

TOXIC BLUE-GREEN ALGAE: A Threat to Iowa Beaches and Beachgoers

Blue-green algae blooms are showing up more frequently in Iowa waters, posing serious threats to the health of humans and pets. In 2016, Iowa experienced a record number of beach advisories due to unsafe levels of microcystin produced by toxic blue-green algae.

Algal blooms are overgrowths of algae in water. Some, such as blue-green algae, can produce dangerous toxins. Harmful algal blooms form in slow-moving water when fed by an over-abundance of nutrients (nitrogen and phosphorus). Blue green algae thrive in warm water.

At this time, Iowa monitors 40 state park beaches for microcystin from Memorial Day to Labor Day, and posts warning signs when the toxin reaches health advisory levels.¹ However, not all public beaches are monitored and few, if any, private beaches are monitored for microcystin, so because a beach is not posted with a warning sign does not mean it is free of toxic algae. *(See sidebar on how to identify blue-green algae.)*

Know the Dangers of Blue-Green Algae

Blue-green algae - also known as cyanobacteria - secrete harmful toxins, including microcystin, that can cause a variety of health problems. Exposure to unsafe levels of microcystin from blue-green algae blooms can come from direct skin contact, ingesting the water or inhalation.

- Direct exposure can cause breathing problems, an upset stomach, rashes and other allergic reactions and even liver damage.
- Children have higher risks because they are more likely to ingest the water, and they usually play near the shoreline where blooms are often thickest.
- Inhaling water droplets containing microcystin can result in a runny nose, eye irritation, cough, sore throat, chest pain, asthma-like symptoms or allergic reactions.
- Dogs that swim in or drink the water can suffer serious harm or even death, sometimes in a matter of hours. Avoid letting them eat or roll in scums along the shoreline.

Beach advisory warning at Rock Creek Beach in Central Iowa.



Toxic algae at Center Lake in Iowa's Great Lakes region.

Identify Toxic Blue-Green Algae

Know how to identify the blooms, the risks and how to respond. Visible signs that a lake, beach or other water-body is experiencing a potentially harmful blue-green algae bloom, include:

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- A visible surface scum resembling spilled paint, pea soup or streaking of green lines on the surface.
- Algae ranging in color from bright, iridescent blue to green, red or brown.
- A foul odor.

As long as warning signs are posted, you should stay out of the water. Even when visible blooms die down or float away from beaches, harmful microcystin levels can be present in the water.

Not all algae is toxic. Helpful pictures of harmful algal blooms contrasted with other types of algae and plants that may be found in midwestern surface waters can be found online. One good source of such images is at the Minnesota Pollution Control Agency's website, at:

<https://www.pca.state.mn.us/water/blue-green-algae-and-harmful-algal-blooms>

Respond to Exposure

If you suspect you, your child or your pet have been exposed:

- Shower or rinse off with clean water as soon as possible. Thoroughly wash exposed areas.
- It is a good practice to always take a shower or rinse off children or dogs after contact with surface water, even if no warnings or advisories are posted. Many beaches are not monitored and microcystin can linger even if blooms are not visible. Other potentially harmful contaminants, such as bacteria and viruses may also be present.
- In case of symptoms, seek prompt medical care – or veterinary care for a pet.

Help Reduce Threats

Blue-green algae blooms result from pollution sources

including agricultural and urban fertilizers, runoff of livestock manure, leaking septic systems and wastewater treatment facilities. We all share accountability to help keep our waters clean. The best way to get rid of these blooms is to reduce pollution. Here are some ways you can help:

- Avoid creating nutrient pollution: Pick up pet waste, maintain your septic system and be careful not to over-fertilize your lawn or fields.
- Let your legislators know you care about water quality and want to see increased action and funding for clean water.
- Learn more about opportunities to make your voice heard at www.iaenvironment.org where you can sign up under “Get Involved.”

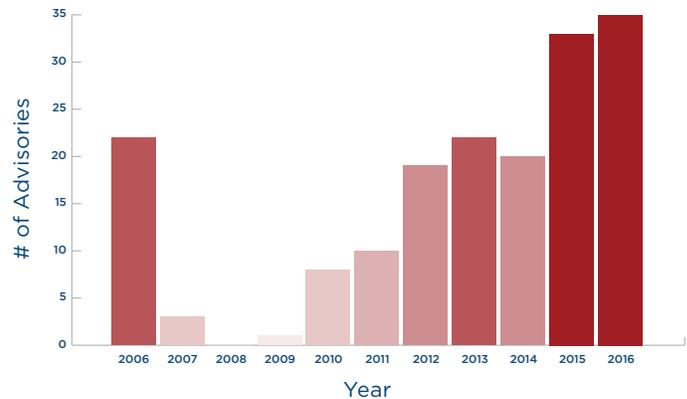
Stay Informed

A map that shows current advisories,

updated weekly during the summer, is available on the DNR’s Beach Monitoring website (where advisories for dangerous levels of microcystin and also for bacteria are tracked). Call the DNR Beach Monitoring Hotline at 515-725-3434 to hear the most recent warnings.

Get more information on cyanobacteria in Iowa waters at the Iowa Environmental Council’s website, www.iaenvironment.org/toxicalgae, where you can find a chart of swimming advisories for toxic blue-green algae that shows trends and hot spots since 2006.

Iowa State Park Beaches Number of Advisories (microcystin >20 ug/L)



Mom and child wading at an Iowa lake beach, a long-time joy of summer threatened by the growing incidence of toxic blue-green algae.

- 1 The U.S. Environmental Protection Agency has recommended the microcystin health advisory level for recreational exposure be significantly reduced, based on updated research on the potential for serious health impacts. The pending recommended guideline, announced in December 2016, is 4 micrograms/liter, a five-fold reduction from the current Iowa health advisory level of 20 micrograms/liter. (A number of states already use a more protective standard for direct contact in recreational waters.)