North Bay Parry Sound District Health Unit

1-800-563-2808
www.myhealthunit.ca

Cyanobacteria (Blue-Green Algae) Frequently Asked Questions

1. What are cyanobacteria?

Cyanobacteria are also commonly known as blue-green algae or pond scum. The use of the term algae is scientifically a misnomer as they belong to the bacteria genus (phylum cyanobacteria). They are made up of cells which can produce toxins that are a health concern to humans and animals. They are a worldwide problem and have been around for thousands of years. Cyanobacteria are found in nearly every environment. Normally, they are barely visible but when conditions become favourable, they may form visible blooms. In the North Bay Parry Sound District Health Unit's area, cyanobacterial blooms generally show up in August and may persist through the winter.

2. What are the health risks and symptoms?

People can be exposed to the toxins by drinking the water, skin contact with the water, inhalation of water droplets and by eating contaminated food. Swallowing water containing the toxins can lead to vomiting, diarrhea, abdominal pain, cramps and nausea. The severity of the illness is related to the amount of water ingested, and the concentrations of the toxins. Although rare, severe cases could include seizures, liver failure, and respiratory arrest-even death. Skin contact with the toxins can cause irritation which may appear as an itch, redness and/or skin rash. More severe cases can include mouth ulcers, ulcers inside the nose, eye and/or ear irritation and blistering of the lips.

3. Are some people at greater risk?

Yes. Children-toddlers and those with liver disease or kidney damage and weakened immune systems are at higher risk.

4. Can my pets drink contaminated water?

No. Pets and livestock have died from drinking water containing toxic cyanobacteria.

5. I do not see any cyanobacteria present. Is the water safe?

We don't know. Blooms continually change and therefore are difficult to predict. Temperature or sunlight changes could make the bloom less buoyant and sink into deeper water where you may not be able to see it as well. The wind may change directions and temporarily blow the bloom to a different part of the water body. Even when a bloom has disappeared, toxins have been shown to persist in water bodies for long periods of time. These are examples of why a sample result received from the water one specific time of the day may not be representative of the water quality hours after. We have to assume a worst case scenario.

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6. I get my drinking water from the lake and I have my own water treatment device. Is the water safe for drinking during a cyanobacterial bloom?

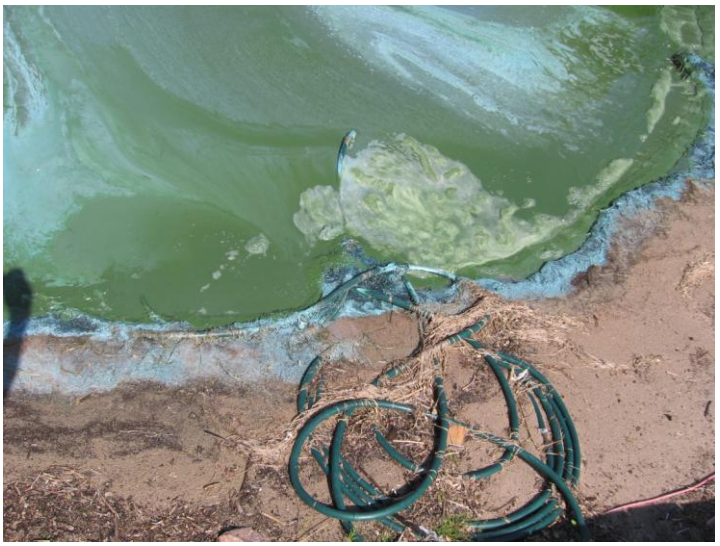
No. Many small scale treatment devices available to the homeowner have not been performance tested by the manufacturer to ensure effective removal of cyanobacteria and their toxins. Recommending a specific treatment device at this time is not possible because of the variability in designs of treatment systems, the variable nature of cyanobacteria blooms, difficulties in maintaining the system and lack of adequate inexpensive testing to ensure a treatment system is operating properly. When cyanobacteria die, they sink to the bottom of the water body potentially releasing toxins where drinking water system intakes are located. Having a deep drinking water intake does not eliminate the risk. Boiling the water does not remove the toxins. In fact, boiling the water may make the situation worse by releasing the toxins from the cells.

Unfortunately, a solution to this problem does not exist and the only recommendation we can give at this time is to seek an alternate source of water. This is a long term issue that will probably not go away. Please consult with a local well driller to see if a drilled well may be a solution in your area.

If you continue to draw your drinking water from the lake that is known to contain cyanobacteria, you do so at your own risk.

7. Can I do laundry with the water during a cyanobacterial bloom?

Many cleaning agents that are used when laundering, such as chlorine and other oxidizers, may break open the cell wall of the cyanobacteria releasing more toxins in the water. Handling wet clothes after the wash cycle may present a risk of being exposed to the toxin.



8. What about recreational activities and bathing?

Usually when blooms form they are offensive in appearance and smell so people generally avoid the water. Any contact with the bloom may result in skin irritation. Also, the toxins can be absorbed through ingestion or can be inhaled when droplets of water become airborne.

9. Can I eat fish from water that has a cyanobacterial bloom?

Some toxins produced by cyanobacteria have been shown to accumulate in the tissues of fish and shellfish, particularly in the viscera (liver, kidney, etc.). It is difficult to say whether the accumulation of toxins in fish would be a concern because it depends on the level of consumption and severity of the cyanobacteria blooms. Be cautious about eating fish caught in water where cyanobacteria blooms occur, in particular, do not eat the liver, kidneys and other organs of fish caught. When filleting, do not cut the organs.

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10. Can I water my vegetable garden during a cyanobacterial bloom?

Do not use water from a cyanobacterial bloom for watering your vegetable garden. Studies have shown toxin exposure to plants by contaminated irrigation water can result in the plant taking in the toxin.

11. Who should I call if I think I have found a cyanobacterial bloom?

Call the Ontario Ministry of the Environment Spills Action Centre at 1-800-268-6060.

12. Tips on what to do and things to avoid:

- Be aware of areas with thick clumps of cyanobacteria and keep animals and children away from the water.
- Do not wade or swim in water containing visible cyanobacteria. Avoid direct contact with cyanobacteria.
- Make sure children are supervised at all times when they are near water. Drowning, not exposure to toxic cyanobacteria, remains the greatest hazard of water recreation.
- If you do come in contact with the cyanobacteria, rinse off with fresh water as soon as possible.
- Do not boat or water ski through cyanobacterial blooms.
- Do not drink the water and avoid any situation that could lead to swallowing the water.

Additional Resources

http://www.cdc.gov/hab/cyanobacteria/pdfs/facts.pdf
http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/cyanobacterial_toxins/index-eng.php
http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/cyanobacter-eng.php
http://www.who.int/water_sanitation_health/resourcesquality/toxicyanbact/en/

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