

### Brown, Red, Yellow or Green Scum

Floating scum resembling green streaks, clumps or spilled paint are often rapidly growing microscopic cells of algae, diatoms, protists or bacteria.



Floating algal bloom at Pest House Pond Nantucket, Photo by Karen Beattie

**Floating mats of "Pond scum"** is usually filamentous algae. It can also be seen growing along the edge or bottom of a pond as weeds also do. It can attach to rocks or float freely and vary in color and can be red, brown, green, black or purple.



<https://www.shutterstock.com/image-photo/macroalgae-pollution-hand-filamentous-structure-1465365128>

**Frothy orange or brown scum or slime** forms naturally in iron or manganese rich areas as it oxidizes. Tan brown scum but may be algal, protozoan or bacterial in nature. Do not let your pet drink water that has scum on it.



Iron rich orange rusting ground water discharge (brown scum) Karen Haraldsdattar, Blue Hills Massachusetts

### Resources

Massachusetts Lakes & Ponds Guide  
<https://www.mass.gov/service-details/massachusetts-lakes-ponds-guide>

USGS Nonindigenous Aquatic Species  
<https://nas.er.usgs.gov/queries/StateSearch.aspx>

Aquatic Nuisance Task Force  
<https://www.anstaskforce.gov/default.php>

Stop Aquatic Hitchhikers!  
<https://stopaquatichitchhikers.org/hitchhikers/>

Pond Scum Field Guide  
<https://www.townofchapelhill.org/home/showdocument?id=28866>

**The Nantucket Aquatic Threats Committee (NATs)** is a committee of the NBI focused on evaluating, managing, educating and engaging the public regarding Nantucket's aquatic invasive and threatening species.

**The Nantucket Biodiversity Initiative (NBI)** seeks to conserve the native biodiversity of Nantucket through collaborative research, monitoring, and education. NBI is a collaborative effort of the following organizations:

- Linda Loring Nature Foundation
- Maria Mitchell Association
- Massachusetts Audubon Society
- Nantucket Conservation Foundation
- Nantucket Islands Land Bank
- Nantucket Land Council
- Nantucket Memorial Airport
- Nantucket Walkabout
- The Trustees of the Reservation
- Town of Nantucket Natural Resources Department
- Tuckernuck Land Trust
- UMass Boston Nantucket Field Station
- U.S. Fish & Wildlife Service

Learn more about the Nantucket Biodiversity Initiative



[www.nantucketbiodiversityinitiative.org](http://www.nantucketbiodiversityinitiative.org)

# Nantucket Pond Water Guide

## A Guide to Water Conditions

Intended for individuals who spend time around freshwater ponds this guide highlights conditions that could indicate the formation of an algal bloom.

This picture key intends to aid in the identification of pond conditions rather than of species that would require use of a microscope to identify. Algae are important and consistently part of the environment. When they grow rapidly to excess, problems arise.

Changes in pond water conditions raise concern but do not always mean the water is polluted or unhealthy. This guide highlights changes in pond environments one might observe and question.

Color, clarity and odor of pond water are easy to perceive and when reported can aid in identifying an emerging problem.

To help monitor our ponds please report pond water concerns to the Nantucket Aquatic Threats committee:

<https://www.nantucketbiodiversity.org/pondsurvey>

Send photos and questions directly to: [nantucketaquaticthreats@gmail.com](mailto:nantucketaquaticthreats@gmail.com)

### Algal Blooms and Green Water

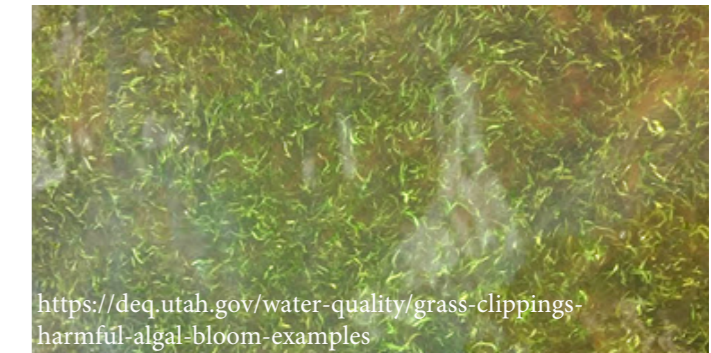
The rapid growth of microscopic blue-green algae is supported by increased temperature and nutrient load (nitrogen and phosphorous). Some blooms produce toxins harmful to pets and people. They are called "Harmful Algal Blooms" (HABs) and vary in toxicity and target regions such as nerve, digestive, skin, liver or respiratory tissues.

Some algae can grow as filaments, floating or matted, and others as single spherical cells, others like tiny bits of cut grass. A few form jelly like sacs which resemble grapes. If you observe abundant growth in any of these forms let us know.



[https://www.usgs.gov/centers/kswsc/science/cyanobacterial-blue-green-algal-blooms-tastes-odors-and-toxins-0?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/centers/kswsc/science/cyanobacterial-blue-green-algal-blooms-tastes-odors-and-toxins-0?qt-science_center_objects=0#qt-science_center_objects)

Bluegreen pond scum resembling "spilled paint."



