PRESERVING MINNESOTA'S WATER QUALITY—BEFORE ITS TOO LATE

BY: Ray Gildow, Action Outdoors

Summer Algae Bloom

Preserving the water quality in our state is becoming increasingly urgent! It is widely agreed that the majority of Minnesota lakes and rivers south of Interstate 94 are now impaired. That does not mean they are all beyond improving but, for the most part, trying to reverse the water quality in these bodies of water is just too expensive and not practical. It is also widely agreed that most of the lakes and rivers north of Interstate 94 are in good condition. These lakes are usually deeper and, in many cases, have less development on their shorelines which allows nature to work to keep the water cleaner.

A common element found in our impaired waters is phosphorus. It is not the only element but it is the focus of this article. Phosphorus in the environment is essential for plant growth and health. However, high levels of phosphorus in water can harm aquatic life and recreation by reducing water clarity and depleting oxygen levels in the water that cause toxic algae blooms that can impact all living things.

Eutrophication is the term scientists use to describe excessive algae growth in water that have too much phosphorus. Eutrophication can include dangerous blue-green algae blooms, which can severely impair aquatic recreation and even prove fatal to pets. For years phosphorus was found in lawn fertilizers and other plant food that was often used for yards along lakes and rivers. It was also found in sewage and other materials that were dumped into rivers and lakes before new laws were implemented to stop the dumping of phosphorus in Minnesota waters.

In the summer of 1997, the Leech Lake Division of Resource Management and the Minnesota Chippewa Tribe Research Lab conducted extensive research on a number of lakes and rivers in the Leech Lake Watershed. Another water quality assessment was done in 2001 by the Leech Lake Band of Ojibwe and Beltrami County on a smaller geographic area of lakes. John Persell, who works with the Chippewa Tribe, was one of the leading researchers for these two studies. While these two studies are much too complex to review here, Persell shared with me that a major concern for northern waters is the atmospheric loading of phosphorus. Much progress has been made in Minnesota since these two studies. Mercury production by power plants has been greatly reduced and new laws have been enacted to restrict the use of fertilizers that contain phosphorus for lawn use. However, the threat for loading phosphorus in northern waters is still very real. One of the biggest challenges---wind, specifically wind coming from the Red River Valley, is a primary contributor of atmospheric loading of phosphorus in the Leech Lake Watershed. Why? Spring, fall, and winter, winds blow across bare fields that were fertilized during the growing season and phosphorus, along with other chemicals, is lifted into the air and transported great distances and deposited into lakes and rivers many miles away.

A solution to this problem has been identified by the Minnesota Pollution Control Agency and the University of Minnesota; plant cover crops that not only benefit farmer but our northern lakes and rivers as well. Investing in this process and the organizations working to expand this practice is an important part of keeping our lakes clean and healthy in the future.