



Lake St. Croix

Draft TMDL: Excess nutrients (phosphorus)

Water Quality/Impaired Waters #6-04a • December 2011

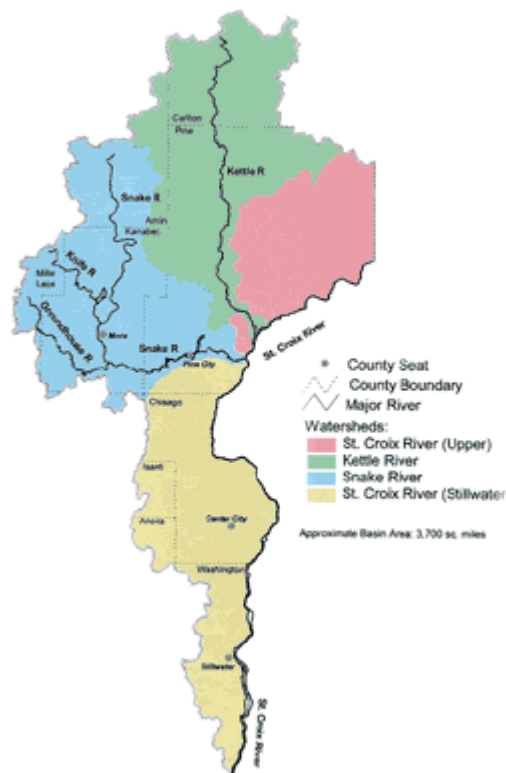
Lake St. Croix, the lower 25 miles of the St. Croix Basin between Stillwater, MN and Prescott, WI, was designated as an impaired water in 2008 for excess phosphorus.

The St. Croix River's headwaters are at St. Croix Lake near Solon Springs, Wisconsin, where it flows west and south over 160 miles until it joins the Mississippi River at Prescott, Wisconsin. Approximately 80% (129 miles) of the St. Croix River forms part of the boundary between Wisconsin and Minnesota. The upper 20% of the river is entirely within Wisconsin. The watershed covers approximately 7,760 square miles and extends from near Mille Lacs Lake in Minnesota on the west to near Cable, Wisconsin, on the east. Approximately 46% of the watershed is located in Minnesota.

The river crosses three major ecoregions, supports a wide variety of plants, animals and insects, and is a regional scenic and recreational destination.

St. Croix Interagency Basin Planning Team

An interagency planning team consisting of federal, state and local members was formed to work together to protect and enhance the water resources in the St. Croix River basin. The team includes the U.S. National Park Service, Wisconsin Department of Natural Resources (WDNR), Minnesota Pollution Control Agency (MPCA) and Minnesota Department of Natural Resources and signatory members and includes several other cooperating members.



The problem

While phosphorus is an essential nutrient for algae and plants, it is considered a pollutant when it stimulates excessive growth of algae. This can significantly affect recreational use, aesthetics and wildlife.

The sources

Rapid population growth and accompanying land-use changes have affected the water resources of the St. Croix River Basin. Both point and nonpoint sources of pollution contribute to Lake St. Croix impairments. Point sources

refer to a specific discharge point such as a pipe.
Nonpoint sources refer to overland runoff.

Phosphorus is the primary pollutant associated with the eutrophication of surface waters.

Reductions

The Basin Planning Team conducted a detailed review of nutrient and sediment research and developed recommended water quality goals that would return Lake St. Croix to the conditions that existed prior to 1950, before major ecological changes were experienced. These goals will require a 27 percent reduction in total phosphorus loading within the St. Croix Basin.

The process

1. Collect information on the condition of the watershed, including water chemistry, biology and land use.
2. Use this information to assess whether water quality is impaired.

3. For this impaired watershed, conduct water quality monitoring, investigative studies, and computer modeling of the lake system.
4. Utilize studies to develop a watershed recovery plan to meet water quality goals based on public input and watershed modeling.
5. Implement the management practices identified in the watershed plan.
6. Conduct a monitoring program to verify water quality goals are being met.

For more information

For more information, visit the St. Croix River Basin Web page at <http://www.pca.state.mn.us/water/basins/stcroix/index.html>.

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