

Visually Identifying CyanoHABs

Cyanobacteria can often be identified through visual indicators during bloom conditions. Because most cyanoHAB reports begin when an individual notices an accumulation of algae in the water, interpreting visual evidence is frequently the first and only step needed to determine whether a reported algae bloom is made of cyanobacteria or not.

Visual indicators of the potential presence of cyanoHABs include visual discoloration of the waterbody due to suspended filaments or scum, mat-like accumulation on the shoreline and surface, foul odors, fish kills, and a soup-like water consistency.

A substance may be cyanobacteria if the material consists of small particles (pinhead-sized or smaller), forms a layer at the

water's surface, or causes the water to be murky and take on a bright green, blue-green, or reddish-brown hue.

Example images of cyanoHAB blooms in Massachusetts are included below. Online resources to help visually identify cyanoHABs can be found on the DPH webpage (see pg. 9).

Sometimes other types of (non-toxic) algae or aquatic plants are mistakenly identified as cyanobacteria. A few common examples are included below. In general, a substance is not cyanobacteria if it has leaf-like structures or roots or is long and stringy. Simple field tests – such as the Jar Test and Stick Test – can help determine whether the substance is cyanobacteria or a similar looking algae/aquatic plant. Procedures for the Jar and Stick Tests are included in Appendix A.

Cyanobacteria



Stevens Pond (North Andover)



Hummock Pond (Nantucket)



Great South Pond (Plymouth)

NOT Cyanobacteria



Duckweed – tiny (and harmless) aquatic plant



Filamentous green algae – stringy, silky, and able to be draped over a stick



Pollen - yellow/green particles with a "dusty" texture

Appendix A. Simple Tests to Help Identify Cyanobacteria

If you are concerned about the color or scum in a waterbody, stick or jar tests are quick ways to determine if it is a buildup of algae rather than a cyanoHAB.

Stick Test Procedure

1. Wear rubber or latex gloves.
2. Find a sturdy stick that is long enough to reach into the water without getting the material on your hands.
3. Insert the stick into the surface mat of the location of question within the pond and slowly lift out of the water.
4. If the stick looks like it was dipped in green paint after being inserted into the water, the material is likely to be cyanobacteria.
5. If the stick pulls out strands that look like hairs, the material is likely filamentous algae, which is not cyanobacteria and poses no health risks.



Filamentous algae – not cyanobacteria

Jar Test Procedure

1. Find a clear glass jar with a screw top lid.
2. Use rubber or latex gloves to collect the water sample.
3. Collect the water just below the surface of the water (to avoid collecting just scum).
4. Fill the jar about three-fourths of the way full with water.
5. Wipe off any scum that may be on the outside of the jar.
6. Screw the lid onto the jar.
7. Place the jar in a refrigerator and leave it undisturbed overnight (suggested about 8 hours).
8. After refrigeration, carefully remove the jar from the refrigerator, avoiding any vigorous shaking or disturbances to the water.

9. If the material settled at the bottom of the jar, it is likely that there is NOT a lot of cyanobacteria present in the waterbody.
10. If the material has formed a ring near the top of the jar or appear to be floating near the surface of the water, there is a strong possibility that the waterbody has a significant amount of cyanobacteria present.



Initial Sample



If the material settles at the bottom, it is unlikely to be cyanobacteria



If the material forms a green ring around the top, it is likely cyanobacteria.