

WATER

Blue Green Algae

Blue Green Algae (BGA) are free-floating, microscopic organisms naturally present in reservoirs, lakes and streams. They are usually found in low numbers, but in very warm, shallow and undisturbed waters that receive a great deal of sunlight, BGA can become abundant. The danger with BGA is their ability to produce and release toxins into the water. BGA are a concern as they may create endotoxins, hepatotoxins and neurotoxins, which can be harmful to the health of humans and animals.

What are the Department of Environmental Quality's (DEQ) Responsibilities?

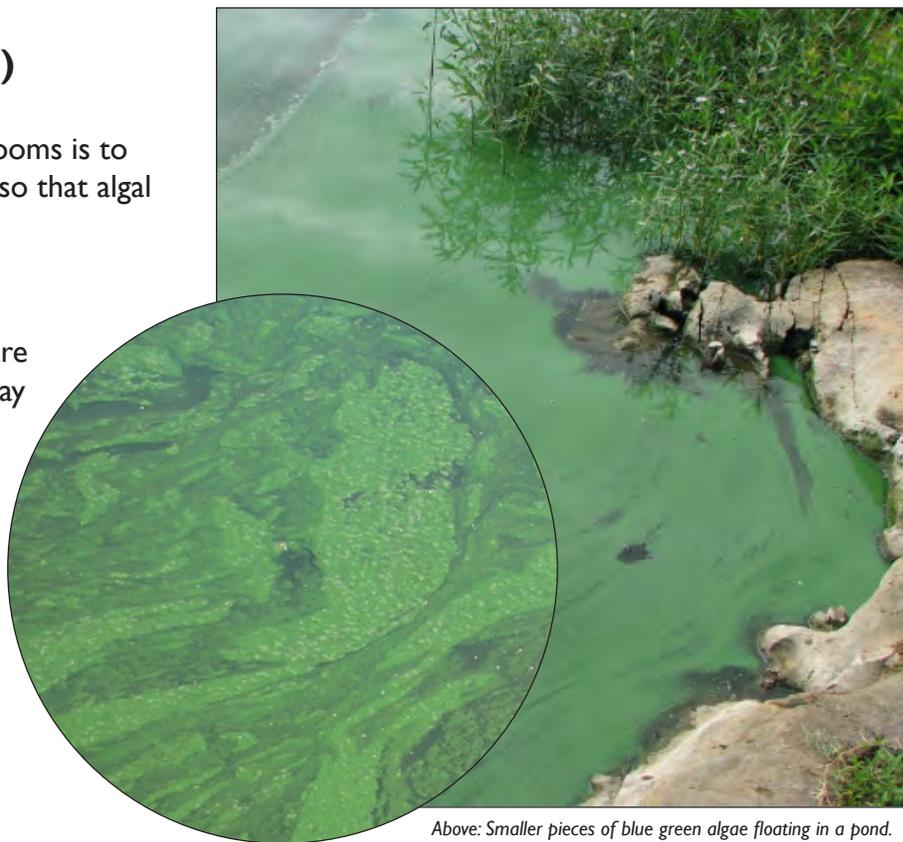
DEQ's primary role in regard to BGA blooms is to monitor and assist public water supplies so that algal toxins are not present in drinking water.

What are Blue Green Algae?

- Blue Green Algae, or cyanobacteria, are an ancient group of bacteria. BGA may reproduce rapidly in lakes and ponds with adequate amounts of sunlight and nutrients (phosphorus and nitrogen).
- Within a span of just days, a clear lake or pond can become cloudy or deep green with algae growth. This is called a bloom.
- Although a nuisance, most BGA blooms are not toxic.

How can I tell if BGA are present in a bloom?

- BGA may look like:
 - thick pea soup;
 - green paint;
 - bluish, brownish or reddish-green paint
- When BGA washes up on shore, it may form a thick mat on the beach.
- BGA are made up of extremely small organisms that are difficult to pick up and hold. Green algae are stringy and made up of grass-green strands. Green algae are harmless.



Above: Smaller pieces of blue green algae floating in a pond.
Inset: A closeup of blue green algae.

Why be concerned about BGA?

