

## CYANOBACTERIA PROTOCOL

### PROTOCOL FOR ANY FORM OF CYANOBACTERIA

Cyanobacteria are a potential public health danger as they may produce toxins. To minimize immediate risks If a cyanobacteria bloom is suspected:

- Don't wade or swim or drink the water!
- Keep pets and livestock out of the water!
- Wash your hands if you've made contact!

#### 1<sup>st</sup> step: Is it actually Cyanobacteria?

- **Cyanobacteria** blooms can occur anywhere on the lake!
  - On beaches.
  - Along any shoreline and as patches on the lake's surface.
  - At boat launches and in front of private residences.
  - As thick mats.
  - Attached to rocks or substrates.
  - Can extend from the lake's surface deep within the water column.
  - Shoreline accumulations can change rapidly and even disappear.
  - Weather, wind, and currents may shift accumulations.
  - Water disturbance from boats or other recreational activities can alter the conditions of the reported bloom sighting.
- **Look-Alikes:** The green stuff you see floating on the lake might not be cyanobacteria! Here are a few identifiers:
  - If you see leaves or roots, or distinguishable parts, it is likely a tiny (and harmless) aquatic plant like **duckweed**.
  - If it is a stringy, silky substance that can be draped over your finger or a stick it is probably **filamentous green algae**.
  - If it is yellow and almost "dusty" in texture, floating or suspended in the water column (and seem to act like cyanobacteria) it may be **tree pollen** (especially mid-May to mid-June),
  - **If you are not sure, then follow these next steps of this protocol.**

#### 2nd step: Notify the AIS patrol coordinators.

- First call either:

For Conway Lake's AIS PATROL use only:

- Maria Gross (cell 603-491-3107, home 603-447-6068)
- Don Yurewicz (713-253-1211)
- If neither Maria nor Don are reachable, then call either:
  - Bill Petry (781- 929-2021) or Tim Keith (617-285- 4945)
  - Steve Kafka (617-869-2366) or
  - Brad Gaudrault (603-387-3372 state reason for call)

**Please note that steps to take a sample of the bloom will only be done by one of these listed.**

If you cannot reach any of those listed above, then proceed to Step 3

**3rd step: Immediately collect data needed for HAB of NHDES**

- Your full name and contact info
- Date and time
- Waterbody's name and town
- **Location** of the bloom
  - Use app, *Solocator* (a GPS enabled camera app which takes photos with location, date, time, direction, and notes for photo documentation).
  - Mark down *zone and grid* coordinates used on Conway Lake's AIS patrol maps. Circle the area on the map and include a snapshot of the map when filling out the online reporting form (see below).
  - Record specific shoreline or lake landmarks where the bloom is located, e.g., east side of South Cove near Boynton Island, west end of the channel, etc.
- **Size of Bloom** – provide a rough estimate of the size of the bloom.
- **Take high-resolution photos** (large format) to highlight the nature of the infestation (color, how extensive it seems, and its physical appearance).
- **Fill in this information and download photos via the online NH DES Bloom Report:** <https://arcg.is/1e8Tfy>
- **Send the same photos** to:
  - Maria (maria.m.gross@gmail.com)
  - Don (dyurewicz@gmail.com)

#### **4th step: Take a Sample**

All definitive identifications of any cyanobacteria need to be made in a lab with microscopes at HAB (DES' Harmful Algae Bloom program)

#### **TO TAKE A BLOOM SAMPLE:**

- Wear gloves, mask, and have a labeled high density plastic bottle (e.g., Nalgene type.) A well cleaned jar would be good for any short-term transfer if it seals well. No plastic bags!
- Can also use a sampling "stick" (create a long pole with an attached durable container.) *Must drag the container through the surface of the bloom to collect a sample.*
- Firmly close the container and thoroughly wash off the surfaces.
- Store in fridge (*NOT* in freezer) until it is delivered to DES for both microscopic analysis and toxin identification.

*If someone is available, dropping off samples at the NHDES office will expediate getting results.*

Samples can be delivered to:

**NHDES Jody Connor Limnology Center**

**Watershed Management Bureau**

**Water Division, NH Department of Environmental Services**

**Hazen Drive (P.O. Box 95) Concord, NH 03302-0095**

The entrance that faces the DMV has several black bins out on the sidewalk and they are labeled with "cyanobacteria, blooms, algae."

**Call or text Kate Hastings NH DES (603-848-8094) to confirm sample drop off.**

Note: She might also be able to send a crew up to take samples of the bloom, or pick up the samples we've collected, but it might take longer for her to be able to do that than if we collect ourselves.

#### **5th step: Wait for Cyanobacteria Confirmation**

All definitive identifications of any cyanobacteria need to be made in a lab with microscopes at NHDES @ HAB

**While waiting for results, Kate states:** "Do not try to mark or contain the bloom...letting the material move where it would naturally be better than gathering and concentrating it. When it "disappears" it is just mixed back into the water column and becomes more diluted. Eventually the cells will die, degrade, and sink to the bottom of the waterbody. We post waterbody wide advisories, not statewide advisories. We do not disclose or include specifics about where the bloom was initially observed because the concentrated material can move around a waterbody so quickly. It can be frustrating for people to not visually see a bloom, but to have an advisory in place. It is a challenging and dynamic situation. A week in between sampling tends to give the event long enough to see if it will fully pass or continue to persist. When we resample, I try to connect with community members to see if they're observing accumulations in different parts of the water body, and we focus on sampling the most severe part to determine advisories."

#### **6th step: Communication of Results**

Kate Hastings will be in contact with Maria and Don about the results within 24 hours. An **alert** may be issued if cyanobacteria is found below advisory levels. An **advisory** will be issued if cyanobacteria density exceeds the state's recreational threshold.

If an advisory is issued, Kate will also contact both Health Officers for Conway and for Eaton to post signs at public access points. **All public access to the lake will be closed until the lake tests negative.**

In case further action needs to be done:

- **Conway Township** Contact Information  
Website: <https://conwaynh.org/staff/>  
Phone: (603) 447-3811 - Dial 2 Board of Selectmen/Town Manager  
Email: [conway@conwaynh.org](mailto:conway@conwaynh.org)
- **Eaton Township** Contact Information  
Phone: (603) 447-2840  
Email: Selectmen [selectmen@eatonnh.org](mailto:selectmen@eatonnh.org)

Where to find **Current NH Cyanobacteria Alerts and Advisories.**

**For Conway Lake's AIS PATROL use only:**

<https://www.des.nh.gov/water/healthy-swimming/healthy-swimming-mapper>