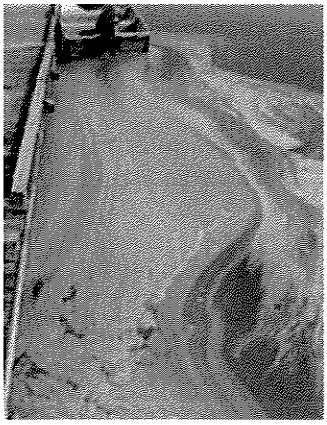
! A provincewide shutdown is in effect as of Saturday, December 26, 2020 at 12:01 a.m. Learn about the restrictions and public health measures that are in place.

Ontario

Blue-green algae

Learn about blue-green algae – bacteria that can be harmful to humans and animals – and what you should do if you spot it.



What is it?

Blue-green algae are microscopic, plant-like organisms that occur naturally in ponds, rivers, lakes and streams. Although often blue-green, they can also be olive-green or red.

How to recognize it

Blue-green algae are not normally visible in the water, but populations can rapidly increase to form a large mass or scum called a bloom when conditions are favourable.

Blooms most commonly occur in late summer and early fall. They thrive in areas where the water is shallow, slow moving and warm, but they may be present in deeper, cooler water.

Dense blue-green algae blooms may make the water look bluish-green, or like green pea soup or turquoise paint. Very dense blooms may form solid-looking clumps.

Fresh blooms often smell like newly mown grass, while older blooms may smell like rotting garbage.

Causes

One key factor contributing to the growth of blue-green algae is the amount of available nutrients such as phosphorus and nitrogen.

Blue-green algal blooms can be caused by agricultural and stormwater runoff as well as leaching from septic systems.

In Ontario, phosphorus tends to be the nutrient that influences the growth of algae.

If you spot it

Take a cautious approach, as some varieties of this algae can produce toxins that are harmful to both humans and animals.

If you suspect a blue-green algal bloom:

- assume toxins are present
- avoid using, drinking, bathing or swimming in the water (call your local health unit for swimming advisories)
- restrict pet and livestock access to the water

Contact your local health unit (http://www.health.gov.on.ca/en/common/system/services/phu/locations.aspx) for information on health risks associated with blue-green algal blooms.

If it's near your water supply

Home treatment systems may not remove toxins and can get easily overwhelmed or clogged, so they should not be relied on. Do not boil the water, or manually treat the water with chlorine or other disinfectants, as this could increase the toxin levels.

If you:

- are connected to a municipal water supply system or other central water treatment and distribution system, you can continue to use the water normally unless notified otherwise by the system operator or the local health unit
- have your own well supply with a groundwater source (not including shore wells or infiltration galleries), or you receive trucked water in cisterns, you can also continue to use the water normally
- get your water supply from your own surface water intake in the area of a bloom, you should consider an alternate source of drinking water for the duration of the bloom

Report blue-green algal blooms

If you spot blue-green algal blooms, call the:

Spills Action Centre (https://www.ontario.ca/page/report-spill)
1-866-MOETIPS (6638477)
TTY: 1-855-889-5775

Prevention

Take these simple steps to prevent the growth of blue-green algae:

- use phosphate-free detergents, personal care and household cleaning products
- avoid using fertilizers on lawns, especially fertilizers that contain phosphorus
- maintain a natural shoreline on lake and riverfront properties

- reduce agricultural runoff by planting or maintaining vegetation along waterways and minimizing fertilizer use
- check septic systems to ensure they do not leak into the water source

Contact your local health unit (http://www.health.gov.on.ca/en/common/system/services/phu/locations.aspx) for more information.

Ontario's 12-point plan on blue green algal blooms

Ontario is concerned about the effects of blue green algal blooms in our lakes and rivers. We know there is more to do. That's why we are working closely with our many partners, including other provinces, the federal government, U.S. partners, First Nations and Métis communities, conservation authorities, municipalities and other stakeholders to reduce and address algal blooms.

Ontario's municipal drinking water systems provide drinking water that is amongst the safest in North America. Municipal drinking water is tested for a common blue-green algae toxin called microystin whenever blue-green algae may be a concern. Monitoring activities to date continue to show that this toxin has not been detected in treated drinking water in Ontario.

Ontario has a 12-point plan outlining how we are working with our partners, to fight algal blooms in the Great Lakes and other lakes and rivers.

1. **Communicating, engaging and working with partners**
   We will continue to collaborate with our partners to reduce and address algal blooms. . Ontario responds to public questions and reported sightings of algal blooms. Fact sheets and the Guide to Eating Ontario Fish are regularly updated.

2. **Reducing nutrients**
   - Canada-U.S. Great Lakes Water Quality Agreement's Annex 4, which supports binational efforts to establish nutrient targets for Lake Erie by 2016 and develop domestic action plans by 2018
   - Canada-Ontario Agreement on Great Lakes Water Quality and Ecosystem Health, which includes commitments to reduce phosphorus in Lake Erie and other Great Lakes
   - Western Basin of Lake Erie Collaborative Agreement, signed by Ontario, Michigan and Ohio. This landmark agreement will reduce phosphorus loadings to Lake Erie's western basin by 40% over the next 10 years (including an interim reduction goal of 20% by 2020)
   - Great Lakes Commission's Lake Erie Nutrient Targets Working Group, which has established an interim joint action plan containing 9 commitments
   - Lake Friendly Accord, where Ontario is pledging to reduce the amount of nutrients in Ontario's waterways
   - Examples of projects:
     - leading a project with municipalities in the Grand River watershed and the Grand River Conservation Authority to reduce nutrients from sewage treatment plants and develop training programs
     - developing low-impact development technologies and green infrastructure to reduce storm water volume and improve storm water quality
     - supporting Lake Simcoe Region Conservation Authority's campaign to promote the use of low-phosphate or phosphate-free products in their watershed
     - naturalizing shorelines to reduce erosion and improving the ability of coastal and inland wetlands to control water flow and reduce phosphorus loadings
     - Collaborating with greenhouse operators to reduce the release of nutrient-rich wastewater

