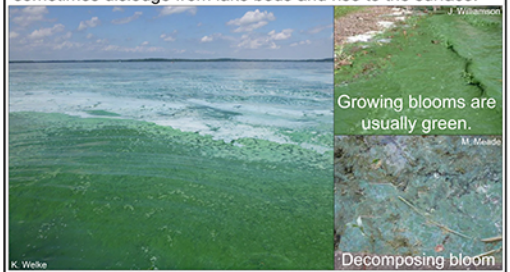
There are many little green things that float en masse at the surface of lakes. You can distinguish potentially harmful cyanobacteria (also known as blue-green algae) from common look-alikes and from filamentous green algae, even if you don't have access to a microscope. Discover some simple methods, the "Jar Test" and the "Stick Test," that you can use to differentiate bloom-forming, free-floating planktonic cyanobacteria from filamentous green algae. These tests are not perfect, and lab testing is needed to know if toxins are being made.

What's This Green Stuff Floating in the Lake?

Gina LaLiberte Wisconsin Department of Natural Resources Gina.LaLiberte@wisconsin.gov

What are cyanobacteria?

Cyanobacteria are also known as blue-green algae. They're native in every aquatic system in Wisconsin and only become a problem when excess nutrients fertilize their growth to nuisance levels called blooms. Planktonic (free-floating) blooms are of the highest concern, but mats of cyanobacteria sometimes dislodge from lake beds and rise to the surface.



Above left: "pea soup" conditions are shown close to shore, with the bloom decomposing further out. Growing planktonic blooms are usually green (above right), and blue pigments are hidden until blooms decompose and cells break open. Blooms can be many colors, so be wary of any brightly colored, dense accumulation of small particles in lake water.

What's the concern about cyanobacteria?

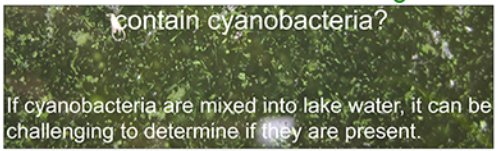
Some cyanobacteria can make toxins that may cause illness in humans and animals ingesting them or inhaling them in water. You can't tell if a bloom is making toxins by looking at it, so be wary of water that looks like "pea soup" or has any other unusual color, or has floating scums. If blooms are present find another location for swimming or water skiing, choose locations with the clearest water possible for children and dogs to swim in, and always avoid swallowing untreated surface water. When in doubt, stay out!

Wind creates local bloom-like conditions

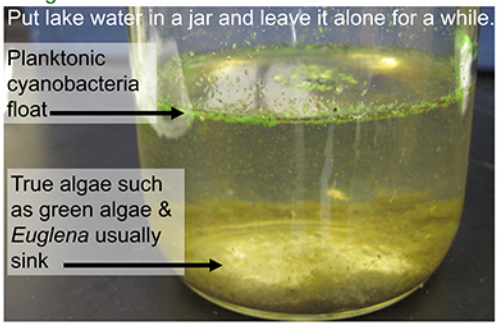
Planktonic cyanobacteria float, so wind can move them around lakes and cause very localized bloom-like or short-lived accumulations, even in lakes with low nutrients.

These photos above are at locations on the same lake, 3 miles apart, in the same hour. Wind was blowing away from the location on the left and blowing toward the location at right. Look for better swimming conditions in upwind areas when wind drives cyanobacteria close to shore as in the photo on the right.

How can I tell if water or floating mats contain cyanobacteria?



For green lake water use the **"Jar Test."**

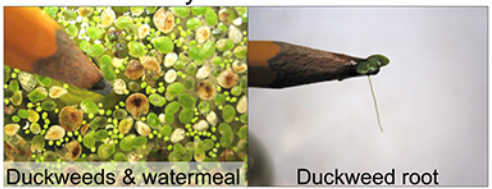


For floating green mats use the **"Stick Test."**
Does it hang off a stick like **green hair**?

Spirogyra filamentous green algae (left and center). *Microseira wollei* (right) was previously named *Plectonema* and *Lyngbya*.

See tinyurl.com/y8jfxxpg Minnesota Pollution Control Agency "Simple, no-cost tests for blue-green algae"

Don't mistake other tiny floating things for cyanobacteria.



Duckweeds and watermeal are tiny floating plants. Watermeal plants are grainy and oval. Duckweeds have tiny roots (right). Below, pollen floats like cyanobacteria but is yellow. Look for yellow dust covering surfaces on land to verify pollen.

You can help track cyanobacteria blooms!

Please let the DNR know about significant blooms! Email **DNRHABS@wisconsin.gov** and please include the bloom location with lake, town, and county name, bloom size, duration, and photos for confirmation.

To help the Wisconsin Division of Public Health track illnesses in humans and animals for the Wisconsin Harmful Algal Bloom Surveillance Program, go to **dhs.wisconsin.gov** and search for "algae." Fill out the Harmful Algal Bloom Illness Survey on the DHS Blue-green Algae page. (Please seek medical attention for severe symptoms as this program doesn't provide medical treatment.)

DNR cannot test each bloom, but your help in tracking blooms and illnesses allows us to assess where HABs may be an environmental and public health burden.

2019 Wisconsin Lakes Partnership Convention