Working towards a Water Strategy for New Brunswick :

Blue Green Algae

What are Algae?

Algae are microscopic organisms that live in the water and can be either suspended or attached to solid surfaces such as rocks and logs.

Algae require light, specific temperature ranges and a supply of nutrients to grow and reproduce. Nutrients, such as phosphorus and nitrogen are an important contributor to algal growth in a lake or other body of water.

What are blue green algae?

Cyanobacteria, also known as blue green algae, is a type of algae. They are microscopic cells of bacteria that occur naturally in surface waters. They can be found in many types of water systems including lakes, rivers and wetlands.

They were first recognized for their blue-green colour and can be identified by their range of shades from blue to olive-green. They are sometimes described as looking like 'pea soup'.

Blue green algae have photosynthetic capability which means that they use the sun's energy to produce sugar which they use for growth. Normally blue-green algae are barely visible but under the right conditions, the organisms can grow rapidly in large quantities to form masses called blooms.

Blooms can look like small clumps or dots of green in the water or may appear as scum on the water's surface. A bloom can occur throughout a lake or accumulate in smaller areas such as coves due to wave and wind action. Blooms can also be present in the winter under the ice. Once decomposition of algae begins, the bloom may produce odours, and use oxygen in the aquatic environment.

Certain species of blue green algae can house poisons called cyanobacterial toxins which can impact human health and be toxic to pets and livestock if ingested.

When blue green algae blooms are detected, advisories are issued by Department of Health so that local water users can make informed decisions on water use in affected areas. Individuals should avoid swimming and other water-related activities in areas dense with blooms. For additional information on public health and for advisories, visit: http://www2.gnb.ca/content/gnb/en/departments/ocmoh/healthy_environments/content/blue_green_algae.html

What causes algal blooms?

Although difficult to predict, algal blooms are common in New Brunswick during the hot summer weather from early June

to late October. Algal blooms can dissipate quickly or last for several weeks. If the cause of an algal bloom is not resolved, then it may re-occur the following year.

With the presence of abundant nutrients, (food) for the algae and the right conditions (e.g. low water flow, poor water circulation, elevated water temperature, etc.), a body of water can very rapidly develop an algal bloom.

Although nutrients are naturally occurring in a lake and are part of a healthy water body, too much phosphorus and nitrogen can cause problems by offsetting the natural balance of the lake. These problems arise and are compounded when storm water, agricultural runoff, industrial and wastewater effluent, effluent from faulty septic system and lawn fertilizers find their way into the lake.

What are the effects of algal blooms?

Algae can cause unpleasant odours and may interfere with the safe use of a body of water. As algal blooms decompose they use oxygen which can also have an impact on the aquatic life.

The toxins produced by some blue green algae can cause skin and eye irritation. Swallowing contaminated water while swimming, water skiing or taking part in recreational activities, can cause flu-like symptoms. These symptoms can include headaches, fever, sore throat, dizziness, stomach cramps, nausea, diarrhea and vomiting.

You can prevent algal blooms in lakes by helping to keep excess nutrients from entering the water by:

- Not removing shoreline vegetation
- Not using fertilizers or herbicides
- Ensuring your septic tank and field are well maintained
- Using only phosphate-free household and personal cleaning products.

For more information, visit Green Home and Cottage: A quick reference guide to 'green living' for shoreline property owners.

How to report a suspected algal bloom

The Department of Environment and Local Government and the Department of Health follow a protocol for consistently addressing occurrences of algal blooms. If you encounter what you suspect might be an algal bloom, please report it via telephone to Department of Environment and Local Government by contacting the regional office closest to you.

Regional Contacts:

Region 1 - Bathurst (506) 547-2092

Region 2 - Miramichi (506) 778-6032

Region 3 - Moncton (506) 856-2374

Region 4 - Saint John (506) 658-2558

Region 5 - Fredericton (506) 444-5149

Region 6 - Grand Falls (506) 473-7744