3. **Protecting our drinking water sources**
   Local source protection plans (http://conservationontario.ca/conservation-authorities/source-water-protection/source-protection-plans-and-resources/) use different strategies depending on the risk of algal

blooms near drinking water intakes. Plans may manage activities like storage and handling of manure and maintenance of sewage systems, including septic systems, which may contribute nutrients and encourage algal blooms. Other plans encourage more research into the causes of the blooms, increased monitoring and providing information to watershed residents about actions they can take to reduce nutrient run-off.

Provincial stewardship funding has supported thousands of voluntary actions such as septic system repairs and upgrades across the province.

4. **Science and innovation**
   Ontario is a leader in scientific and technical expertise and funds innovative research including:
   - Sponsoring testing optical probes that can determine the presence of cyanobacteria in real-time
   - Assessing new detection, removal and treatment technologies for cyanotoxin at the Walkerton Clean Water Centre
   - work with partners to better understand the science of algal blooms – particularly, what prompts them in nutrient enriched waters and why some blooms occur in relatively nutrient-poor waters

5. **Support**
   Ontario has invested over a billion dollars to improve the health and water quality of its lakes and rivers. This includes:
   - investing more than $8.6 million and implementing more than 50 projects since 2013 through the Canada-Ontario Agreement and Great Lakes Strategy to reduce nutrients in the Great Lakes Basin
   - investing $660 million in upgrades since 2007 to municipal wastewater and storm water infrastructure in the Great Lakes Basin
   - The Great Lakes Guardian Community Fund, which has awarded more than $880,000 to 42 local projects to protect water quality and shorelines along Lake Erie
   - The Great Lakes Agricultural Stewardship Initiative, which helps farmers improve soil health and promotes environmental stewardship in the Lake Erie basin and the southeast shores of Lake Huron. Under this initiative, Ontario, alongside the federal government will invest $4 million over the next 4 years
   - Ontario's Showcasing Water Innovation Fund, which contributed $1 million to improve water quality and protect the Grand River watershed
   - The Ontario Community Infrastructure Fund, which provides $100 million per year to help small, rural and northern municipalities repair critical infrastructure, including water and wastewater projects
   - The Small Communities Fund, which supports municipal projects with populations less than 100,000. Through this fund, Ontario and the federal government will each provide $272 million

6. **Legislation and regulatory tools**
   Ontario has legislation and regulations as well as policies and programs in place to protect water quality, including:
   - *Great Lakes Protection Act* (http://ontla.on.ca/web/bills/bills_detail.do?locale=en&BillID=3115&detailPage=bills_detail_status)
   - *Environmental Protection Act* (https://www.ontario.ca/laws/statute/90e19?search=environmental+protection+act)
   - *Ontario Water Resources Act* (https://www.ontario.ca/laws/statute/90o40?search=ontario+water+resources+act)
   - *Safe Drinking Water Act* (https://www.ontario.ca/laws/statute/02s32?search=safe+drinking+water+act)
   - *Clean Water Act* (https://www.ontario.ca/laws/statute/06c22?search=clean+water+act)
   - *Nutrient Management Act* (https://www.ontario.ca/laws/statute/02n04?search=nutrient+management+act)
   - *Lake Simcoe Protection Act* (https://www.ontario.ca/laws/statute/08l23)

7. **Water quality standards and guidelines**
   The Ontario Drinking Water Quality Standard for microcystin-LR (a common algal toxin) is a maximum acceptable concentration of 1.5 parts per billion or 1.5 micrograms per litre.

8. **Monitor**
   Ontario has worked with all municipal drinking water systems that take water from the Great Lakes to ensure testing of both the intake and treated water for blue-green algae weekly during peak algae season. Working closely with public health units, municipalities and other partners, we provide data to help inform decisions about taking action to protect public health.

9. **Public health**
   Ontario has a comprehensive protocol in place for responding to harmful algal blooms. This protocol ensures collaboration with local health units and local Medical Officers of Health to effectively manage algal incidents, including quick screening of bloom samples to identify potential toxins.

   If you are not connected to a municipal water supply system, and you usually use tap water to prepare infant formula, you must use an alternate source of drinking water during a blue-green algal blooms (like bottled water). For more information visit Health Canada (http://healthycanadians.gc.ca/recall-alert-rappel-avis/hc-sc/2015/53821a-eng.php) .

10. **Contingency plans**
    Municipal drinking water operators have developed comprehensive contingency plans to keep drinking water safe from the potential impacts of blue-green algal blooms.

11. **Analytical laboratory services**
    If a harmful algal bloom is suspected, samples are submitted to laboratories licensed for analytical testing of total microcystin and microcystin-LR (a common blue-green algae toxin).

12. **Drinking water system courses**
    The Walkerton Clean Water Centre delivers required refresher courses for drinking water system operators that include responding to and addressing potential algal concerns at drinking water plants.

There's work to do to protect Ontario's lakes and rivers from harmful algae blooms. We look forward to continuing to work with all partners to reduce nutrients and keep Ontario's drinking water safe.

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