

# Phosphorus, Blue-Green Algae

## Why We Need to Reduce the Amount of Phosphorus Entering Our Lakes and Rivers, and How to Do It

- 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
<b>St. Charles Lake</b>	<b>11.0</b>
<b>Ramsey Lake</b>	<b>11.1*</b>
<b>McFarlane Lake</b>	<b>11.3*</b>
Lake Nepahwin	11.3
Whitewater Lake	14.9
<b>McCharles Lake</b>	<b>28.0*</b>
<b>Simon Lake</b>	<b>35.1*</b>
<b>Bethel Lake</b>	<b>36.9</b>
<b>Minnow Lake</b>	<b>41.9</b>

### 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 a part of a quintessential 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 We Do To Reduce the Amount of Phosphorus Entering Our Lakes and Rivers?

- If you fertilize, buy fertilizer with no phosphorus. The formulation will have a 0 in the middle like 10-0-10. They are readily available in stores. Consider not fertilizing your lawn or use organic compost which also provides essential nutrients to your soil.

- Ask your lawn care provider not to use phosphorus routinely. It is only needed for newly seeded lawns or when laying sod. A soil test will tell you when you need it.

- If you own a shoreline property, keep a 15-30 metre natural shoreline buffer which will help filter nutrients before they reach the water and prevent erosion. Need help? Ask us. In new shoreline developments, 12m of shoreline must be left natural according to Sudbury's new zoning bylaw.

- If you own a septic system, keep it well maintained.

- Do not throw leaves, grass clippings, pet waste or other organic debris into your street or driveway. Runoff carries these through storm sewers, directly to lakes and rivers.

### 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](mailto:sudburywatershed@live.ca) or see our website <https://sites.google.com/site/sudburywatershed/>.