

Phosphorus and Blue-Green Algae

Why We Need to Reduce the Amount of Phosphorus Entering Our Lakes and Rivers, and What Council Can Do

What is Blue-Green Algae? Why Is it a Problem?

- Blue green algae are a type of bacteria. People can get sick from the microcystin toxin they produce if they have direct contact with a blue-green algae bloom, by either intentionally or accidentally swallowing water, by having direct skin contact (as when swimming, wading, or showering), or by breathing airborne droplets containing the toxins, such as during boating or waterskiing. Microcystin toxin can damage liver cells when ingested. Children are at greater risk than adults of developing serious liver damage should they ingest high levels of microcystins.

- Nuisance blooms of blue-green algae have appeared in many lakes throughout Greater Sudbury in recent years, including Ramsey Lake, Long Lake and McFarlane Lake. It is widely accepted by scientists that high **phosphorus** levels in lakes and rivers contribute to blue-green algae blooms and reduced water quality. **Research has shown 1 pound of phosphorus can grow 700 pounds of blue-green algae.** High concentrations of phosphorus in sediments also feed aquatic plants and the invasive species Eurasian water milfoil and leads to low levels of dissolved oxygen, which harm fish.

- One source of phosphorus is chemical **lawn fertilizer**. When excess fertilizer is applied to lawns, grass is unable to use it all and it is carried by runoff into our waterways. To protect waterways, Manitoba and many states in the U.S. have restrictions on fertilizers with phosphorus. By spring, 4,500 residents in the Ramsey Lake watershed will be asked to stop using lawn fertilizers containing phosphorus according to the Clean Water Act regulation. All the lakes of Greater Sudbury should be afforded this same protection.

Seven Year Average Spring Phosphorus Levels in the Lakes of Greater Sudbury

(Lake Water Quality Program, micrograms per L)

Fairbank Lake	4.8
Black Lake	5.6
Long Lake	7.8*
Richard Lake	9.0
St. Charles Lake	11.0
Ramsey Lake	11.1*
McFarlane Lake	11.3*
Lake Nepahwin	11.3
Whitewater Lake	14.9
McCharles Lake	28.0*
Simon Lake	35.1*
Bethel Lake	36.9
Minnow Lake	41.9

Junction Creek - many readings over 100

A high level of protection against aesthetic deterioration in our lakes is provided by a total phosphorus concentration of 10 µg/L or less. (MOE guidelines)

Lakes with an average above 10 are in bold.

*have had algae problems

The Value of Our Lakes

- With 330 lakes, the City of Greater Sudbury contains more lakes than any other municipality in Canada. Swimming, fishing and boating are classic features of a Sudbury summer.

- Thousands of Greater Sudbury residents use area lakes as drinking water sources. Ramsey Lake is a principle drinking water source for 60,000+ residents.

If we continue to provide ample phosphorus for blue-green algae to grow in our lakes, we can expect the following to occur:

1. Swimming, boating, and fishing curtailed. Decline in tourism and quality of life for Sudburians.
2. Increased cost to taxpayers for extra cleaning and/or replacement of water filters and water testing.
3. Ramsey Lake lost as a municipal water supply.
4. Lakefront property values decline, resulting in diminishing property tax revenues.

What Can Council Do? Enact a Bylaw Restricting Lawn Fertilizers with Phosphorus. How A Bylaw Would Work:

- Prohibit the display and use of lawn fertilizers containing phosphorus. Phosphorus-free fertilizers cost the same as other fertilizers and are readily available in local hardware stores.

- Manitoba, Minnesota, Maine, New York, Florida, Wisconsin and New Jersey have bylaws restricting phosphorus use, which affect 60 million people. So far, no municipality in Ontario has this restriction. **Greater Sudbury has the opportunity to LEAD on this important issue.**

- After 2 years, Minnesota's bylaw reduced phosphorus lawn fertilizer use by 82% and 97% of consumers support the law.

- Some newly seeded lawns, or sod may need phosphorus. A soil test can determine this and phosphorus can be purchased, if deemed necessary.

- This simple, common sense bylaw doesn't result in any increased cost for consumers, retailers or taxpayers.

We need to reduce the amount of phosphorus reaching our waterways. Together we can do it.

The Greater Sudbury Watershed Alliance is an independent, grassroots partnership of lake, river and creek stewardship committees, lawn care professionals and concerned individuals working together on watershed issues in the City of Greater Sudbury. For more information, contact us at 691-5538, email us at sudburywatershed@live.ca or see our website <https://sites.google.com/site/sudburywatershed/>.