

Blue-green Algae Blooms

FREQUENTLY ASKED QUESTIONS

Capital Regional District | 2020

1. What are blue-green algae?

Blue-green algae (also known as cyanobacteria) are microscopic, plant-like organisms that occur naturally in ponds, rivers, lakes and streams. Normally, blue-green algae are not visible in the water; however, under the right conditions of light, temperature and nutrients, algae can form blooms on the water's surface.

2. What do blue-green algae blooms look like?

Blue-green algae blooms usually produce a visible blue-green sheen which appears as surface scum. Blooms may look similar to paint floating on the surface of the water. Although often blue-green, blooms can also be olive green, brown or red. Blooms aren't always easy to see, but toxins can still be present in the water even if you cannot see a bloom.

3. When do blue-green algae blooms usually occur?

Algae blooms are unpredictable and may occur at any time. They may last for a few days, months or all year long. In deeper lakes (like Elk Lake), blooms can occur in the winter months, particularly after storm events or during the lake turnover when deep-water nutrients are mixed with surface waters. In shallow lakes (like Beaver Lake), blooms may occur year-round because nutrients are continually available at surface waters. During summer, sunlight and warm temperatures in shallow waters produce the ideal conditions for algae blooms to form.

4. Where can blooms occur?

Blue-green algae blooms often occur in warm, shallow and slow-moving water, where light and nutrients are available; however, blooms can occur in deeper lakes as well. They can be present in lakes in Elk/Beaver Lake and Thetis Lake regional parks.

Blooms are unpredictable. The location of algae blooms can change quickly. Blue-green algae can change their position in the water column (vertically) multiple times a day, and can move horizontally across surface waters due to wind and water currents. Because algae blooms are mobile, visual inspections are often our best indicator of potentially harmful concentrations of cyanotoxins.

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5. Are all blue-green algae blooms harmful?

Some – but not all – species of blue-green algae are known to produce cyanotoxins, which can cause health effects in humans and other animals (dogs, horses, etc.). Ingesting or coming into contact with water that contains toxins may cause a range of symptoms including skin irritation, headaches, vomiting and abdominal pain in humans, and can lead to lethal liver damage in pets and livestock. Toxin production is unpredictable and may occur at any time. If you see a blue-green algae bloom, it is best to assume that toxins are present, and avoid contact with the water.

6. What if I come in contact with a bloom? What if my pet does?

It is important to rinse your body with clean water and soap immediately after exposure to contaminated water. Use a clean towel to dry off. If you show any symptoms and believe you were exposed to blue-green algae, contact your health care provider immediately.

Toxins can also harm pets if they come into contact with algae blooms. Pets may be exposed either by drinking, wading or playing in contaminated water. Consult a veterinarian immediately if you suspect your pet came in contact with a bloom.

7. What causes blue-green algae blooms?

Blooms in lake water are primarily caused by high levels of nutrients (particularly phosphorus) that support the growth of blue-green algae. Adequate sunlight, calm water conditions and warm temperatures also support rapid algae growth. While blooms can occur naturally, some human activities such as agricultural runoff, stormwater runoff and malfunctioning septic systems can increase the likelihood of blooms occurring.

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8. What should I do if I see a bloom?

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

If you see a blue-green algae bloom:

- Assume toxins are present
- Avoid drinking, swimming, or any direct contact with the water on your skin
- Restrict access to the water for pets and livestock
- Report the bloom. Email CRD Infoline with a photo, if possible, and details on the precise location of the potential bloom: infoline@crd.bc.ca

9. How will I know if blue-green algae blooms are present at the lake I'm visiting?

The CRD regularly inspects lakes for blue-green algae blooms and also relies on the public to report any possible blooms. When the visible presence of the blue-green algae is confirmed by staff, the CRD consults with Island Health to issue a public advisory and post additional cautionary signage around the affected lake. Visual inspections by staff are conducted twice weekly at the site of first detection, and nearby swimming beaches, until the bloom is no longer observed. The public advisory is evaluated and updated every two weeks. The CRD website and social media channels are updated accordingly to ensure that advisory information is current.

10. What does the CRD do to ensure there is no longer a risk before lifting a blue-green algae bloom advisory?

CRD staff monitor and sample the water quality. Water sampling occurs twice in the first week after a bloom is no longer visible, and will continue until two consecutive water samples indicate levels below the threshold for blue-green algae producing toxins (<100,000 cells/mL). The CRD then consults with Island Health, and the advisory is lifted if Island Health confirms that the bloom is no longer a risk. The CRD will remove the temporary caution signs from around the lake, and will lift the advisory.

11. Is it safe to recreate on a lake (fishing, boating, etc.) when there is a bloom advisory?

For information on health risks associated with blue-green algae blooms contact [Island Health](#).

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12. What is the CRD doing to improve lake conditions at Elk/Beaver?

The CRD is developing plans to address high nutrient levels in Elk/Beaver Lake to reduce the frequency of blue-green algae blooms. Learn more about the plan here: www.crd.bc.ca/elkbeaver

13. What can I do at home to support a healthy lake?

To support a healthy lake and watershed, consider making the following changes:

- 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 streamside properties
- Plant or maintain vegetation along waterways
- Check septic systems to ensure they are functioning well

For the status of blue-green algae bloom advisories visit www.crd.bc.ca/alerts and Twitter [@crd_bc](https://twitter.com/crd_bc).

For more information about blue-green algae blooms visit [our website](#).