<https://deq.utah.gov/water-quality/grass-clippings-harmful-algal-bloom-examples>

Algal bloom resembling "grass clippings"



Photo: [www.nkcd.org](http://www.nkcd.org)

Attached blue green algal sacs

## Recognize Symptoms and Signage

If you see signs warning of possible algal blooms:

- Avoid contact with water that is discolored or has scum floating on or at the surface.
- Do not let pets drink or swim in such waters.
- Do not fish in or eat fish from such waters
- Avoid recreation in or at the water's edge.



If you do have contact with water suspected to have an algal bloom rinse well with fresh water. Contact your doctor or veterinarian if you or your pet exhibit signs after exposure to a suspect body of water.

**Symptoms** could include any of the following if you have contact or inhale droplets of water containing toxic algae: Skin irritation, rash, itching, nose, eye and throat irritation. Nausea, vomiting, diarrhea, abdominal pain. Asthmatic individuals can have increased asthmatic symptoms.

**Dead or Sickly Fish** and other animals is a cause for concern in particular if multiple individuals and more than one species are ill or dead.



<https://www.post-gazette.com/life/outdoors/2020/01/17/Lake-Erie-fishing-algae-algal-bloom-Gov-Mike-DeWine/stories/202001140143>

## Murky, Cloudy and Colored Water

Clouded water you cannot see through results from suspended particles of sediment, decomposing debris or microscopic life. Algae can color the water green, brown, yellow or red.



White, cloudy grey-green may be from a lot of decomposing dead algae or plant material. In particular if accompanied by foul odor of sulphur (rotten eggs). This could indicate low levels of dissolved oxygen (anoxic event) which is bad for fish and animals needing to breath oxygen.

**Leaves and organic debris** can leach color into the water, resulting in tea-like appearance but not affect the clarity of the water very much.



**Yellow dust** floating on the surface of the pond and collecting at the shore is most likely pollen. It eventually sinks and settles at the bottom. Pollen is not a cause for concern.



<https://www.forsythnews.com/local/lifestyles/pesky-pollen-coats-the-water-air-everywhere/>

Pollen Covered Water

## Weedy Nuisance Plants

Free floating small plants in quiet nutrient rich water can quickly cover pond surfaces becoming a nuisance. Small, disc like plants are identified as such by roots on the underside and are often floating duckweed, water meal or water ferns not algae. They are not a health hazard but could pose problems for the pond if they overgrow the surface.



Small plants like Duckweed seen surrounding these larger water plants can cover the surface but have roots on their underside. Photo: Randolph Femmer USGS



<https://www.backyardnature.net/n/h/duckweed2.htm>

A close up of Duckweed



<https://sites.google.com/site/islandecology2011/terrestrial-flora/duckweed?overlaidemobile=true>

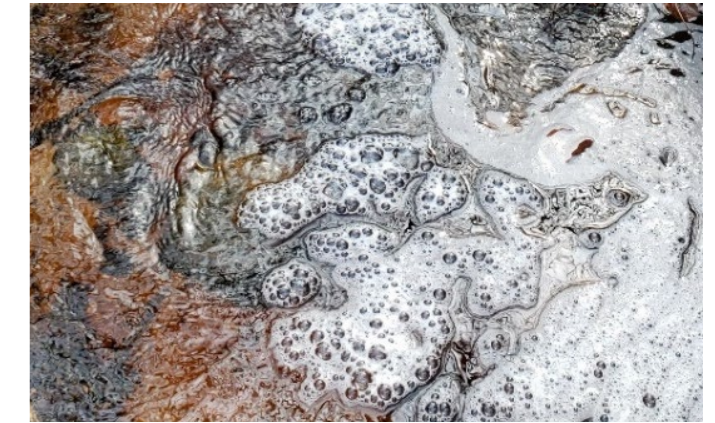
A close up of Duckweed



[https://www.123rf.com/photo\\_70206353\\_water-drop-on-water-fern-in-the-pond.html](https://www.123rf.com/photo_70206353_water-drop-on-water-fern-in-the-pond.html)

## Foam

Suds on the water or shore is a normal occurrence caused when air mixes with water and bits of decaying debris in the water and sediment. With water movement you tend to find foam. Green or brown frothy scum however could indicate a bloom.



## Oily Sheens

Film-like oily sheen on the water that comes about naturally does not smell of petroleum. If poked with a stick will stay separated. Petroleum products would flow back together.



<https://www.shutterstock.com/video/clip-19669048-organic-scum-forming-foam-line-on-surface>

**Contact us with your observations of concern:**  
<https://www.nantucketbiodiversity.org/pondsurvey>

**We will follow up and forward the information to the appropriate parties.**

- Is the water cloudy, green, brown, or red?
- Does the water have an odor?
- Do you see growth that is stringy, cotton-like or matted?
- In green water, do you see little spheres or does it look like grass clippings?