

What's the difference between algae and cyanobacteria?

Cyanobacteria are often called blue-green algae, but cyanobacteria and algae are very different organisms. The most important difference is that sometimes cyanobacteria can produce toxins that can be harmful if swallowed, whereas algae is generally harmless. In Vermont, the most common lake cyanobacteria usually look like tiny particles that can collect in a layer on top of the water that looks like green pea soup or paint. Common lake algae are found growing on other things in the water—such as sticks and rocks—or floating in large, tangled, hair-like masses. Both algae and cyanobacteria can form layers on top of the water, but algae can be picked up with a stick and cyanobacteria cannot. Watch our video at www.healthvermont.gov/cyanobacteria to learn how to identify cyanobacteria.

Can I eat fish out of the lake?

Our [current fish advisory for Lake Carmi](#) is based on mercury in fish. We recommend pregnant women and kids less than 7 years of age not eat more than four servings of walleye per month. One serving is eight ounces of uncooked fish. With regard to cyanobacteria, we recommend cleaning the fish properly and not eating organs—such as the liver—which may accumulate cyanobacteria toxins. During periods of blooms, anglers should not eat fish caught in a bloom to reduce exposure to cyanobacteria toxins.

Can cyanobacteria be airborne?

We do not monitor the air for cyanobacteria cells. Some activities—such as water skiing—may create droplets of water that can be breathed in. Those droplets could contain cyanobacteria cells during a cyanobacteria bloom.

Scientists are not sure if cyanobacteria cells can become airborne without high winds, large waves or other activities with enough force to create droplets. It is also not known how far aerosolized droplets carrying cyanobacteria cells could travel in the air. This would depend on the size, shape, density and other physical properties of the cyanobacteria cells.

What should I do if I come in direct contact with cyanobacteria, such as when moving docks and watercraft in and out of the water?

We recommend that people avoid any contact with water containing cyanobacteria. This means that if there is a cyanobacteria bloom, we recommend people **stay out of the water** and not boat, swim, wade or do any other activities that put them in contact with the water.

If people must be in the water, we recommend gloves and boots. For example, we wear gloves and boots when we sample the water and recommend the same to town health officers or town officials who take samples. If someone accidentally comes into contact with water containing cyanobacteria, we recommend they rinse off thoroughly and as soon as possible.

What are the signs of cyanobacteria sickness in children, adults and pets?

The health effects from cyanobacteria depend on whether toxins are being produced, the type of toxin, the amount someone is exposed to, and how they are exposed.

Breathing in water droplets with cyanobacteria or toxins may cause allergic-like reactions, runny noses or sore throats.

Swallowing water with high levels of cyanobacteria toxins may cause:

- Severe stomach problems like abdominal pain, diarrhea and vomiting
- Liver damage, which may take hours or days to show up in people or animals
- Numb lips, tingling fingers and toes, or dizziness

People may get rashes or other skin irritations from coming into contact with blooms. Usually these skin irritations are not associated with toxins, but from other compounds in cyanobacteria cells.

Anyone who has health concerns should talk with their health care provider.

Pets are more likely to come in contact with cyanobacteria because they do not know they should stay out of the water. If they swim or wade in the water, they may lick the cyanobacteria cells off their fur and swallow them. Here is a link to our fact sheet for pets:

www.healthvermont.gov/sites/default/files/documents/2016/12/ENV_RW_CyanobacteriaVeterinarians.pdf

What should I do if there is green water coming out of my faucets? Will cyanobacteria affect my water lines?

We recommend not swallowing untreated lake or pond water in any way—including drinking, teeth brushing or food preparation. Untreated water may contain cyanobacteria or cyanobacteria toxins, as well as other microorganisms that can make you sick. We do not recommend showering or bathing in water that may contain cyanobacteria, because contact with cyanobacteria can cause rashes and skin irritations.

We do not know what effect cyanobacteria may have on water lines. It may be possible to flush your system by running the water after the cyanobacteria bloom is gone to clear any cyanobacteria cells in your lines.

Have cyanobacteria toxins been detected in Lake Carmi?

The Health Department has been conducting weekly testing at Lake Carmi for cyanobacteria toxins at North Beach (also called Franklin Town Beach) and at the State Park this summer. Low levels of microcystin have been detected in some samples. The level of microcystin seen in these samples were above the threshold for microcystin in drinking water (0.16 ug/L (micrograms per liter)) but below the threshold for microcystin in recreational water (6.0 ug/L). See the table below for results.

Location	Sample Date	Microcystin, ug/L
Lake Carmi - North Beach	7/5/2017	0.19
Lake Carmi - State Park	7/5/2017	0.19
Lake Carmi - State Park	7/18/2017	0.18
Lake Carmi - North Beach	8/29/2017	0.43
Lake Carmi - North Beach	9/6/2017	0.52
Lake Carmi - North Beach	9/12/2017	0.34

What effect does cyanobacteria have on the septic systems and water-heating systems?

We do not know and are not aware of any studies on the effect of cyanobacteria on septic systems or on water heating systems. However, cyanobacteria need oxygen to survive, so it is expected that they will only survive for a short time in septic systems.

When is it safe to enter the water again after a bloom?

Warm, sunny and calm days are perfect conditions for cyanobacteria blooms. Blooms may stay until the weather becomes much cooler or the wind breaks them up. Once a cyanobacteria bloom has gone away, a new bloom may form if the conditions are right.

The lake will become discolored (green, blue or like pea soup) when there are lots of live cyanobacteria cells. Sometimes the water may have a milky green, blue or white appearance when the cells are dying. You should continue to stay away from cyanobacteria during this time because toxins inside the cells may be released into the water as the cells die.

The water will become clear after the cells die and settle to the bottom of the lake or wash out of the lake. This is when we recommend that managed recreational areas sample the water to make sure that toxins are not at high levels. If sampling is not done, we recommend waiting at least 24 hours to enter the water after the water clears.

Where can I get more information?

You can visit our website at www.healthvermont.gov/cyanobacteria and read our *Guidance for Vermont Communities*. Please feel free to contact us 1-800-439-8550 with any additional questions or email us at bloomalert@vermont.gov.