



JUST THE FACTS

BLUE-GREEN ALGAE BLOOM

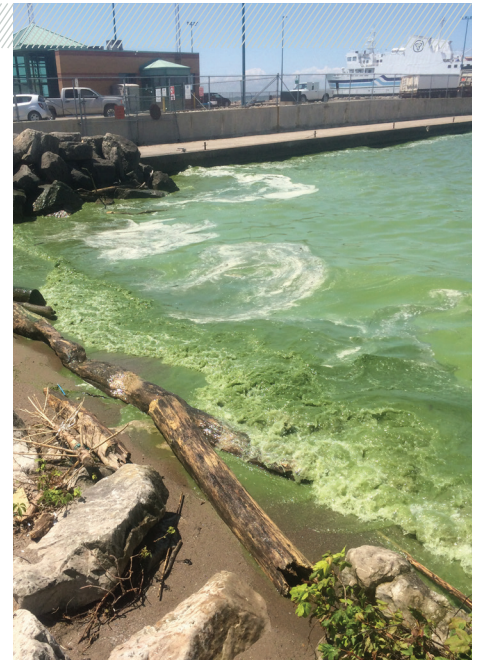
What you should know

In the past few years, blue-green algae blooms have formed off the southwest region of Lake Erie near Pelee Island. During a bloom wind conditions may move the blue-green algae bloom towards the shores of Windsor-Essex County and Pelee Island, which could contaminate some sources of drinking water and beaches.

Residents and visitors are urged to take a cautious approach, monitor the situation, and protect themselves from potential health risks.

What are blue-green algae?

Blue-green algae (Cyanobacteria) are microscopic bacteria that occur naturally in fresh water lakes, ponds, rivers and streams in the late summer and early fall. In warm weather, with the right nutrients (phosphorous and nitrogen) and low wind, they can form a large mass called a bloom. These blooms can make the water appear bluish-green, can form solid looking clumps, and may contain toxins that can be dangerous to your health and the health of your animals.



The most common toxins produced in a bloom are called **microcystins**. Those most “at-risk” are children 6 years of age and younger.

How can you be exposed?

- Direct skin contact (swimming).
- Swallowing (drinking water).
- Eating fish caught in water where blue-green algae blooms occur.
- Inhaling mist in the air containing blue green algae cells or toxins (e.g., waterskiing, showering).

Contact your health care provider if you have any of these symptoms.

What are the health effects?

Skin Contact

- Itchy, irritated eyes and skin if you swim, bathe, or shower in contaminated water.

Swallowed




- Small quantities - headaches, fever, diarrhea, abdominal pain, nausea, and vomiting.
- Large quantities - more serious health effects may occur such as liver damage.

What's being done to monitor for blue-green algae?

Organizations such as your Municipality, the Windsor-Essex County Health Unit, the Essex-Region Conservation Authority, the Ministry of Environment and Climate Change, etc., work together to monitor and test the water in the following ways:

- Visually monitor area lakes and waterways.
- Regularly sample the water from Lake Erie, Lake St. Clair, and major watercourses during the algal bloom season.
- Test the municipal drinking water systems.
- Monitor satellite images.
- Report results to the Health Unit.
- Issue advisories and warnings to the public as needed.

Swimming Recommendations

LEVEL OF MICROCYSTINS -Parts per Billion- (ppb)	RECOMMENDATIONS	SIGNS	SIGN DESCRIPTION
1.5 ppb to 10 ppb	<ul style="list-style-type: none"> • Swim with CAUTION and rinse off with clean water after swimming. • DO NOT swim if the water looks cloudy, like green paint, or pea soup. 	 <p>The sign features a blue and green background with a question mark icon. Text includes: 'WATER QUALITY ADVISORY', 'This water may contain blue-green algae capable of producing toxins that can be dangerous to humans and pets.', and 'FOR YOUR SAFETY... Do not swim or wade in water. Do not allow pets to swim or drink water. Do not allow children to play in water. Stay from shoreline. Avoid all other swimming.'</p>	<ul style="list-style-type: none"> • This Advisory sign will be posted all year round on Pelee Island public beaches due to frequent blooms of blue-green algae. • This Advisory sign will be posted at public beaches in Windsor- Essex County if BGA results reflect these levels.
10 ppb or higher (20 ppb or higher as per Health Canada, 2012)	<ul style="list-style-type: none"> • DO NOT swim • DO NOT use this water for recreational use (e.g., boating, water skiing, etc.). 	 <p>The sign is orange with a red circle and slash over a swimmer icon. Text includes: 'WARNING UNSAFE FOR WADING OR SWIMMING', 'High levels of potentially toxic blue-green algae have been identified in this water.', and 'Exposure to blue-green algae may cause rashes, vomiting, diarrhea, or fever in humans and pets. Anyone who comes in contact with blue-green algae should rinse off with fresh water. If you experience any of these symptoms, please seek medical attention.'</p>	<ul style="list-style-type: none"> • This Warning sign will be posted on Pelee Island public beaches if BGA results reflect these levels.
		 <p>The sign is black with a red circle and slash over a swimmer icon. Text includes: 'CLOSED UNSAFE FOR SWIMMING HIGH LEVELS OF BACTERIA IN THESE WATERS MAY POSE A RISK TO YOUR HEALTH'</p>	<ul style="list-style-type: none"> • This Closed sign will be posted at public beaches in Windsor-Essex County if BGA results reflect these levels.

