

# HERON LAKE WATERSHED DISTRICT

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## TOTAL MAXIMUM DAILY LOADS - TMDLS

If a waterbody is not meeting water quality standards, it is placed on the Total Maximum Daily Load (TMDL) list, otherwise known as the Impaired Waters List or 303(d) list. This list is updated every two years. Once a stream, lake, or wetland is on the list, a study of that waterbody needs to be completed in order to be removed from the list. The Environmental Protection Agency (EPA) must approve the studies. The Minnesota Pollution Control Agency (MPCA) is leading the effort to complete these studies. Several state agencies and the EPA provide funds to complete the studies and for clean up efforts.

Over the past few years, the words "TMDL" or "impaired waters" have been heard in the media. Some of you may be aware that a TMDL Study was conducted in the West Fork Des Moines River and Heron Lake watersheds. The TMDL Study was approved on December 18, 2008. You can view the report online at <http://www.pca.state.mn.us/water/tmdl/project-westforkdesmoines.html>.

### WHAT DID THE TMDL STUDY ENTAIL?

The study was the first in Minnesota to address impaired waters on a basin-wide scale (only 10 basins in Minnesota).

The study addressed impairments in 30 stream reaches for turbidity and fecal coliform bacteria, one stream reach for pH, and one lake for excess nutrients.

To meet Minnesota's water quality standards, the report states a

- 10% to 86% reduction in fecal coliform bacteria is needed,
- 50% to 80% percent reduction in turbidity is needed, and an
- 87% reduction in excess nutrients in Heron Lake is needed.

### WHAT ARE FECAL COLIFORM BACTERIA, TURBIDITY, AND EXCESS NUTRIENTS?



Fecal coliform bacteria are found in the intestines of all warm-blooded animals, including humans, and are excreted in feces. If fecal coliform bacteria enter the water, it can be a health concern because it is an indicator species. This means that if it is present in a stream or lake, there may be other forms of bacteria present. An example of this would be E. coli bacteria, which can be deadly.



Turbidity is the measurement of the cloudiness of water. Turbidity can come from runoff in farm fields, construction sites, and steep slopes. This is extremely dependent on the timing and intensity of rainfall and snow melt. Erosion can cause sediment and debris to enter streams and lakes. Algae and plant matter can also cause turbid waters.



Excess nutrients can fuel undesirable growth of plants, especially algae. Excess nutrients can be closely related to turbidity and the sources are similar. High concentrations can interfere with recreational and aquatic life uses and reduce the aesthetic quality of surface waters.

### WHAT'S NEXT?

Now that the TMDL Study has been approved, an implementation plan must be written to address the water quality problems found in the watershed. An advisory committee and a technical committee have been formed to represent the citizens of the watershed. The HLWD has agreed to be the lead agency in writing the plan, with the assistance of MPCA and the committees.

### IMPLEMENTATION PLANNING CHALLENGES

Implementation plan strategies will need to address urban and agricultural pollution. Those strategies will include the following:

- In agricultural watersheds it's not uncommon to see a greater than 50% pollutant reduction needed to meet water quality standards.
- Another challenge will be addressing the turbidity in Heron Lake that is a result of inlake loading (the release of pollutants such as phosphorus from sediments in the lake), invasive species, and watershed contributions.
- Because phosphorus levels in the lake are so high, the contributing point sources (wastewater treatment facilities and septic systems) will be required to have a 60% reduction and nonpoint sources (agricultural fields, lawns, and streets) a 50% reduction to meet water quality standards. In addition, inlake loading within Heron Lake is a huge factor, and the biggest part of implementation planning will be to determine inlake controls as well as watershed controls.

The people involved in writing the implementation plan are determining methods necessary to meet these pollutant reductions. Two key components of writing the implementation plan is utilizing pollutant reduction methods that will address the pollutant load as well as being acceptable to the general public. Public meetings for input and information will be conducted in August 2009, after which the final implementation plan will be submitted to MPCA for approval.



**WATERSHED  
ASSISTANCE  
THROUGH  
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RESOURCES**

**HERON LAKE WATERSHED DISTRICT**

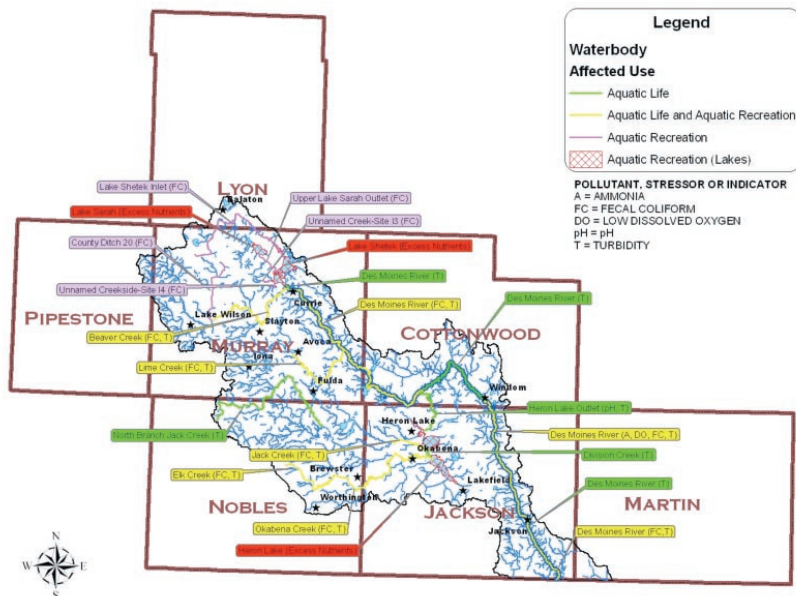
## WHAT'S HAPPENING?

HLWD Board Meeting  
April 14, 2009  
6:00 p.m. at the HLWD office

Note that the HLWD board meeting dates and times are tentative. Please contact the HLWD office for exact date and time.

Funding for this newsletter is provided by the Minnesota Pollution Control Agency through a Clean Water Partnership grant.

Please contact us with your questions or concerns! Telephone 507-793-2462; Email: hlwd@roundlk.net



## MAP OF THE WFDMR WATERSHED