



**IDAHO
DEPARTMENT OF
ENVIRONMENTAL
QUALITY**

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Cyanobacteria: Facts and Response Actions for Idaho’s Public Water System Operators

What are cyanobacteria?

Cyanobacteria are microscopic organisms found naturally in Idaho’s lakes, streams, and ponds. Many of us learned about “blue-green algae” in school, but these algae are actually bacteria that photosynthesize like algae and plants. When present in large numbers, these organisms may form visible green, blue-green, or reddish-brown blooms that float on or below the surface of the water and produce toxins.

Are cyanobacteria an issue for public water systems (PWSs) in Idaho?

Yes. Cyanobacteria are found in surface waters across Idaho (not all produce toxins), and excessive growth can cause taste and odor problems, create difficulties for water filtration, and pose potential health risks to humans and animals. The filtration process can induce or accelerate the release of toxins from within the bacteria’s cells.

What are the health risks from cyanobacteria?

Cyanobacteria can produce neurotoxins, hepatotoxins, and dermatotoxins. Neurotoxins affect the nervous system, causing muscle cramps, twitching, and, in extreme cases, paralysis, cardiac or respiratory failure, and death. Hepatotoxins affect liver and kidney functions, causing internal bleeding; symptoms include nausea, vomiting, diarrhea and, in extreme cases, acute liver failure. Dermatotoxins affect the skin and mucous membranes, causing irritation and possibly tissue damage. The US Environmental Protection Agency has not regulated cyanobacteria and associated toxins, but they have issued health advisories for two types—*Microcystins* and *Cylindrospermopsins*.

Cyanotoxin	Drinking Water Health Advisory (10 day)	
	Bottle-fed infants and preschool children	School-age children and adults
Microcystins	0.3 µg/L	1.6 µg/L
Cylindrospermopsin	0.7 µg/L	3 µg/L

What indicates a cyanobacteria bloom may be near my intake?

The following indicate the presence of a cyanobacteria bloom:

- Scum on the water surface
- Appearance of spilled paint
- Floating globs
- Strings on the water surface
- pH spike
- Higher than normal temperature
- Reduced dissolved oxygen
- Rise in turbidity without a weather event

What actions should be taken if cyanobacteria are suspected in our source water?

Monitor the indicators listed above, and if possible, inspect the area near the intake for evidence of a blue-green bloom. Not all cyanobacteria look the same or produce toxins, so they must be tested for toxicity. If you suspect cyanobacteria is in your source water, contact your DEQ regional office.

Taking photos can also provide valuable information. If you suspect a cyanobacteria bloom is present, take photos with a smartphone or camera. In the photos, capture the following (see examples below):

- Extent of the bloom
- View from the shore
- Close up of the bloom (as close as possible while staying in focus)



Bloom extent
Brownlee Reservoir–August 2016



Shoreline view
Mountain Home Reservoir–July 2017



Close up
Fernan Lake–June 2013

For smartphones, download the BloomWatch app and follow the on-screen instructions to photograph the suspected bloom. Upload the photos to BloomWatch through the app. BloomWatch notifies the Idaho Department of Environmental Quality (DEQ) about a suspected bloom.

For cameras, take the photos and email the pictures to algae@deq.idaho.gov.

After DEQ reviews photos and forwards them to the appropriate regional office, the PWS is contacted to initiate testing and will be offered additional assistance.

DEQ Drinking Water and Cyanobacteria Contacts:

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For additional information and guidance, please visit: www.deq.idaho.gov/dwhabs