

Harmful Algal Blooms in Ohio Waters

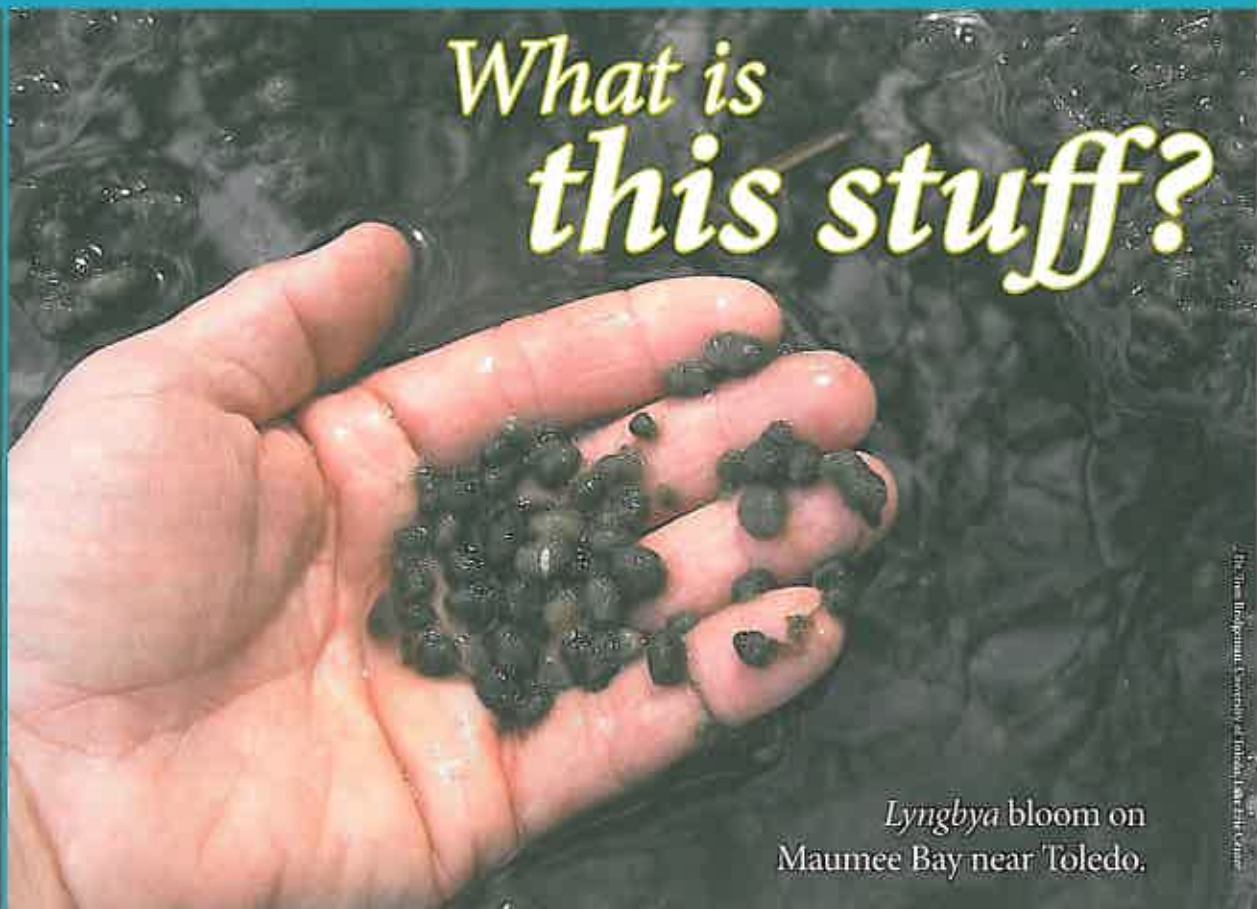
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What is this stuff?

Lyngbya bloom on Maumee Bay near Toledo.

Harmful algal blooms (HABs) are so named because many produce poisons (or toxins) that can cause illness or irritation—sometimes even death—in pets, livestock, and humans. An **algal bloom** is an abundant or excessive growth of algae. Most HABs are caused by planktonic bacteria, which are suspended in the water and rely on currents to move them. The term “algal” is a little misleading because the organisms that normally make up HABs are actually **cyanobacteria**, which are commonly referred to as “blue-green algae,” and are not true algae.

Like plants and true algae, cyanobacteria have a pigment called **chlorophyll** that captures sunlight to **photosynthesize** sugars for energy. Aquatic plants and algae require nutrients, especially phosphorus and nitrogen, from the water or sediment to grow. Unlike most plants and true algae, many cyanobacteria are able to pull and use (or **fix**) nitrogen from the atmosphere using specialized cells called **heterocysts**.

Cyanobacteria can be distributed throughout the water or they can float to form scums on or near the surface. The cells of many cyanobacteria group together

to grow in colonies. Blooms can look like slicks of opaque, bright green paint, but closer inspection often reveals the grainy appearance of individual colonies. While most HABs in Ohio will appear greenish or sometimes black, cyanobacterial blooms can have a wide variety of appearances; some may appear blue-green, purple, red, white, or brown.

Not all algal blooms or surface scums are HABs. Be careful not to confuse cyanobacterial surface scums with the small and

harmless aquatic plants called duckweeds. Some true algae like *Cladophora* can also create large blooms with the right nutrient and light conditions. Such blooms can be a serious nuisance and cause environmental problems but do not generate the toxins associated with many cyanobacteria.



Nuisance blooms of green algae are not addressed in this fact sheet.

