

## Blue-green algae

Human Health Risk

Ecological Risk

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Socioeconomic Risk

Blue-green or toxic freshwater algae thrive in eutrophic lakes and reservoirs. Eutrophication or growth of algae is a natural process of aging lakes that can take thousands of years, but it is often hastened by human addition of fertilizers and other nutrients. Like other forms of phytoplankton, blue-green algae grow excessively under these high-nutrient conditions. Also known as cyanobacteria, these toxic algal blooms appear as scum along shorelines, cause pungent odors and tastes in drinking water, and can cause fish kills. Freshwater algae blooms are readily treated with algicides, which are commonly used in water treatment processes and applied directly to affected water bodies that may be used for swimming.

### What's at risk?

Livestock, pets, and wildlife are potentially at risk for ingesting water contaminated with toxic algae in eutrophic lakes, ponds, and reservoirs throughout the state. There is a potential for humans to become exposed to the toxin by ingesting water that has been treated for cyanobacteria. There is evidence that commonly used algicides promote rapid die-off of algae cells, consequently releasing harmful quantities of toxins subsequent to treatment.

### What are the ecological impacts in New Jersey?

There is no information on the extent of impacts to New Jersey aquatic ecosystems from blooms of freshwater algae. Excessive algae interferes with light penetration and reduces oxygen levels in the water, creating adverse impacts to aquatic plants and organisms throughout the food chain. Moreover, the toxicity associated with cyanobacteria has the potential for causing massive fish kills, but there are no documented reports of this in New Jersey. Blooms have been severe enough to interfere with water intakes and treatment processes in New Jersey.

### What's being done?

Studies have shown that lime or alum treatment may be preferable for the control of toxic algal blooms because these treatments appear to leave the cells intact after death, thus reducing the risk of releasing toxins via the control agent. However, neither material is registered by the EPA for use as an algicide. Further investigation is warranted regarding the presence of cyanobacteria in drinking water and/or swimming areas that have been treated for algal blooms.