



# FACT SHEET

Office of Water Resources / July 2024

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## COMMON QUESTIONS ABOUT CYANOBACTERIA

### What are cyanobacteria?

Cyanobacteria, also known as blue-green algae, are a type of microscopic photosynthetic organism classified as bacteria. “Photosynthetic” means that they produce energy using sunlight, similar to plants and algae. “Microscopic” means that they are too small to see with the naked eye. Cyanobacteria are naturally found in fresh and saltwater ecosystems in Rhode Island and were some of the earliest organisms to exist on earth.

### What is a cyanobacteria bloom?

Under certain conditions, cyanobacteria can rapidly reproduce to form a “bloom.” A bloom is a dense, visible growth of cyanobacteria that may discolor the water, reduce water clarity, and form a scum. Blooms can occur year-round but are more common in freshwater during the late summer and fall. The exact conditions that trigger a bloom are not fully understood which makes it difficult to predict exactly when and where a bloom will occur. A combination of excess nutrients, sunlight, stagnant or not-flowing water, and warm water temperatures often lead to cyanobacteria blooms.

### What does a cyanobacteria bloom look like?

Cyanobacteria blooms often have the following characteristics:

- Blooms are usually bright green or blue in color but may also be red, brown, or yellow.
- Water may resemble pea soup or be cloudy with a green tint.
- A green foamy scum may form on the shoreline.
- It may appear as if paint has been spilled on the surface of the water.
- Green streaks and swirling may cover the surface of the water.

See ‘Identifying Cyanobacteria Blooms’ at [dem.ri.gov/bluegreen](https://dem.ri.gov/bluegreen) for more information.

**TO REPORT A BLOOM: Email info and photos to [dem.owrcyano@dem.ri.gov](mailto:dem.owrcyano@dem.ri.gov)  
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## Are cyanobacteria blooms dangerous?

Cyanobacteria blooms can, but do not always, produce toxins that are harmful to humans, pets, livestock, and wildlife.

People may come in contact with cyanotoxins via ingestion, skin contact, or inhalation of aerosolized cyanobacteria. Skin contact with cyanotoxins may cause rashes, blisters, hives, and eye/nose irritation. Common health effects associated with ingestion of water containing cyanotoxins include stomach upset, abdominal pain, nausea, diarrhea and vomiting.

Rarer health effects associated with ingestion include liver or kidney damage or toxicity of the nervous system, symptoms of which include fever, numbness or tingling around the mouth, numbness spreading to arms and hands, headache, dizziness, muscle soreness, muscle weakness, difficulty breathing, and paralysis. Children are especially at risk due to their tendency to swallow water while swimming.

Pets and livestock are also especially at risk to cyanotoxins due to their tendency to drink the water and/or lick their fur after swimming. There are documented cases worldwide of pets and livestock dying after exposure to cyanotoxins. Health effects of cyanotoxin exposure in animals include vomiting or diarrhea, salivation/drooling, weakness and staggering, difficulty breathing, convulsions, paralysis, and death. Prompt veterinary care should be sought if your pet or livestock are experiencing any of the symptoms above, especially after coming in contact with water that may have a bloom.

Not all cyanobacteria blooms produce cyanotoxins. It is impossible to tell if a bloom is producing cyanotoxins by looking at it- a laboratory analysis is necessary to determine toxin levels. It is therefore best to keep people and animals out of water that is discolored, cloudy, or has a scum.

## What does the RIDEM/RIDOH cyanobacteria program do?

The purpose of the cyanobacteria monitoring program is to detect the presence of freshwater cyanobacteria blooms, evaluate potential risks to the public, and when necessary, issue recreational/health advisories notifying the public of health concerns.

The program routinely monitors waterbodies with a known history of frequent cyanobacteria blooms on a biweekly basis from approximately June through September (as resources allow). The program also responds to reports about potential cyanobacteria blooms from the public. Most reports come in via the cyanobacteria bloom reporting email address, [DEM.OWRCyano@dem.ri.gov](mailto:DEM.OWRCyano@dem.ri.gov).

## What is the threshold for issuing an advisory?

RIDEM/RIDOH jointly issue a recreational/health advisory when any of the following 3 thresholds are met:

- Visual evidence of a pond-wide cyanobacteria bloom, shoreline scum, mat, or paint-like streaks.
- Cyanobacteria cell count exceeding 70,000 cells/mL.
- Toxin level (Total Microcystins) of lysed cells greater than or equal to 4 ppb (ug/L).

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## **When will an advisory be lifted?**

Advisories generally remain in place until the bloom is no longer visible and two successive and representative sampling rounds conducted at least one week apart confirm cell count and toxin levels below the threshold values listed above.

## **Where can I find information on current advisories?**

Advisories will be announced via press release at <https://www.ri.gov/press/> and are listed on the RIDEM website at [dem.ri.gov/bluegreen](http://dem.ri.gov/bluegreen).

## **Can I swim, fish, or boat while an advisory is in place?**

The advisories recommend that people, pets and livestock avoid all contact with the waterbody, including swimming, fishing, boating and kayaking, until the advisory is lifted. The advisories are guidance, and people can choose to recreate at their own risk while an advisory is in place.

## **What should I do if I come in contact with cyanobacteria?**

If you come in contact with a bloom, rinse with freshwater and soap and dry off thoroughly as soon as possible. If you, your family, or your animals have symptoms after coming in contact with a bloom, contact your health care provider or veterinarian and report the illness to the Rhode Island Department of Health (RIDOH) at 401-222-2577 (Infectious Disease Office) or 401-222-7727 (Beach Program-Illness Complaints).

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

You can report a suspected cyanobacteria bloom to the Rhode Island Department of Environmental Management (RIDEM) by emailing [DEM.OWRCyano@dem.ri.gov](mailto:DEM.OWRCyano@dem.ri.gov). Send pictures, if you can safely, include the name of the waterbody, the location of the bloom, and a description of the suspected bloom.

## **Can something be done to make the bloom go away? How can this be prevented from happening again?**

Frequent, recurring cyanobacteria blooms are difficult to manage. They are often (though not always) an indication that excess nutrients are entering the waterbody from the surrounding watershed. There are best management practices that homeowners can follow which can reduce the amount of nutrients entering the waterbody. These practices include reducing or eliminating the use of fertilizer on the lawn, picking up pet waste in your yard and in public spaces, avoiding feeding of waterfowl, keeping up with septic system maintenance, and promoting stormwater infiltration on your property. Additional information on how homeowners can reduce nutrient inputs is available on the [Rhode Island Stormwater Solutions website](#).

People often inquire about treatment methods such as herbicides for cyanobacteria blooms. The RIDEM/RIDOH Cyanobacteria Monitoring Program does not provide chemical treatment for cyanobacteria blooms. Lake associations or other interested entities can pursue chemical treatment on their own if desired. It is important to note that application of herbicides or other in-lake treatments are a short-term fix that will

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not address the root cause of recurring cyanobacteria blooms. Chemical treatment of an active bloom can also cause cyanotoxins to be released so follow-up monitoring is important.

Herbicide treatments must be applied by a licensed applicator to ensure safe use of the chemicals. A permit is required from the [RIDEM Department of Agriculture](#) prior to application.

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