Please note that infants and young children (under age 6) are most at risk of developing health problems (e.g., liver damage) from exposure to blue-green algae. During a blue-green algae bloom, the following precautions are recommended:

- Do not drink water drawn from the affected water source.
- Ensure boiled bottled water is used for all infant feeding preparation.
- Do not swim or play in affected water.



DO NOT BOIL THE WATER DURING A BLUE-GREEN ALGAE BLOOM!

Do not boil your water or manually treat the water with chlorine or other disinfectants. Boiling or treating the water makes it more toxic because it opens the cells and releases the bacteria's toxin. A Boil Water Advisory (BWA) is never issued during a blue-green algae bloom; an alternate water source must be used.

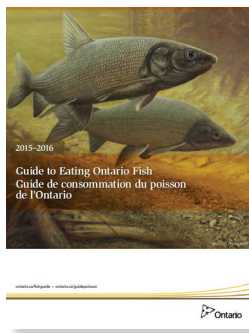
Drinking Water Recommendations

LEVEL OF MICROCYSTINS -Parts per Billion- (ppb)	RECOMMENDATIONS	
	IF USING A WELL/ CISTERN THAT DRAWS WATER FROM LAKE ERIE (e.g., Private cottages with a well)	IF USING MUNICIPAL DRINKING WATER
Greater than 0.3 ppb <i>(United States Environmental Protection Agency, 2015)</i>	<ul style="list-style-type: none"> • DO NOT let infants and young children less than 6 years of age drink the water. • Ensure boiled bottled water is used for all infant feeding preparations. 	<ul style="list-style-type: none"> • Water is safe to drink and use unless you are notified otherwise. Routine water testing is done by the municipal water treatment plant.
Greater than 1.5 ppb <i>(Ontario Drinking Water Quality Standard)</i>	<p>For ALL families, pets and livestock animals:</p> <ul style="list-style-type: none"> • DO NOT drink, cook with, brush your teeth, bathe or shower in this water (unless you are routinely testing for blue- green algae using a licensed lab and results show levels less than 1.5 ppb). • Use bottled water only. • DO NOT boil the water or add chlorine to the water. It will break down the bacteria and release more toxins into the water. • DO NOT rely on a jug filtration system, as it will not remove the toxins. 	<ul style="list-style-type: none"> • The municipality will notify the public of any advisories or warnings based on test results.

Avoid letting pets and livestock animals drink or swim in water during a bloom as they may suffer serious health risks including death. If they have come in contact with the water, rinse them off right away with clean water.

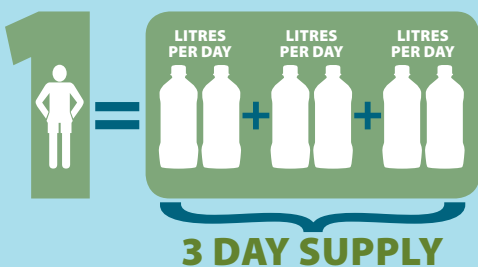


HOW DO I PREPARE AN EMERGENCY WATER SUPPLY?



Use caution when considering eating fish caught in water affected by a major blue- green algae bloom. Eating these fish might make you sick. It is recommended to avoid eating fish from waters during a blue- green algae bloom and for two weeks after the bloom. Refer to the Guide to Eating Ontario Fish 2015-2016 for more information.

- **Store at least a 3 day supply of water for your household** (try to store a 2 week supply if possible).
- **On average each person and pet uses at least 2 litres of water per day.** You should consider storing more water for summer weather, for pregnant women, and for persons who are ill.
- **Check the expiration date of store-bought water** and replace stored water every 6 months.



For information on which containers to use for water storage and how to properly clean and sanitize the containers, visit our website at www.wechu.org

What if I suspect a blue-green algae bloom?

- Assume it is toxic
- DO NOT swim, drink, or bathe in the water
- Restrict pets and livestock from using the water
- Call the Ministry of the Environment and Climate Change's Spills Action Centre at 1-800-268-6060
- Call WECHU to report it and for more information at 519-258-2146 ext. 4475

How can I help prevent the growth of blue-green algae?

- Use phosphate- free soaps, detergents and cleaning products.
- Avoid using lawn fertilizers, especially those that contain phosphorous.
- Ensure your septic tank is in good working condition and not leaking into the water.
- Maintain a natural shoreline on waterfront properties.
- Plant and maintain vegetation along waterways to reduce agricultural runoff.

FOR MORE INFORMATION

Visit www.wechu.org for the most up-to-date information and directions related to blue-green algae. You can speak to a Windsor-Essex County Health Unit Public Health Inspector at 519-258-2146 ext. 4475.

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Key References:

Health Canada. (2008). *Guidelines for Canadian drinking water quality: Guideline technical document – Cyanobacterial toxins - Microcystin-LR*. Retrieved from <http://healthycanadians.gc.ca/publications/healthy-living-vie-saine/water-cyanobacteria-cyanobacterie-eau/index-eng.php>

Health Canada. (2012). *Guidelines for Canadian recreational water quality, 3rd edition*. Retrieved from: http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/guide_water-2012-guide_eau/index-eng.php#a6

Ontario Ministry of the Environment and Climate Change (2016). *Blue-green algae*. Retrieved from: <http://www.ontario.ca/environment-and-energy/blue-green-algae>

Ontario Ministry of the Environment and Climate Change. (2014). *Information about blue- green algae: Background, potential impacts to human health and safety of drinking water*. Toronto: Queen's Printer for Ontario.

Additional references available on our website.