



# Big Sandy and Minnewawa Lakes Total Maximum Daily Load Project

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Impaired waters are those that do not meet state water quality standards as set forth in Minn. Stat. ch. 7050. Common impairments are for dissolved oxygen, nutrients, turbidity, bacteria, or metals. Impaired water bodies fail to meet criteria required to support aquatic life, or allow the designated use of a water body, such as swimming or fishing.

The Federal Clean Water Act requires the Minnesota Pollution Control Agency (MPCA) to identify impaired water bodies and develop a total maximum daily load (TMDL) for each parameter for which the water body does not meet standards. The TMDL is the total amount of a pollutant a water body can take on while meeting the established water quality standard(s).

A TMDL study is typically developed in four phases:

- Phase 1 - existing data is reviewed, data gaps are identified, and plans are developed to collect and analyze the additional data needed.
- Phase 2 – that additional data is collected and evaluated.
- Phase 3 – the TMDL is set. Loads are allocated to point and non-point sources and an implementation plan to meet load reductions is prepared.
- Phase 4 – plans are implemented to reduce loads to the limits set in Phase 3, and to return the water body to meet water quality standards.



## TMDL progress in the Big Sandy and Minnewawa Lakes area

The Big Sandy Area Lakes TMDL study is located in north central Minnesota and extends across Aitkin, Carlton and St. Louis Counties. Landuse within the watershed is typical of what is found in north-central Minnesota. Forests make up approximately 63 percent, wetlands and water 21 percent, agricultural (pasture and cultivated land) 14 percent, and urban 2 percent.

In 2006, Big Sandy and Minnewawa Lakes in Aitkin County were placed on Minnesota's 303(d) List of Impaired Waters, for aquatic recreation due to excessive nutrients. The data indicated that these lakes had total phosphorus concentrations in excess of the MPCA's state water quality narrative standard of 30 micrograms per liter for the growing season mean.

Annual overall reductions of 5,672 kg (28 percent) and 133 kg (14 percent) in phosphorus loading in Big Sandy Lake and Lake Minnewawa, respectively, are required to meet the total phosphorus growing-season average of 30 ug/L in the lakes. These phosphorus load reductions to Big Sandy and Lake Minnewawa will be achieved by targeting multiple nonpoint sources.

The draft TMDL report quantifies existing pollutant loads and required reductions. Implementation strategies have been developed along with a monitoring plan to gauge effectiveness. Project documents, including the draft implementation plan, are available at the Aitkin Soil and Water Conservation District (SWCD) Web site at: <http://www.aitkincountyswcd.org/index.html>.

Implementation of the recommendations will depend on securing funding, and approval of the TMDL reports by the MPCA and the U.S. Environmental Protection Agency.

## What you can do

Many opportunities exist for the public to participate in helping protect the waters in the Big Sandy Area Lakes watershed. The following are examples of implementation strategies to help reduce pollution.

- Participate in the TMDL process – residents are encouraged to learn about the TMDL process and attend public meetings sponsored by the Aitkin SWCD. The meetings will be an opportunity to learn about stormwater management, septic system upgrades, buffer installations, and other practices that could be implemented to reach TMDL goals.
- Plant a shoreline buffer or a rain garden – those who live along the lake or tributaries can prevent sediment, nutrients, or bacteria from entering the water.

- Plant farm buffers – farmers who have rivers or lakes near their properties may qualify for incentives from federal conservation programs. Contact the Aitkin SWCD for more information.
- Manage forest lands wisely – Ideas and information regarding stewardship and management of forested land to protect water quality while providing timber production and wildlife habitat are available by contacting the Minnesota Department of Natural Resources or Aitkin County SWCD.
- Protect wetlands – Manage wetland drainage to protect wetland functions like flood control, filtering of runoff, and groundwater recharge. Avoid or minimize the filling of wetlands.
- Support compliance with shoreland management ordinances.

## For more information

For more information about this study and how it relates to MPCA's Impaired Waters programs, contact the MPCA at 651-296-6300 or 800-657-3864 and ask for the Upper Mississippi Basin TMDL staff or the Public Information Officer in our Brainerd office.

## You can also contact:

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