

A Closer Look: Harmful Algal Blooms

What are algae?

They're not plants. They're not animals. They're simple aquatic organisms that are most often found atop ponds, lakes, and still water in Iowa. When conditions are right, algae will "bloom" or rapidly replicate.

What are harmful algal blooms?

Not all algae are harmful, but the most common harmful algal blooms in Iowa are comprised of blue-green algae—also known as cyanobacteria.



Most common in late summer and early fall



Can appear quickly and last a few hours, days, or weeks



Create smelly, scummy water



Can produce toxins that may lead to public health issues



Climate change and warmer average temperatures are increasing blooms

What conditions promote algal blooms?

Warm, slow-moving water rich in nitrogen and phosphorus from farmland, wastewater discharges, and other sources provides an ideal environment for these organisms to reproduce rapidly.

More about blue-green algae:

- Among the oldest group of organisms on the planet
- Live in freshwater, salt water, and in mixed brackish water
- Can be many colors including green, red, orange, and brown due to unique light absorption and reflection by pigments within the algae
- Not all algal blooms produce toxins



Public Health Impacts

When people play or swim during an algal bloom, they may ingest water containing a toxin (microcystin) that can lead to nausea, vomiting and diarrhea. Additional symptoms may include cough, runny eyes and nose, sore throat, skin rashes, and in severe cases, liver failure. Symptoms may take hours or days to appear, but normally show up within one week of exposure.

Pets and other animals that drink contaminated water, or even lick themselves after being in the water, can be exposed to microcystin toxins that can cause illness or death.

Know Before You Go

Iowa Department of Natural Resources conducts beach water sampling at all State Park beaches and many locally managed beaches during the summer. Swimming advisories are listed here: www.iowadnr.gov/things-to-do/beach-monitoring



Report Harmful Algal Bloom

Exposure: Call Iowa Department of Public Health (800) 972-2026.

Environmental Impacts



Toxins can kill fish and other animals, and if these fish or animals are eaten, some toxins can sicken other animals, like reptiles, birds, and mammals. Algal blooms also harm aquatic life by blocking out sunlight and clogging fish gills.

Economic Impacts



Increased costs of drinking water treatment to mitigate toxins and medical expenses from exposure



Decreased recreational lake tourism revenue—valued at nearly \$1 billion/year by the Iowa Lakes Valuation Project

What can be done to reduce harmful algal blooms?

Reduced Nutrients in Water = Fewer Harmful Algal Blooms

The Iowa Nutrient Reduction Strategy is focused on reducing nutrients in Iowa waters. Farmers, municipalities, agencies, conservation organizations, and everyday Iowans are collaborating to make changes to help meet nutrient reduction goals. To learn more, visit www.nutrientstrategy.iastate.edu.

It's the only water the earth has. It's everyone's job to keep it clean.



For information on what you can do to help improve water quality, visit www.iowalearningfarms.org.

This publication was produced by the Conservation Learning Group and is based upon information from Iowa Department of Public Health.

Cover illustration is a derivative of a USGS public domain image. Back photo courtesy of the Iowa Department of Natural Resources Beach Monitoring Program.