

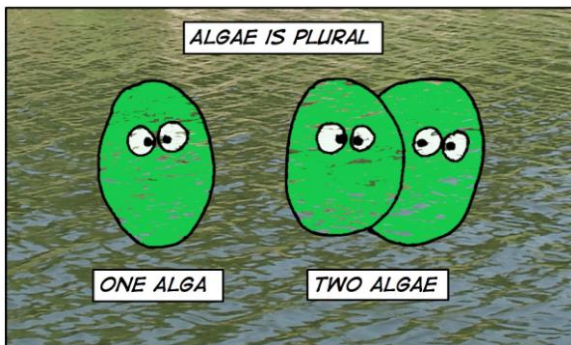
What You Need to Know About Algae

What Are Algae?

Algae are plant-like aquatic organisms that use chlorophyll to produce food from sunlight. They range in size and complexity from single celled bacteria to multi-celled filaments to large lake weeds.

Algae differ from plants in several ways. They absorb nutrients directly from the water they live in. Algae have no roots and produce no flowers or seeds.

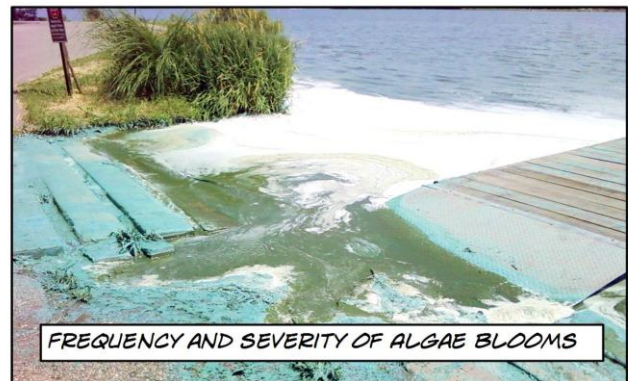
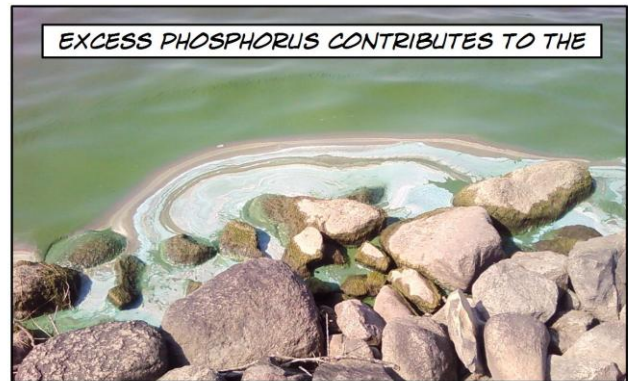
Like green plants, algae need nutrients to grow and reproduce. Phosphorus is the most important nutrient determining the amount of algae living in lakes.



Algae Are Good

Worldwide, algae produce most of the oxygen available to support animals and people. Algae provide habitat and food for other aquatic life.

Algae are an important part of a lake's food chain. Algae are eaten by small aquatic creatures called zooplankton. The zooplankton are eaten by small fish that are, in turn, eaten by larger fish. In this way algae help produce the game fish that are so important for recreation.



Algae Blooms Are Bad

Algae are present in Lake Okabena year around. They are most abundant during late summer when excess phosphorus is present, water temperatures are warm and winds are calm.

The most troublesome algae species in Lake Okabena are cyanobacteria. These algae gather in floating bluegreen mats, called blooms, usually in August and September.

When algae blooms are blown against a shoreline or into Whiskey Ditch, they die and decay. People sometimes compare the smell and appearance of rotting algae to manure.

Under some conditions, cyanobacteria algae blooms can produce toxins that are poisonous to people and

animals. Contact with the toxin can cause rashes, and nose and throat irritation. Since algae blooms are unpleasant people usually avoid swallowing the water.

Dog owners should keep their pets out of the water when algae blooms are present. Drinking the the water can be fatal.

Phosphorus Pollution Fuels Algae Blooms

To prevent future algae blooms it is important to reduce the amount of phosphorus deposited into lakes.

Phosphorus is the essential nutrient for algae growth. A lake's phosphorus level is the most important predictor of algal productivity. One pound of the nutrient, under the right conditions, can lead to more than five hundred pounds of algae.

Phosphorus can be dissolved or be chemically bound to the dust, soil, organic materials and fertilizers carried by flowing water. When phosphorus enters a lake, it may be stored in the bottom sediments or remain suspended in the water. Once in a lake basin, the nutrient becomes the fuel for immediate or future algae growth.

Storm Sewers Carry Pollution

Much of the phosphorus entering Lake Okabena originates from agricultural fields and eroding stream banks. The Clean Water Partnership study showed, however, that about twenty percent of the pollutant comes from hard surfaces such as roofs, sidewalks, driveways, parking lots, and streets in Worthington. The nutrient is carried by water in the City's storm sewer system.

Some of Worthington's storm sewers drain excess rainfall and snow melt water directly to Lake Okabena. Others drain to streams flowing to Lake Ocheda or Heron Lake.

Storm sewer water is not treated. The best way to prevent pollution is to ensure that water entering the system is as clean as possible.



Pollution Prevention Tips

Worthington residents can help prevent storm water pollution and reduce algae blooms in Okabena, Ocheda and Heron lakes. Here are some tips:

- Keep organic matter, including grass clippings, leaves, pet wastes, and litter off of hard surfaces that are drained by storm sewers.
- Apply only non-phosphorus fertilizers to lawns and gardens. Be sure not to exceed the recommended fertilizer application rate.
- Do not wash cars on the street or driveway. Soaps and soil from cars contain phosphorus and other pollutants. Wash vehicles on the grass or use a commercial car wash.
- Sweep driveways rather than washing them with a hose. Soil and grime from driveways are carried to storm sewers. Sweeping saves water too.
- Clean up soil tracked or spilled onto the street during construction and landscaping projects.