



**Wisconsin
Department of
Natural Resources**

The St. Croix River drains a 7,760 square-mile area in northwest Wisconsin and Minnesota. Approximately 20% of the 160-mile long river is entirely in Wisconsin.



The St. Croix basin

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Algae in Lake St. Croix along Lakeland beach near Hudson showing the effects of excess phosphorus.

Lake St. Croix Restoration Effort

A fact sheet about the Total Maximum Daily Load (TMDL) for the St. Croix

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What's the St. Croix Basin

The land area that drains to the St. Croix River comprises about 7,760 acres in Northeast Minnesota and Northwest Wisconsin. This is larger than the states of Delaware, Rhode Island, and Connecticut combined!

The northern portion of the basin is forested with an abundance of lakes, streams and rivers. The southern portion has more developed agricultural land and urban areas. The basin is rich in both aquatic and terrestrial species, with abundant opportunities for both upland and water-based recreation. It is nationally significant with the St. Croix National Scenic Riverway bisecting the basin, including the St. Croix and Namekagon

Rivers. Both states have listed many of the rivers, streams and lakes in the basin as either Outstanding or Exceptional resource waters.



A view of Lake St. Croix near Hudson.

What's the Problem: Water Quality Impairment

Levels of phosphorus entering the waters of the basin have increased dramatically since the 1940s, leading to a decline in the health of Lake St. Croix. Lake St. Croix is actually the last 25 miles of the mainstem of the St. Croix River from Stillwater, Minnesota to Prescott, Wisconsin (where the St. Croix meets the Mississippi).

When phosphorus is present in excess amounts, it can lead to nuisance algae growth. Excessive algae in turn results in poorer water quality, impaired habitat, loss of natural scenic beauty, human health concerns, and poorer recreational opportunities. For the beautiful rivers, streams, and lakes in the basin, these impairments represent a decline in ecological health of some of both states' most superlative waters. Because of the increasing phosphorus levels and more frequent nuisance algae blooms, both Wisconsin and Minnesota supported listing Lake St. Croix as an "impaired" water on the EPA's 2008 list.

It is estimated that on average, 460 tons of phosphorus entered Lake St. Croix at Stillwater every year in the 1990s. Further, the human population in the basin was expected to increase by 39% by 2020. Although this trend has lessened, more people in the basin means an increase in conversion of open land to homes, businesses, roads, streets, etc. to supply the goods and services people need. With this development comes more "impervious surfaces" where water that used to soak in the ground on forest or crop land now runs off to surface water, potentially carrying sediment, phosphorus, and other pollutants with it.

A skin reaction from exposure to a severe algal bloom.



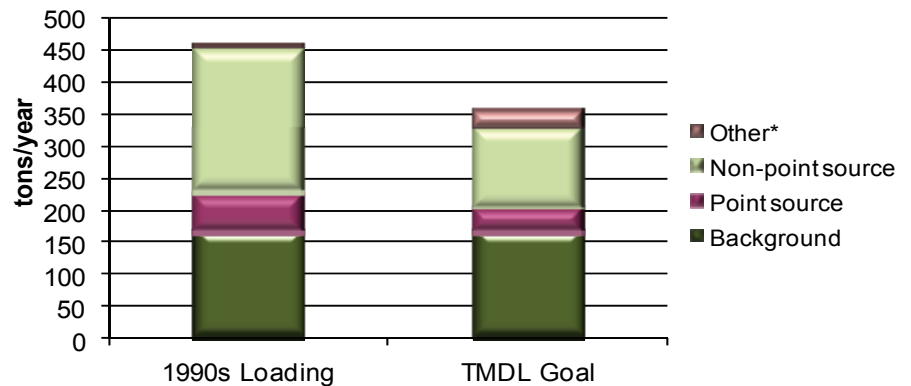
What's the Solution?

To bring Lake St. Croix and the waters of the basin back to pre-1940s conditions, the phosphorus loading needs to be reduced by 100 tons per year. This is projected to lower the phosphorus concentration in the lake from around 50 parts per billion to 40 parts per billion. For people who enjoy recreating on the river or in Lake St. Croix, this means cleaner water, clear water to a deeper depths, better habitat, and more enjoyable conditions for swimming, boating, or just playing in the water.

The Total Maximum Daily Load, or “TMDL” report calls for a 38% reduction in the human-caused phosphorus carried to the rivers and streams of the basin, and eventually entering the St. Croix River and Lake St. Croix. The TMDL sets goals for each watershed in the basin, based on the respective land cover and land uses practices. It also sets a cap on the amount of phosphorus that can be discharged each year by wastewater treatment plants serving communities and industries in the St. Croix Basin.

There are simple and practical things everyone can do to lower the amount of phosphorus entering our waters. By making wise choices on products used in our homes, lawns and gardens; improving farming practices, septic system maintenance and municipal and industrial wastewater treatment, all residents and visitors to the basin can help make a difference for the St. Croix. The full TMDL report can be viewed on the web by searching for “Wisconsin TMDL” and clicking the “Draft St. Croix TMDL” link.

Phosphorus Reduction Needed in the St. Croix Basin



*"Other" includes the Reserve Capacity for future growth, a margin of safety, loading from the Tribal lands and communities, internal loading in Lake St. Croix, and atmospheric sources of phosphorus.

How Will the TMDL Goals be Implemented?

Using input received from the public, the Minnesota Pollution Control Agency (MPCA) and Wisconsin DNR will prepare a final TMDL report for EPA approval. Based on this final report, an implementation plan will be developed.

Several implementation strategies are already being planned by the state, federal, and local agencies and partners involved in the St. Croix Basin Water Resources Planning Team. Most of the work needed is in controlling runoff from urban areas, cropland, and agricultural practices. Local water planners and Land Conservation Departments will be key to advising landowners on implementation measures.

Are the Goals Achievable?

YES! Most of waters of the St. Croix Basin are generally very clean and healthy, and we are not starting from an extremely degraded condition. The work outlined in the TMDL report is needed to keep our waters clean and healthy and to restore ones that show signs of impairment. Also, our communities and industries have made significant progress in reducing point source phosphorus inputs by approximately 60% since the 1990s. Every pound reduced counts toward the overall goal, which we believe to be achievable over the next decade.

Sioux Portage on the St. Croix River in Burnett County.



For more information visit the St. Croix at <http://dnr.wi.gov/org/water/wm/wqs/303d/TMDL.htm>