

What is a Harmful Algal Bloom (HAB)?

Large scale, visible algal blooms in freshwater produced by a group of bacteria called cyanobacteria or blue-green algae. These types of blue-green algae are capable of producing toxins that can cause health hazards. In freshwater lakes, excessive phosphorus loading into a water-body allow HABs to occur. Blooms of concern typically appear as spilled paint, pea soup, floating dots, or surface streaks.



What role can an aquatic invasive species (AIS) play?

Invasive plants and animals alter typical ecosystem processes as they tend to grow as monocultures and/or outcompete natives species. Some AIS alter the invaded ecosystems in ways that assist the growth of HABs.

The following 3 AIS are examples of how this can happen...

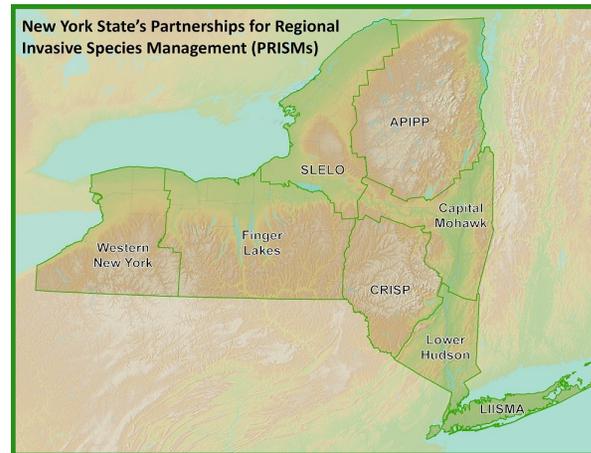
Always report a suspicious bloom

Call DEC's HAB Program: [518-402-8179](tel:518-402-8179)

Fill out a DEC [Suspicious Algal Bloom Report Form](#) online and submit to HABsInfo@dec.ny.gov. Be sure to include pictures if possible.

Health effects should be reported to your [county health department](#) or harmfulalgae@health.ny.gov

Report invasive species to your local [PRISM](#), [DEC](#), or through [iMapInvasives NY](#).



Capital/Mohawk PRISM

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Aquatic Invasive Species and Harmful Algal Blooms



Capital/Mohawk PRISM

Partnership for
Regional Invasive
Species Management

Zebra Mussels

Dreissena polymorpha



Zebra mussels are **filter feeders**, feeding primarily on **phytoplankton**, or algae living in the water column. An individual mussel can filter 1-2 liters of water in one day. As a result, lakes invaded by zebra mussels tend to experience an improvement in water clarity. However, zebra mussels are able to selectively reject phytoplankton that they aren't interested in eating, typically **cyanobacteria**. Zebra mussels eat favorable, harmless green algae and allow **cyanobacteria** to grow, persist, and potentially produce **HABs**.



Zebra mussels are native to Russia and Eastern Europe. They were first found in the Great Lakes in the 1980s and continue to spread prolifically across North America.

Curly Leaf Pondweed

Potamogeton crispus



Curly leaf pondweed is the only invasive of over 30 *Potamogeton*, or pondweed, species in New York. In the spring, it's typically the first plant to begin growing in the **littoral zone**, or the area of a lake where plants are able to grow because sunlight hits the bottom. This gives curly leaf pondweed a competitive advantage for space and resources over native plants. Curly leaf pondweed dies back around late June– early July. Large synchronous die-offs of a dense plant bed cause oxygen loss in bottom waters due to increased decomposition. Oxygen loss leads to the release of phosphorus from bottom sediments. This **internal loading** of phosphorus allows heightened algal growth and potentially **HABs**.

Spiny Waterflea

Bythotrephes longinamus



Spiny waterfleas are large **zooplankton**, or microscopic animals living in the water column. They eat native zooplankton that are important components of the lake food web as they eat algae, controlling their growth. If spiny waterflea becomes dense in a lake they will eat large quantities of zooplankton. This allows algae to grow uncontrolled. With increased algal growth, most lakes experience a subsequent increase in **cyanobacterial** growth. Spiny waterflea compete with small fish for food and are not a nutritious food source for gamefish.

Very common zooplankton in NY lakes are *Daphnia*. Though you can't see them with a naked eye, they are very important to the food web as algae **grazers** and food for small fish.



Science 2.0