Summary

Monitoring and Assessment

Mississippi River-Twin Cities Watershed

What is the issue?

Due to the density of industry, housing, and roads, lakes and streams in the Mississippi River-Twin Cities Area Watershed are showing signs of stress from pollution, such as:

- **Higher levels of nutrients causing unsightly and sometimes toxic algae blooms in lakes**
- **Bacteria in streams making recreating in them potentially unsafe**
- **Impervious surfaces like parking lots, roads, and roofs contributing to flashier streamflows and eroding stream banks**

Why is it important?

The Mississippi River-Twin Cities Watershed encompasses a large portion of the metropolitan area of Minneapolis and Saint Paul. The watershed is home to more than 1.8 million people across 99 cities, more than 500 species of wildlife and fish, and numerous aquatic invertebrates. Drinking water quality and the recreational enjoyment of lakes and streams are valuable assets to Minnesotans and the local economies throughout the watershed.

Agencies, watershed groups and local citizens are collaboratively working to address these problems in order to improve and protect the scenic beauty and recreational enjoyment of the lakes and streams of the Mississippi River-Twin Cities Watershed.

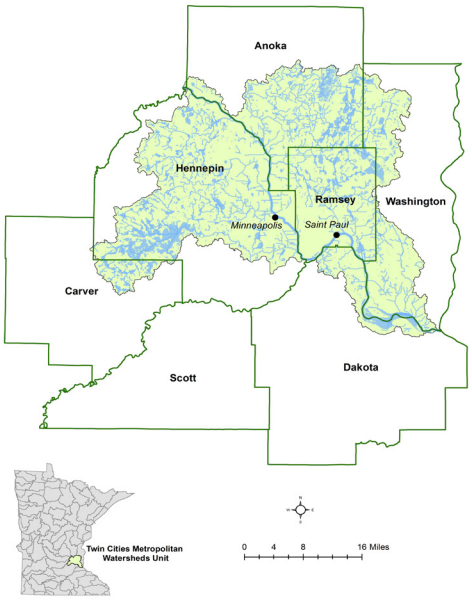
Highlights

- Land use changes in vegetation, urban development, and application of fertilizers and deicers have all contributed to reduced water clarity, algal blooms, potentially unsafe swimming conditions, and loss of sensitive aquatic species.
- Increased levels of bacteria, chloride, nutrients, and flashy stream flows are threats to the quality of the water resources in much of the watershed today.
- The 84 lakes assessed support aquatic recreation like swimming and boating based on water clarity and levels of algae present, while 87 assessed do not.
- Eight previously-impaired lakes have been restored, and are considered healthy.
- Fifty-one lakes were found to have fish with high levels of mercury, PCBs (polychlorinated biphenyls) and/or PFOS (perfluorooctane sulfonate). Because of this, fish consumption advisories are recommended for lakes across the watershed.
- Based on monitoring the amounts and types of fish and bugs found in streams, two streams assessed support aquatic life, while 21 assessed do not.
- Due to high levels of bacteria, only one stream assessed supports aquatic recreation, while 17 assessed do not.

- Years of industrialization and urbanization have created areas of concern for groundwater quality and quantity.
- The concept of groundwater interaction with -surface waters and potential effects on waterbodies is an area of new and growing concern for municipalities within the watershed.
- Dozens of clean-up plans have been completed or are in development that target reductions in nutrients, bacteria, turbidity, and chloride in this watershed.
- To reduce pollution, the Minnesota Pollution Control Agency (MPCA) recommends citizens take personal responsibility and actions like cleaning up pet waste, making sure septic systems are up-to-date, reducing the use of deicers, planting rain gardens or using rain barrels, minimizing application of lawn fertilizers and cleaning up grass clippings and leaves.

About this study

In 2010, the MPCA undertook an intensive watershed monitoring effort of the Mississippi River-Twin Cities Watershed's surface waters in collaboration with local partners. Nearly 50 stream stations were sampled for biology at the outlets of subwatersheds. These locations included the outlets of tributaries such as Rice Creek, Elm Creek, Coon Creek, Bassett Creek, Shingle Creek, and Minnehaha Creek, and many smaller streams. The MPCA also joined with local partners to conduct water chemistry sampling. Then in 2012, a holistic approach was taken to assess this and other data for a large number of the watersheds' creeks and larger lakes to see if they are supporting aquatic life, recreation, and fish consumption. During this process, 180 lakes and 46 stream reaches were able to be assessed, but not all waterbodies monitored were assessed due to insufficient data and modified channel condition.



Full report

To view the full report visit ? http://www.pca.state.mn.us/index.php/water/water-types-and-programs/watersheds/mississippi-river-twin-cities.html

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