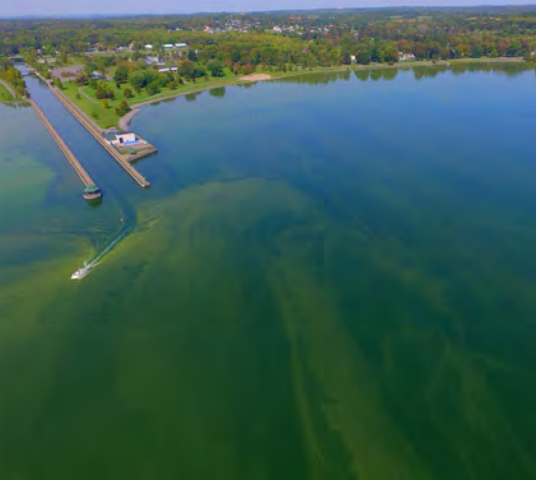
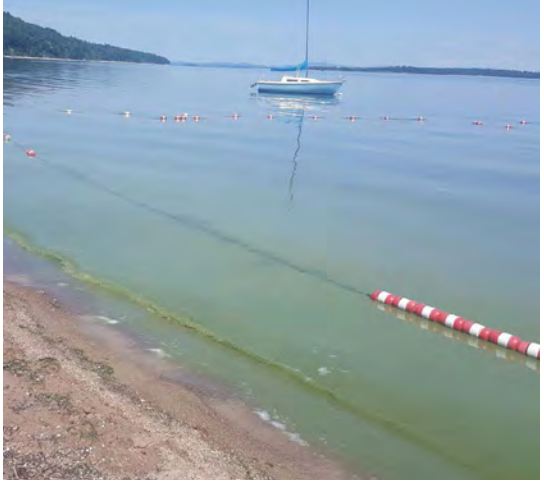
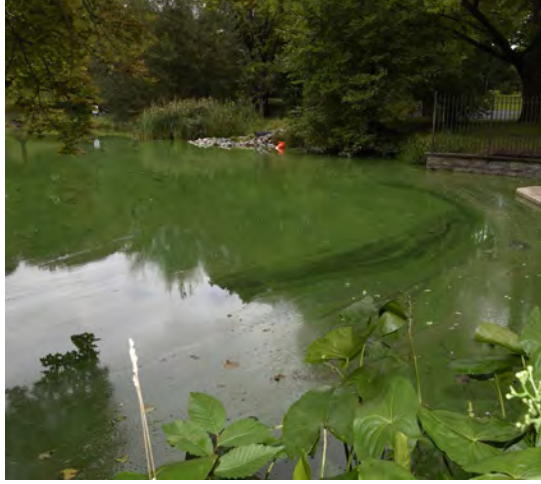
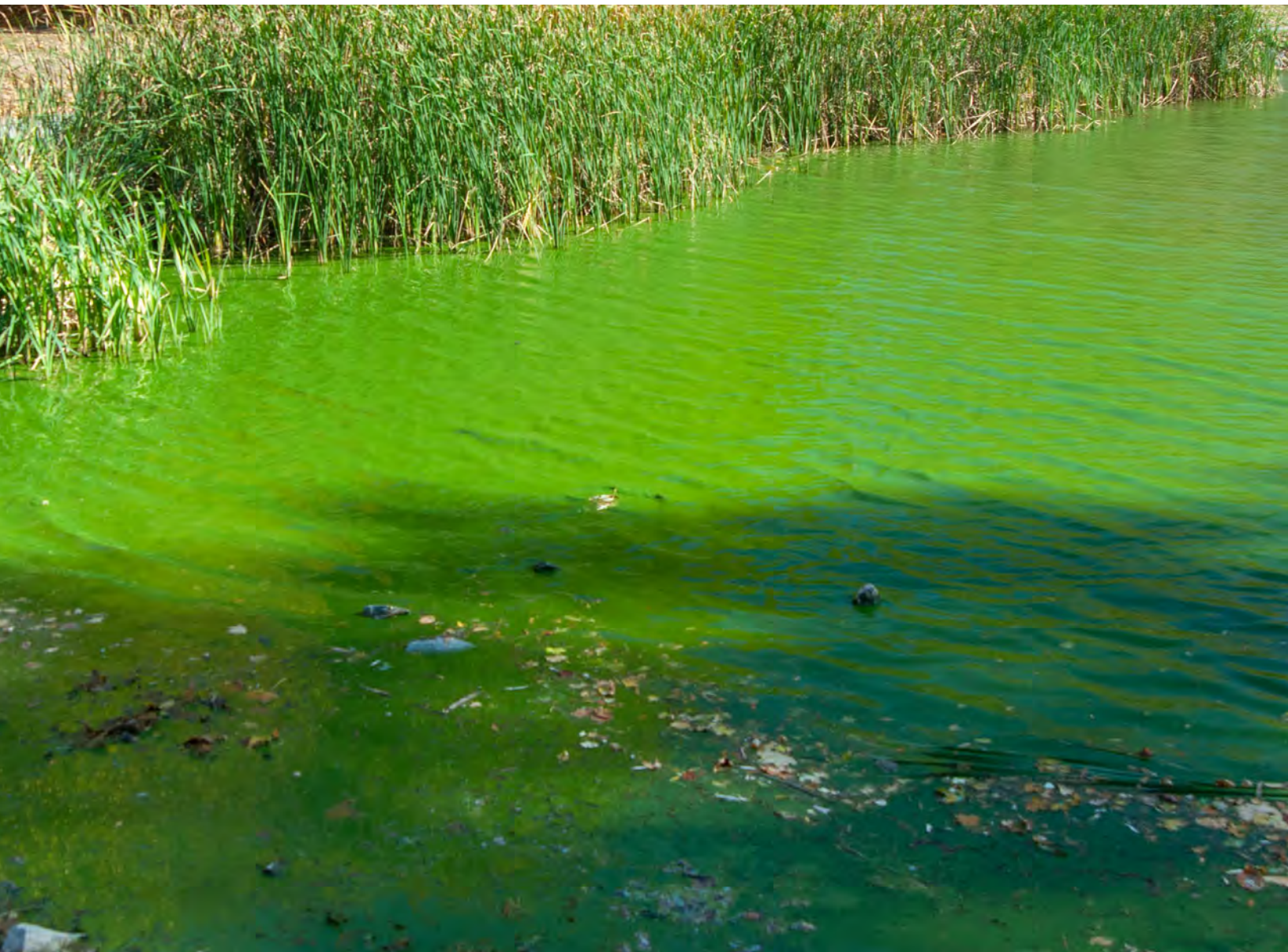




