that do not meet state water quality standards due to point source (PS) pollution, nonpoint source (NPS) pollution, a blend of both, atmospheric deposition of mercury, contaminated sediment, or other sources such as bacteria. Waters are added to the list under the following conditions:

- The current water quality does not meet the numeric or narrative criteria in a water quality standard.
- The designated use that is described in Wisconsin Administrative Code is not being achieved.

The list is updated every two years and submitted to EPA.

Total Maximum Daily Loads

The Clean Water Act requires states to develop TMDLs for waterbodies that are on the 303(d) list. A TMDL is a quantitative analysis of the amount of a particular pollutant a stream or lake can receive before exceeding water quality standards. Water quality standards are set to protect and maintain designated uses such as drinking water, fishing,

and swimming. The goal of a TMDL is to set limits on pollutant loads to correct water quality impairments, meet water quality standards, and/or achieve designated uses of waterbodies. It serves as a basis for strategies to be developed to improve and protect water quality.

The TMDL is a formula:

$$\text{TMDL} = \text{WLA} + \text{LA} + \text{MOS}$$

where the Total Maximum Daily Load is equal to the Waste Load Allocation (from point sources) plus the Load Allocation (from nonpoint sources) plus a Margin of Safety, which accounts for uncertainty between pollutant loads and the quality of the receiving waterbody. The Department of Natural Resources (DNR) is responsible for determining the TMDL using this formula. There may be opportunities for the DNR to work with its partners to determine where allocations will be assigned for the impaired waterbody once the TMDL is determined.

EPA requires that the TMDL report include several elements including the sum of the allocated loads, a description of the load reductions to be achieved, and a description of how the goals may be achieved. A more detailed implementation plan may be written to supplement the TMDL report. The DNR is responsible for developing TMDL reports or approving TMDL reports developed by third parties.

TMDLs can serve as a mechanism for municipalities, counties, and individual landowners to refine their approaches to water quality planning and implementation. TMDL implementation plans can prioritize where financial and technical resources can be used to address the most severe pollution problems.

The TMDL Process

Selecting Waterbodies from the 303(d) List for TMDL Development

Waterbodies on the 303(d) list are grouped into low, medium, and high priorities every two years when the 303(d) list is submitted to EPA. Prioritization for TMDL development is based on many factors including availability of monitoring data, the opportunity to collect new data, modeling support, grant funding, and input from the regional DNR and county staff. The majority of TMDLs that have been prepared in Wisconsin to date have been for waterbodies dominated by nonpoint sources or a blend of nonpoint and point sources.

Assessing Data

Once waterbodies have been selected for TMDL development, existing and historical data are analyzed to identify additional data needs. TMDL staff and regional staff complete this analysis.

Monitoring and Data Collection

Monitoring is conducted to either collect data to supplement existing data, or to gather a full range of parameters for waterbodies with very little data. Monitoring is conducted by the Surface Water Assessment Team (SWATeam), regional staff, impaired waters program staff, and in some cases, county staff who volunteer their time or efforts.

Identifying the Existing Pollutant Load and the Desired Load (the TMDL)

Computer models are used to calculate current pollutant loadings to a waterbody when preparing the TMDL report. The model is used to complete the TMDL formula to determine the loading the waterbody can receive and still meet water quality standards. A pollution reduction percentage is calculated by comparing the existing load value with a target load value.

Developing a Draft TMDL

The TMDL report must include certain elements that provide detailed technical and scientific documentation identifying pollutants, impairments, and pollution sources in the watershed. It is important that the TMDL report is easy to read and understood by both technical and non-technical audiences who may participate in the review process and who may be significant in the implementation process. The required TMDL report components include:

- Problem Statement
- Water Quality Standards
- Pollutant Assessment
- Linkage Analysis
- TMDL and Allocations
- Numeric Targets
- Seasonal Variation
- Margin of Safety
- Critical Condition
- Monitoring Plan
- Reasonable Assurance
- Public Participation

Public Input

Public participation is a requirement of the TMDL process. Once a draft TMDL report is complete, it is sent to various news outlets, county staff, municipalities, and other interested stakeholders for a review/comment period of a minimum of 30 days. Public meetings may also be held for additional feedback.

Revision of Draft TMDL and Submittal of Final Report to EPA

Comments received during the 30 day public comment period are addressed in the final TMDL report. The final report is submitted to EPA for approval.

TMDL Implementation

The State of Wisconsin is charged with providing "reasonable assurance," that the necessary actions are taken so that the loading of the pollutant of concern does not exceed the TMDL and associated wasteload and/or load allocations. The ultimate purpose of the TMDL report is to lay the foundation for a successful implementation strategy for both point and nonpoint sources of pollution.

Implementation involves:

- Identifying goals
- Identifying technical and financial tools
- Articulating responsibilities of agency staff, partners, and stakeholders
- Integrating existing regulatory and non-regulatory tools

For point source discharges, wasteload allocations expressed through the TMDL report will be incorporated into Wisconsin Pollutant Discharge Elimination System (WPDES) permits. For nonpoint source allocations, the DNR will continue to enforce agricultural performance standards, manure management prohibitions, and non-agricultural performance standards listed in ch. NR 151, Wis. Adm. Code. Other federal, state, and local agencies and organizations may also have technical and financial resources available to support TMDL implementation such as the Natural Resource Conservation Service's Environmental Quality Incentives Program (EQIP) that funds certain types of rural best management practices.



Reaching Out to Stakeholders

Wisconsin is dedicated to pursuing TMDL development and implementation in an open and public setting. A successful TMDL depends on the commitment and involvement of affected parties. Weaving partners and stakeholders into the beginning of the process can strengthen the end result by bringing in new ideas and increasing public understanding of the problems. Public commitment to the solutions leads to quicker improvements in water quality.

How to Provide Input & Get Involved

The DNR encourages public participation, broad representation, and objectivity throughout the TMDL development and implementation planning. Partners, stakeholders and other interested parties have several opportunities to provide input in the TMDL development process, as well as review of draft TMDL reports. Stakeholders and partners may also provide additional input during the 30-day public comment period or during a public meeting for a draft TMDL.

Online Resources

The following documents are available on the DNR website:

303(d) List: <http://dnr.wi.gov/org/water/wm/wqs/303d/303d.html>.

Draft TMDLs: http://dnr.wi.gov/org/water/wm/wqs/303d/Draft_TMDLs.html.

Approved TMDLs: http://dnr.wi.gov/org/water/wm/wqs/303d/Approved_TMDLs.html.

Contact the following DNR staff to learn more about TMDLs and the Impaired Waters Program:

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