



# Frequently Asked Questions on Cyanobacteria Blooms in Freshwater Lakes and Ponds



*Cyanobacteria bloom at Lake Housatonic, Shelton, CT.*

This document has been prepared to provide information on some of the more common questions the Department of Energy and Environmental Protection has been getting over the past few summer water monitoring seasons.

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## What are cyanobacteria and what is a cyanobacteria bloom?

Cyanobacteria, also known as blue-green algae, occur naturally in lakes and ponds throughout Connecticut. These microscopic organisms are an important part of the food chain that often go unnoticed and cause no harm.



*Photos of cyanobacteria taken under a microscope at 100x magnification. Microcystis from Rainbow Reservoir, Windsor, CT (left) and Anabaena from Uncas Lake, Lyme, CT (right)-Walter Tokarz photos.*

However, when nutrient loading exceeds certain levels, a lake or pond can experience nuisance cyanobacteria blooms that may produce and release toxins into the water. When this happens, it is referred to as a harmful algae bloom and people and animals using the waterbody for recreation can be exposed to the toxins. The blooms typically occur in the summer and early fall and are most common in warm, slow-moving, nutrient rich waters such as lakes and ponds. It is important to note that not all cyanobacteria blooms are harmful algae blooms, but caution is advised because it is not possible to determine the type of algae within the bloom without a more detailed evaluation.

## What conditions cause a cyanobacteria bloom?

Cyanobacteria occur naturally in the environment, but under certain conditions, they can multiply rapidly and create a harmful bloom that is detrimental to the body of water and all those who use it. Two conditions that can lead to a cyanobacteria bloom are excess nutrients and warm water temperatures. Lawn and agricultural fertilizers and septic tank overflows are the major sources of excess nutrients that can trigger a bloom in a waterbody. Storm events that carry large quantities of runoff from the land surrounding a waterbody can be another source of excess nutrients. Cyanobacteria blooms are most common during June through September and are less common between late fall and early spring due to the reduced water temperatures in our lakes and ponds.

What does a cyanobacteria bloom look like?



*Cyanobacteria blooms at Spring Lake, Fisher Meadow Recreation Area Pond, Avon, CT (top left), Swim area at Gardner Lake, Salem, CT (top right), Pchaug Pond, Griswold, CT (middle left), Rainbow Reservoir, Windsor, CT (middle right), cyanobacteria scum on the shoreline in Lake Zoar, Southbury, CT (bottom left), and floating clumps of cyanobacteria in Lake Housatonic, Shelton, CT (bottom right). DEEP staff photos.*

Individual cyanobacteria cells cannot be seen with the naked eye, but when they multiply to form a cyanobacteria bloom it is visible and can vary in appearance. Blooms can be mat-like or look like foam, scum, or spilled paint floating on the surface, particularly when wind concentrates the bloom along the shoreline. Larger blooms can appear less concentrated and instead look uniform throughout a waterbody. Cyanobacteria can be blue, bright green, brown, or red. Sometimes cyanobacteria cannot be seen because the blooms stay below the surface. When cyanobacteria die, the bloom can give off an odor similar to that of rotting plants.

### **How can you tell if a cyanobacteria bloom is toxic?**

Cyanobacteria blooms have the potential to release cyanotoxins in the water, but not all blooms contain measurable amount of cyanotoxins. Cyanobacteria blooms known to contain cyanotoxins are typically referred to as “harmful algal blooms” or HABs. Only specific types of cyanobacteria produce these toxins. To determine which types of cyanotoxins are present in a bloom, water samples must be collected and analyzed in a lab because the cyanobacteria cells and toxins themselves are not visible with the naked eye.

### **How long does a cyanobacteria bloom last?**

The duration of a cyanobacteria bloom depends on many factors such as wind, amount of sunlight, and water temperature. Cyanobacteria blooms can be localized or encompass the entire lake or pond. A bloom may be present in one cove of a lake and not visible the next day. If the whole lake or pond has a bloom, they typically last for several weeks until conditions in the lake change and the algae die and decompose. We have found that a cyanobacteria bloom usually dissipates within three weeks, though the same body of water may experience several individual cyanobacteria blooms over the course of a year.

### **How do I report a cyanobacteria bloom?**

If you believe that you have observed a cyanobacteria bloom, please contact your Local Health Department. Use [this website](#) to find the contact information for your Local Health Department. You may also contact the CT Department of Energy and Environmental Protection to report a bloom by calling 860-424-3020, or sending an email to [deep.algalblooms@ct.gov](mailto:deep.algalblooms@ct.gov). For questions about possible health effects of exposure please contact the CT Department of Public Health at 860-509-7758.

### **If I send in a picture, can you tell me what type of algae this is?**

Certain types of algae have appearance characteristics (color, texture, growth characteristics) that allow them to be identified with high-quality digital photos. We are happy to take a look and lend an opinion, but please be advised that without microscope examination, positive identification is not always possible.

Please remember these helpful hints:

- Photos should be clear and without obstructions. Avoid blurry photos.
- It is useful to send at least one close-up picture and a picture from a distance.
- Send photos the day you make your observation or as soon as possible to [deep.algalblooms@ct.gov](mailto:deep.algalblooms@ct.gov) stating that you have observed a cyanobacteria bloom.
- Include the name of lake or pond, date the picture was taken, and location of photo.

### **Can you tell me where it is safe to swim to avoid cyanobacteria?**

The CT DEEP runs a water testing program from Memorial Day through Labor Day at 22 state parks with designated swimming areas. Please check the [State Swimming Area Water Quality Report](#) website for the most up to date status information related to these swimming areas.