NEW YORK STATE | Department of Environmental Conservation

HABs Reporting Guide

Andrew M. Cuomo, Governor | Basil Seggos, Commissioner



Introduction

New York State has an abundance of water resources, both flowing and ponded. There is no formal legal definition of a lake or pond, but by most common measures, there are between 7,500 and 16,000 of these ponded waters in New York. Lakes are heavily used and enjoyed by New Yorkers for a wide variety of purposes, including recreation and as surface drinking water supplies. With an abundance of water resources, it is impossible to annually sample New York waterbodies solely through DEC's monitoring programs. That is where participants like you come in. With your help, DEC has a wider network of citizen scientists who provide valuable information about the status of lakes in New York State. Thank you for offering to commit your time to help improve water quality.

What are HABs?

Cyanobacteria Harmful Algal Blooms (HABs) are most commonly observed in ponded waters, although blooms have been documented in several streams and rivers. HABs affect the ecological health and aesthetics of many lakes in New York State. They also can pose a health risk to humans and animals that use the water for drinking or recreation. In freshwater, HABs are usually made up of dense concentrations (blooms) of single-celled algae-like bacteria called cyanobacteria (also known as blue-green algae). Warm temperatures, high levels of nutrients in the water, and sunny calm days are some of the conditions that may lead to the formation of blooms.

