FACT SHEET MARCH 17, 2011

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Blue-Green Algae

www.idem.IN.gov
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Description:

- Blue-green algae, also known as cyanobacteria, are photosynthetic bacteria found in a wide range of water bodies throughout Indiana, the United States, and the world.
  When ideal temperature and water conditions coincide, periods of significant algae growth, or algal "blooms", may occur – commonly from May to October in Indiana.
- Factors promoting algal growth can include sunlight, warm weather, low turbulence, and nutrient sources, such as phosphorus and nitrogen. Still, some types of algae prefer turbid, or cloudy, water with low levels of light.
- Water containing high levels of blue-green algae may appear greenish in color and occasionally in some shades of brown. Some can appear to have a thick, paint-like scum on the surface.
- Blooms may appear for only a few hours or remain unchanged for weeks depending on water and wind conditions.
- There are many types of freshwater blue-green algae, but only about 1/3 of them are capable of producing toxins. The mechanisms for toxin production are not well known. Toxins may be produced as part of the natural growth process of the algae and be excreted into the water during growth or upon death.

Environmental Impacts:

- All Indiana lakes contain algae; however, the concentration and type of algae varies greatly.
- Because most algae blooms do not produce toxins, significant environmental impacts are infrequent.
- When algal blooms die off, they sink to the bottom. The degradation of this organic matter consumes available oxygen in the water. In some high concentrations, the depletion of oxygen may be great enough to result in fish kills.
- In extremely rare instances, toxin-producing blue-green algae have resulted in the sickness or death of some other animals, including livestock and dogs.
- Some algae blooms can create an earthy or musty smell in lakes and reservoirs supplies. In some cases, taste and odor from algae blooms can impair drinking water supplies that use a surface water source. Taste and odor compounds are not harmful and treated water is safe to drink.

IDEM's Role:

- The Indiana Department of Environmental Management (IDEM) is responsible for protecting our environment through the monitoring and managing of Indiana's water quality.
- IDEM manages water quality through the regulation of point and non-point sources that run into waterways, monitoring of permit compliance, enforcing protective regulations, and the implementation of various prevention programs.
- IDEM is beginning a new program to sample selected public lakes for cyanobacteria and their toxins. The initial phase of the program will be implemented in the next two years and will consist of building capacity at IDEM to do the monitoring and laboratory analysis. The goal is to eventually build routine statewide monitoring into IDEM's Water Quality Monitoring Strategy.

- IDEM is coordinating with the Center for Earth and Environmental Science (CEES) at Indiana University-Purdue University Indianapolis (IUPUI). IDEM and CEES will take water samples, identify types of blue-green algae and analyze for the common algal toxin found in Indiana (microcystin) between June and September.
- Together with the Indiana State Department of Health (ISDH), IDEM and CEES will provide updates and information via the website http://www.algae.IN.gov.
- ISDH will be providing information on health issues associated with cyanobacteria and their toxins. ISDH has an information call number for public inquiries: (877) 650-0033 (Toll Free) or (317) 233-7181.

Citizen's Role:

- Citizen involvement has been and will continue to be a vital component in the effort to manage algae blooms.
- There are a number of actions every citizen can take to reduce the influx of nutrients into the watershed and improve overall water quality:
  - Do not over fertilize. Most established lawns need few nutrients to be healthy.
  - Check soil nutrient levels prior to applying fertilizer to ensure correct application. Soil test kits can be purchased from some local hardware stores and through online distributors.
  - If applying fertilizer, use phosphorus-free lawn fertilizers. Lawn-fertilizer packaging is labeled with three numbers for nutrient content. Look for a zero as the middle number (phosphorus content) to indicate phosphorus-free fertilizer.
  - Do not fertilize up to the edge of a waterway. Check with your local government for any specific setback requirements.
  - Do not dispose of grass clippings or leaves in or near a waterway.
  - To prevent nitrogen input from human waste, have your septic system inspected and tank pumped out at least every two years.
  - If conducting land disturbing activity, prevent soil and organic matter from washing into waterway as soil can carry nutrients into the waterway.
  - The use of aquatic weed control can have unintended consequences for algae development and the potential release of toxins and, therefore, is not recommended.
- Public health officials suggest avoiding contact with waters visibly impacted by algae, and rinsing with fresh water after recreational contact with raw or untreated water, such as reservoirs, lakes, rivers and streams.

More Information:

- For more information on the most recent levels of blue-green algae toxins (if any), environmental impacts, health guidelines and other information, please visit the website at: http://www.algae.IN.gov.