



Minnesota
Pollution
Control
Agency

Blue Earth River Basin

Total Maximum Daily Load for Fecal Coliform Bacteria

Water Quality, Impaired Waters 7-05a • October 2006

The Blue Earth River Basin (BERB) covers parts of 14 counties in south-central Minnesota and northern Iowa. The basin includes three major watersheds, the Blue Earth, LeSueur and Watonwan. The BERB contains 17 stream segments, called reaches (see map), that are listed as “impaired” under section 303(d) of the Federal Clean Water Act.

The listings are based on violations of Minnesota’s water-quality standard for fecal coliform bacteria, which indicates these waters are not suitable for swimming and other body-contact recreation. Water testing and data analysis indicate four additional stream reaches are likely to be included on the 2008 impaired waters list for violations of this standard. This fact sheet provides details on a cleanup process called a TMDL (see below) addressing all 21 reaches.

TMDL Background

Impaired waters are those that do not meet water-quality standards established to protect their designated uses such as recreation, fishing, irrigation, and support of wildlife. Examples of pollutants or conditions that may place a lake or stream on the impaired waters list include nutrients, bacteria, sediment, high turbidity, low dissolved oxygen, and bioaccumulative toxins such as mercury and PCBs. Waters are sometimes impaired by multiple pollutants.

For each impaired water, federal law requires that states determine an acceptable Total Maximum Daily Load (TMDL) for the relevant pollutant(s). This total

acceptable load is then allocated among all the sources of the pollutant, and reductions necessary to restore the water to required standards are identified. This information serves as the basis for an implementation (cleanup) plan.

A draft TMDL report addressing the fecal coliform impairments in the BERB has been prepared collaboratively by the Greater Blue Earth River Basin Alliance, the Water Resources Center at Minnesota State University-Mankato, and the Minnesota Pollution Control Agency.

The problem

Fecal coliform is a group of bacteria that live in the intestines of warm-blooded animals, including humans. High concentrations of fecal coliform in surface waters indicates the likelihood of recent contamination by human or animal feces, and that water-borne pathogens (disease-causing bacteria, viruses, or protozoa) may be present.

Assessment and implementation

Assessment of fecal coliform sources in the BERB was completed to aid the TMDL process. Sources include wastewater treatment facilities, rural household septic systems, livestock, wildlife and pets. Land-applied manure and inadequately functioning septic systems appear to be the primary sources.

It’s important to note that most livestock manure is used appropriately as a fertilizer and soil amendment. However, the sheer

volume of manure produced in the BERB means that runoff of even a very small percentage of what is applied may contaminate surface waters. An estimated 39% (about 5,500) of individual sewage treatment systems in the BERB are allowing inadequately treated wastewater into waterways. Direct discharge of sewage to waterways during low-flow conditions can be a major contributor of fecal coliform bacteria contamination.

In the streams and rivers of the Blue Earth River Basin, fecal coliform levels are typically highest in the months of June, July and August, and during periods of higher water. Restoring impaired stream reaches to compliance will require reducing bacteria levels in most of them by 80-90 percent.

A detailed implementation plan will be developed following completion and approval of this TMDL report. Cleanup of all the impaired reaches will be a complex undertaking involving a mix of regulation, education and incentives, and may take a number of years. However, resources available through the recently passed Minnesota Clean Water Legacy Act should speed up the process.

Public involvement

The public and specific stakeholders were involved in the TMDL project in several ways including:

- A TMDL technical sub-committee

- Frequent discussion with local agency staff and elected officials that make up the Greater Blue Earth River Basin Alliance
- News releases to newspapers throughout the BERB;
- Two radio interviews; one TV interview
- Two mailings to local elected officials, agency staff, and interest groups
- Public open houses at three communities in the basin
- A website hosted by the Minnesota River Basin Data Center.

For more information

The complete report for the Blue Earth River Basin Fecal Coliform TMDL is available on the MPCA Web site at

<http://www.pca.state.mn.us/water/tmdl/index.html#drafttmdl>

For questions, comments and requests for additional information, contact:

Lee Ganske, Project Manager
Minnesota Pollution Control Agency
18 Wood Lake Drive SE
Rochester, MN 55904
(507) 285-7343

lee.ganske@pca.state.mn.us