Exposure to any cyanobacteria HABs can cause health effects in people and animals when water with HABs is touched or swallowed, or when airborne droplets are inhaled. This is true regardless of toxin levels: some cyanobacteria produce toxins, while others do not. Exposure to HABs or toxins can cause symptoms such as diarrhea; nausea or vomiting; skin, eye, or throat irritation; and allergic reactions or breathing difficulties. People and pets should avoid contact with HABs and rinse off with clean water if contact occurs. Learn more about HABs and health: https://www.health.ny.gov/environmental/water/drinking/bluegreenalgae/.

DEC HABs Initiatives

DEC manages many programs that measure and report water quality; identify, investigate, and control pollution sources; and develop strategies to address water quality threats in New York. DEC activities that focus on HABs include:

- integration with the agency's ambient water quality monitoring programs
- development and support of the implementation of prevention and mitigation strategies to reduce the impacts of HABs
- collection of data and information related to HABs
- compilation and interpretation of near–real-time monitoring and surveillance information through the New York Harmful Algal Bloom System (NYHABS)
- administration of several ongoing research projects
- coordination with New York State Department of Health, additional state and federal agencies, local authorities, nonprofit organizations, academic partners, and others

Communication of information about HABs serves to inform the public's recreational choices, which can help protect public health. DEC maintains a HABs website of current and archived bloom locations, and maintains a shared inter-agency database for rapid communication about HABs occurrences (NYHABS).

For more detail, see the DEC HABs Program Guide: http://www.dec.ny.gov/docs/water_pdf/habsprogramguide.pdf.

How Trained Users Submit NYHABS Reports

If you have been through a training program to submit reports to NYHABS from a pre-planned location, you should use the Trained User Report Form: on.ny.gov/habproform.

Forms can be filled out with a mobile device or at your home computer

WHO Enter your personal information (email and name);
Note - DEC will not post this information to NYHABS.

WHEN Enter the date you observed the HAB (be sure to change the date if you are not reporting the sighting the same day you observed it).

WHERE Select your county, user group, lake name, and location (i.e., zone or lake number). Check that your location is correct using the map interface. If using a mobile device, select the compass button to jump to your current location. If you are on a desktop, use the search tools to navigate to the correct location.

WHAT Select whether a bloom was present or not. Use the photos in this guide as a tool to improve your ability to detect HABs from other algal blooms (pages 4-6).

- No HAB present: No other information needed; you are done and can submit the form.
- HAB present:
  - Select the **Percent** of your zone or lakeshore that you inspected during the survey.
  - Select the **Extent** of the bloom, which is a rough estimate of the size of the bloom within the waterbody:
    - **Small Localized:** Bloom affects a small area of the waterbody; limited to one to several neighboring properties
    - **Large Localized:** Bloom affects many properties within an entire cove, along a large segment of the shoreline, or in a specific region of the waterbody
    - **Widespread/Lakewide:** Bloom affects the entire waterbody or a large portion of the lake, e.g., most or all of the shoreline
  - **Photos** are required for certain user groups when reporting to NYHABS. Photos help DEC staff and others confirm what you saw. Attach 1 or 2 photos from more than one angle (wide angle, including the shoreline or a close up).

If you have not been through a training program, or want to submit reports to NYHABS from any other location, please use the Suspicious Algal Bloom report form: **on.ny.gov/habform**

...And Then What Happens?