For other waterbodies with designated swimming areas as part of a municipal park, please contact your local health department for the latest information. A [Local Health Department Directory](#) is available on the CT DPH web site.

For all other waterbodies without designated swimming areas, when in doubt, stay out! Cyanobacteria occur naturally in every lake and pond in Connecticut. Cyanobacteria can become problematic when increased nutrients are available, water temperatures are warm, and the cyanobacteria are able to rapidly multiply and release toxins into the water. Look for signs of a cyanobacteria bloom (see description and photos above). If you suspect a bloom, notify your Local Health Department and [deep.algalblooms@ct.gov](mailto:deep.algalblooms@ct.gov). We can reduce risk of swimmer illness by knowing where these cyanobacteria blooms are occurring.

### **How do I know if the water is safe for my kids?**

When in doubt, stay out! Young children under the age of six consume more water relative to their body weight when compared to adults and older children. Therefore, younger children are at an increased risk of adverse health impacts of cyanotoxins at lower levels. If a waterbody is suspected to be experiencing a cyanobacteria bloom, it is best to eliminate all contact with the water.

## Does Connecticut have a cyanobacteria bloom watch website?

The State of Connecticut does not have a website that can show real time blooms throughout the state. However, staff monitor the dedicated email, [deep.algalblooms@ct.gov](mailto:deep.algalblooms@ct.gov), daily for reports of and inquiries about to cyanobacteria blooms.

## What type of testing is done for cyanobacteria blooms?

Monitoring for cyanobacteria involves three types of testing. First, there are visual inspections by trained scientists to determine if bloom appears to be cyanobacteria. Second, if a cyanobacteria bloom cannot be ruled out visually, water and algae samples can be taken to a lab for identification and quantification. And, third, in some cases it is necessary to test water samples for the levels of the toxins produced by the cyanobacteria.

## How are waterbodies without public swim areas tested for cyanobacteria?

CT DEEP routinely monitors around 15-20 lakes and ponds a year to evaluate bloom risk factors by measuring water quality parameters such as total nitrogen, total phosphorus, and chlorophyll a. In addition, CT DEEP will investigate lakes and ponds with state boat launches or other state property if a cyanobacteria bloom is suspected. Some lake associations or towns will hire professional lake scientists to test for cyanobacteria when a bloom is suspected.

## How do lakes get posted when there is a cyanobacteria bloom?

In cases where a cyanobacteria bloom is noted on a lake with a state boat launch or other state facility, CT DEEP will post the boat ramp and other access points with *Health Alert* advisory signs. Some designated swim areas are monitored by the town responsible for the beach. In these instances, the town will post the beach and access points with the appropriate sign.



*Health Alert advisory signs will be posted at lake access points such as boat ramps when there is an active cyanobacteria bloom.*

### **Can CT DEEP test your water for cyanobacteria?**

CT DEEP does not have the staff or budgetary resources to sample every cyanobacteria bloom in the state. However, we do our best to be responsive to reports of blooms on lakes and ponds with state boat launches and other state facilities. The Department can offer technical assistance to help answer questions related to cyanobacteria through [deep.algalblooms@ct.gov](mailto:deep.algalblooms@ct.gov).

### **Can you recommend specific home test kits or lab services that can test the water cyanobacteria and the cyanotoxins?**

There are no known home test kits for cyanobacteria. The State Guidance Document has a list of labs that conduct analysis of water with a suspected Harmful Algae Bloom- please refer to Appendix A of the [Guidance to Local Health Departments](#).

### **What about pet exposure to cyanobacteria?**

When in doubt, stay out! Dogs are more susceptible to being poisoned by cyanotoxins because of direct ingestion of lake and pond water. If you suspect a cyanobacteria bloom is present, it is best to keep your pets out of the water and don't let them drink the water. If your dog has recently come into contact with water known to contain cyanotoxins, or may have been exposed to cyanobacteria, refer to the following pamphlet:

#### [NY DEC Dog and Harmful Algal Blooms](#)

Symptoms of cyanotoxin poisoning in dogs can range from a skin rash or hives, to vomiting diarrhea, bloody stool, loss of appetite, excessive drooling, disorientation, and seizures.

Horses and livestock may be at risk if their sources of drinking water are slow moving or stagnant ponds and streams. If horseback riding around a body of water that has experienced a bloom, do not allow the animal to wade, swim in, or drink the water.

### **How do I treat my pet if it comes in contact with cyanobacteria?**

If your pet is exposed to water containing cyanobacteria, remove them from the water immediately. Do not let them lick their fur or paws, and immediately rinse them with fresh water. Seek immediate veterinary care if your pet is showing symptoms.

### **Have there been any animal death associated with toxic cyanobacteria blooms in CT?**

There have been no known reports of pet deaths due to blue-green algae in Connecticut.

**References:**

[CDC cyanobacteria bloom FAQ](#)

[Newfoundland Labrador Blue green algae FAQ](#)

[CDC facts about cyanobacterial harmful algal blooms for poison center professionals](#)

[CT DEEP blue green algae blooms](#)

[EPA frequently asked questions](#)

[Guidance to local health departments for blue green algae blooms in freshwater](#)

[Dogs and harmful algae blooms](#)

[Cyanobacteria poisoning \(blue green algae\)](#)



*A cyanobacteria bloom at Uncas Lake, Lyme, CT, from the air. The dominant species causing this bloom was Anabaena (A local resident provided the photo).*