- The toxins produced by BGA may cause a variety of reactions, most commonly, upper respiratory problems, eye irritation, vomiting, and diarrhea.
- The **consumption** or **inhalation** of BGA can be unsafe.
- Children are more vulnerable than adults because children tend to play in the water and are not as cautious as adults. Children are more likely to drink or accidentally swallow the water they are swimming in.

For more information on BGA in regard to recreational activities, contact the Oklahoma Tourism and Recreation Department (<http://www.travelok.com/checkmyoklake/>) OR contact the lake's manager.

If you have become ill after coming in contact with BGA, visit your physician immediately and contact the Oklahoma State Department of Health (405-271-4060).

Can livestock and pets be harmed by BGA?

- Pets and livestock are particularly susceptible to the harmful effects of BGA.
- Livestock tend to use ponds as a water source and can therefore inhale and consume large quantities of BGA. If toxins are present, this can lead to severe illness and even death.
- Do not allow pets or livestock to swim in or drink water that appears to have BGA.

For information regarding pets and livestock, contact the Oklahoma Department of Agriculture, Food and Forestry at (405)521-3864 or visit <http://www.state.ok.us/~okag/ais/bluegreenalgae.pdf>

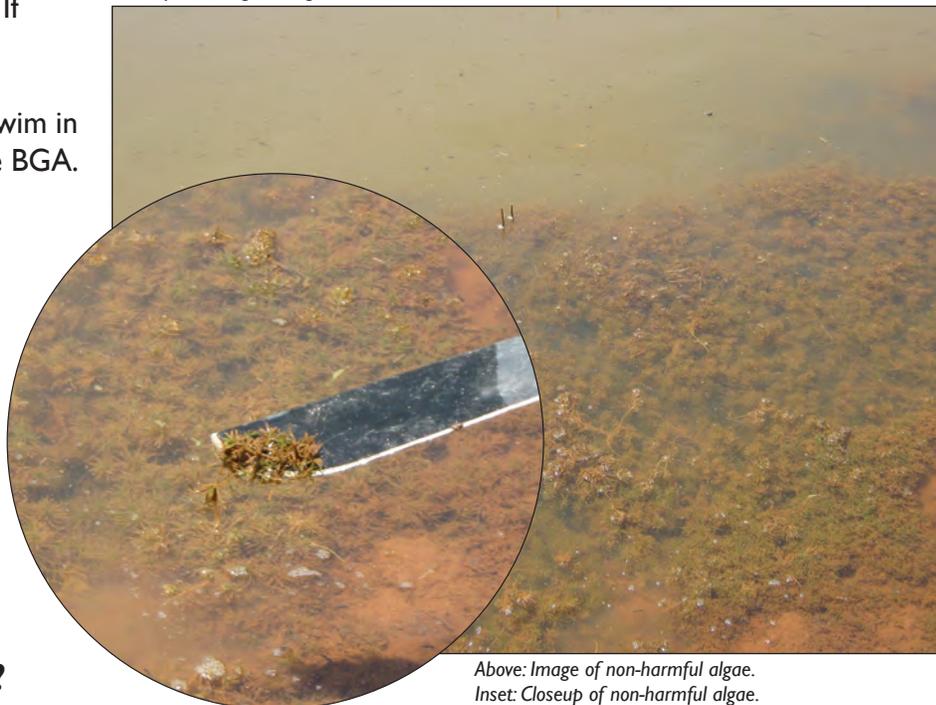
If an animal has become ill after coming in contact with BGA, contact your veterinarian immediately.

How can BGA be prevented?

- Avoid using more lawn fertilizer than the recommended amount.
- Use phosphorous-free fertilizer where possible.
- Avoid applying fertilizer where the runoff can filter into storm drains.
- Maintain native vegetation along shorelines and streams. Native plants do not require additional fertilizer and the growth along the banks helps to filter water.
- Minimize activities that result in soil erosion.



Closeup of blue green algae.



Above: Image of non-harmful algae.
Inset: Closeup of non-harmful algae.

What should be done if there appears to be a BGA bloom?

- Avoid contact with the water.
- Keep children, pets and livestock away from the affected body of water.
- To report a bloom, contact DEQ.

For more information, call: 1-800-522-0206.