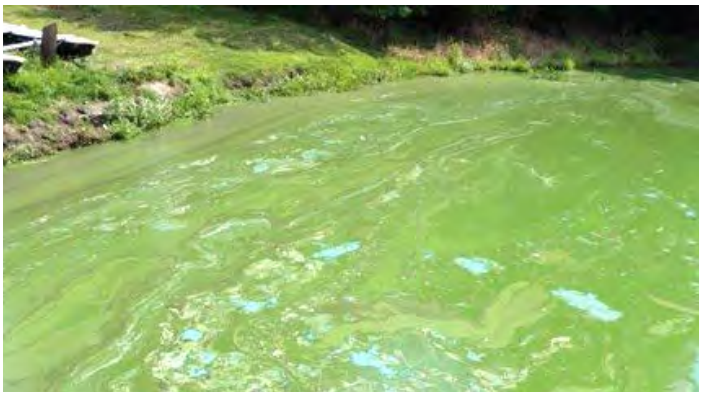
DEC staff will see your report right away. If your report is a Confirmed Bloom, the report, photo(s) and bloom status will appear on the NYHABS map within a day or two. Your report will remain current for two weeks. If the bloom persists for more than two weeks, feel free to submit an additional report with new photos. Each report remains as an archived report for the rest of the season. Learn more about using NYHABS: http://www.dec.ny.gov/chemical/83310.html.

Communication of information about HABs serves to inform the public's recreational choices. DEC maintains a HABs website of current and archived bloom reports and also maintains a shared inter-agency database for rapid communication about HABs' occurrences (NYHABS). For more detail, see the DEC HABs Program Guide.

Identifying HABs

Examples of HABs

"Spilled paint" on the surface



Streaks on the surface of the water

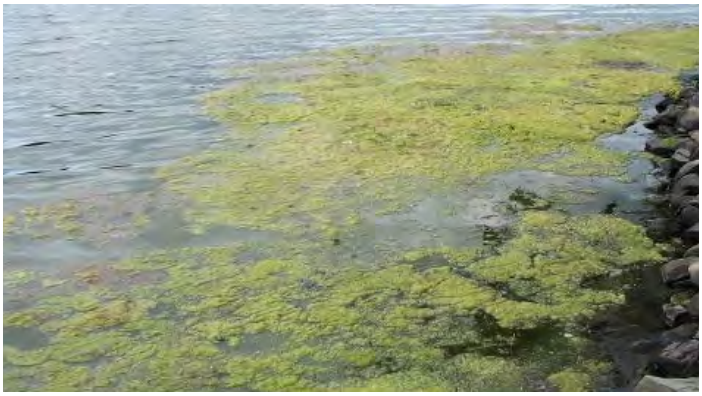
Bright green water or "pea soup"

Green dots/clumps on/in the water

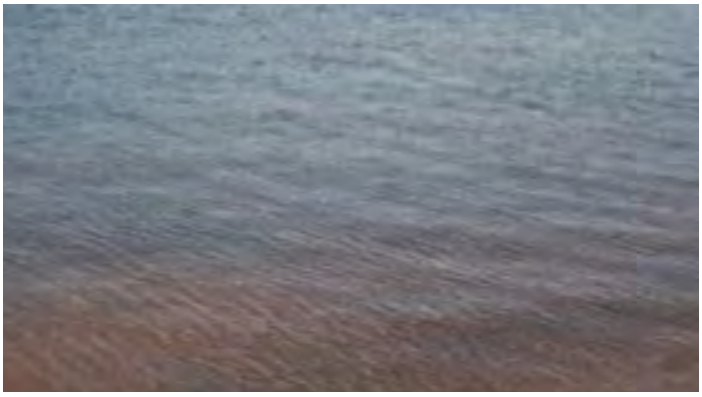
Identifying HABs

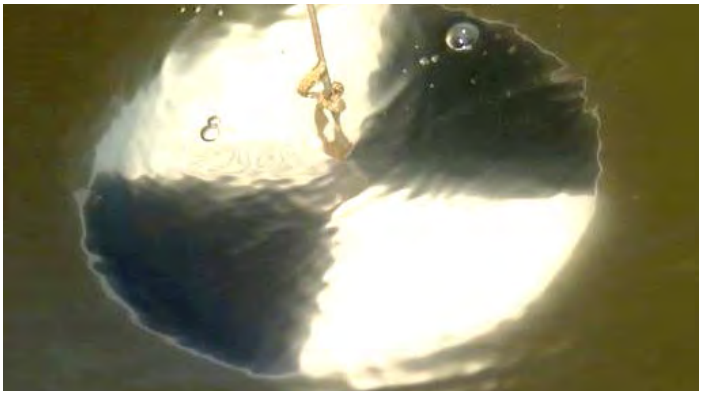
Examples that are Not HABs:

Green Algae Blooms

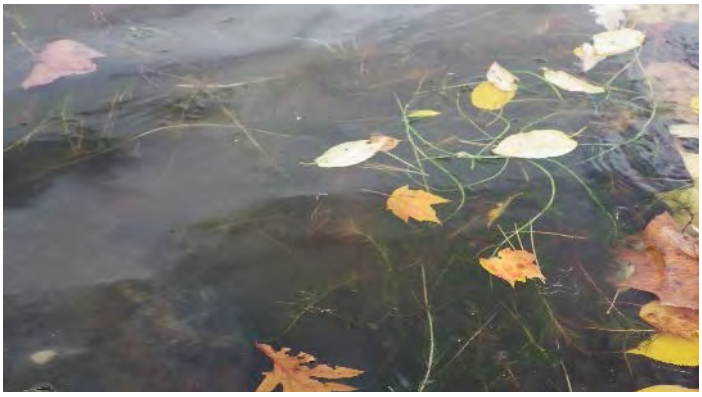


Slight greenish or brown tint to the water





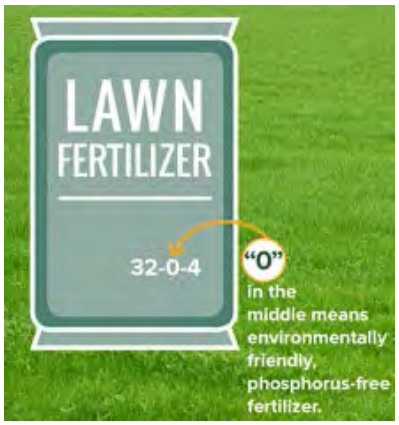
Floating plants can look like algal scums from far away but are individual plants up close (duckweed, watermeal, etc.)



Landowner Stewardship

Maintaining and protecting healthy shorelines is key to improving local water quality. Landowner stewardship can reduce water quality impairments like nutrient loading while creating healthy habitats. Below are examples of resources, programs, and suggested best management practices for landowners.

Phosphorus Free-Fertilizer



The state's annual "Look for the Zero" public awareness campaign encourages homeowners to go phosphorus-free when using lawn fertilizer. DEC is encouraging consumers to review bag labels for phosphorus content when shopping for fertilizer. Fertilizer labels have three numbers. The number in the middle is the percentage of phosphorus in the product. Fertilizer use, especially improper application, can be harmful to the environment. The phosphorous and nitrogen in fertilizer can pollute our waterways, negatively impact aquatic life and interfere with fishing, swimming and boating. Regardless of the lawn's location, excess phosphorus can wash off that lawn and pollute lakes and streams, harming fish and ruining boating or swimming. Learn more about lawn fertilizer: https://www.dec.ny.gov/chemical/67239.html.

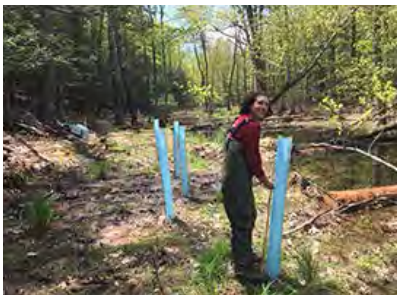
The following suggestions will help decrease the likelihood of overapplying fertilizer and, therefore, reduce the amount of excess nutrients entering groundwater and surface water:

1. Don't start fertilizing! If you're not currently using fertilizer and are happy with how your lawn looks, then maybe you don't need to fertilize at all.
2. Keep grass clippings on your lawn. Mulching mowers finely chop grass into small pieces which get deposited into the lawn and decompose quickly. It is like adding some fertilizer every time you mow, and allows you to lessen, or eliminate, the application of chemical fertilizer.
3. Apply less fertilizer to your lawn. If you decide to use fertilizer, especially on a well-established lawn, then apply one-third to one-half the amount recommended on the fertilizer bag. If you are satisfied with the result, then you applied the right amount. Nice work!
4. Calibration is key. If you choose to fertilize, you'll need to calibrate your spreader in order to deliver fertilizers at the correct application rates.
5. Timing is everything. If you are going to fertilize, apply it at the right time – close to Memorial Day and/or Labor Day. Fertilizer shouldn't be applied before April 1 or after October 15, or during the hottest summer months when grass is dormant.
6. Shrink the size of your lawn. Consider reducing the lawn area requiring fertilizer. Replace your lawn or a portion of it with less water-intensive landscaping, known as "xeriscaping." Xeriscaping makes use of native species, requires little to no fertilizer, and can help to absorb and filter rainwater.

Riparian Buffers

Riparian buffers are strips of vegetation (trees, shrubs, or grass) planted next to streams or other waterbodies. By planting vegetation along waterbodies, space is created between the water and upland land uses, which helps protect water quality and habitat. Through the Buffer in a Bag initiative, DEC's Trees for Tribs Program and the Colonel William F. Fox Memorial Saratoga Tree Nursery provide landowners with a free bag of bare-root tree and shrub seedlings to enhance the streamside or shoreline area on their property. Each bag of seedlings is made up of a variety of native trees and shrubs chosen specifically to support wildlife and improve water quality. Learn more about Buffer in a Bag: https://www.dec.ny.gov/animals/115903.html.

Septic Maintenance and Repair



Sewage from lakeside homes on inadequate septic systems are a nutrient source to lakes and streams. Properly maintaining or replacing inadequate septic systems is critical for homeowners and can greatly reduce the amount of nutrients in a stream or lake. Tips for maintaining septic systems include regular pumpouts of your septic tank, only flushing easily degradable products, directing rainwater and other drainage away from septic system, planting shallow-rooted plants over the absorption field, and conserving water to reduce septic system usage. Learn more about Septic System Operation and Maintenance: https://health.ny.gov/publications/3208.pdf or contact your local health department.

Reduce Shoreline Erosion

Using natural practices, shoreline landowners can stabilize shorelines with natural vegetation to reduce the amount of nutrient rich sediment from entering lakes or streams. By maintaining vegetation and reducing alteration of the shoreline, landowners can help improve water quality while maintaining a natural setting. These practices are resilient, aesthetically pleasing, and environmentally friendly. Learn more about Shoreline Stabilization: https://www.dec.ny.gov/permits/50534.html.

Links and Resources

- DEC Harmful Algal Blooms webpage: http://www.dec.ny.gov/chemical/77118.html
- Buffer in a Bag Program: https://www.dec.ny.gov/animals/115903.html
- Trees for Tribs Program: https://www.dec.ny.gov/animals/77710.html
- Lawn Fertilizer Guidance: https://www.dec.ny.gov/chemical/67239.html
- Septic Maintenance and Repair Guidance: https://www.health.ny.gov/publications/3208/index.htm
- Shoreline Stabilization Guidance: https://www.dec.ny.gov/permits/50534.html
- NYS Department of Health Blue-green Algae and Health webpage: https://www.health.ny.gov/environmental/water/drinking/bluegreenalgae/
- US Environmental Protection Agency: Cyanobacterial Harmful Algal Blooms (CyanoHABs) in Water Bodies: https://www.epa.gov/cyanohabs
- New York Federation of Lake Associations: http://www.nysfola.org
- New York State Soil and Water Conservation District Listings: https://agriculture.ny.gov/soil-and-water/soil-water-conservation-district-offices
- Survey 123: https://gisgeography.com/esri-collector-survey123-field-work-apps/
- HABs Educational Videos:
  - DEC Harmful Algal Bloom (HAB) Identification Tips and Tricks: https://www.youtube.com/watch?v=8nL_s77FV-o
  - HealthVermont: How to identify cyanobacteria: https://www.youtube.com/watch?v=ea0EHw5suDs

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