

ALGAL BLOOMS FACTS

HARMFUL ALGAL BLOOMS (HABS) THREATEN OUR ENVIRONMENT AND ECONOMY. LEARN MORE ABOUT THE CAUSES AND RISKS.

WHAT ARE ALGAL BLOOMS?

*WHAT IS GOING ON WITH THE WATER?
IS IT UNIQUE TO OHIO?*

- Algae are present in all water. In Ohio, the culprits for producing the most recent green scum masses on the water are actually a type of bacteria called *cynobacteria* (more commonly known as blue-green algae).
- These organisms need sunlight and nutrients to survive. When there are too many nutrients in the water, combined with the right conditions of warm and still waters, they can multiply so much they are visible to the eye.
- Not all algal blooms or surface scum are toxic. You cannot tell whether an algal bloom is toxic just by looking at it, so it's best to use precaution any time an algal bloom is present.
- You may hear them referred to as HABS (harmful algal blooms).
- When blooms occur, they are typically isolated to areas where the conditions are right for growth. Think of these blooms as you would an oil spill. Similar to an oil spill, these blooms ebb and flow, and they may impact only one area of the lake. They may also move or dissipate when winds change or a storm kicks up the water.



WHAT'S CAUSING THIS?

WHY IS THIS HAPPENING?

- Excess nutrients, particularly phosphorus and nitrogen, feed the blooms.
- The primary sources of nutrient pollution that is contributing to the algal blooms are animal manure, runoff of fertilizer, sewage treatment plant discharges, storm water runoff and failing septic tanks.
- Nutrients (manure and commercial fertilizer spread onto fields) from farmlands and livestock operations are most likely to enter the water following periods of heavy rain, particularly in the spring. For example, in 2012, we experienced a very dry spring and the algae bloom was minimal.
- Blooms are further aided by warm and calm waters.

For more information, including travel industry FAQ sheets, research updates, how to sign up for weekly algal bloom forecasts and more, visit ohiotravel.org.

ALGAL BLOOMS HURT THE FISHERY AND WILDLIFE

FISH AND BIRDS ATTRACT VISITORS, SUPPORT STRONG COMMERCIAL AND SPORT FISHING INDUSTRIES AND ARE A PART OF OUR CULTURE AND TRADITION

- Fish need oxygen and food. When algal blooms form, they block sunlight and absorb nutrients in the water. This prevents phytoplankton and other sources of food from getting sunlight needed to survive.
- This reduces the amount of oxygen in the water, as the plants and algae that produce oxygen are starved.
- When algal blooms die and decompose, the process sucks even more oxygen from the water to a point where other marine life can't survive. This can result in fish kills.
- Algal blooms contribute to Lake Erie's dead zones, typically appearing in the central basin off Cleveland. Again, this is due to the lack of oxygen in the water as algae and bacteria use up the oxygen supply.
- Birds may also be impacted, as food sources dwindle or are exposed to toxins.

ALGAL BLOOMS THREATEN OUR HEALTH AND SAFETY

IN THE WESTERN BASIN OF LAKE ERIE ALONE, AN ESTIMATED 300,000 INDIVIDUALS ARE AT RISK ANY GIVEN WEEKEND.

- Exposure can create liver, nervous system and skin disorders.
- Symptoms often mimic other diseases and illnesses.
- If you touch the bloom, swallow contaminated water, or breathe in water droplets, you could get a rash, have an allergic reaction, get a stomach ache, or feel dizzy or light-headed.
- Algal blooms are dangerous for pets.
- Toxins can remain in the water after the physical bloom is gone.
- Children, elderly and those with compromised immune systems are most vulnerable.

"It is bigger than just the commercial fishing or tourism industries. It has the potential to cripple commerce overall as well as communities situated on the western basin of the lake. If sustained for the near future, it will have an impact on the overall economic vitality of the entire region, affecting every business, family and individual"

~ Lake Erie Business Owner

ALGAL BLOOMS HURT THE ECONOMY AND JEOPARDIZE JOBS

THE LONGER WE WAIT TO FIX THE PROBLEM, THE MORE IT WILL COST OHIO AND THE NATION IN LOST REVENUE, WAGES AND TAX DOLLARS.

- Coastal tourism is essential to Ohio's wellbeing, representing 33% of tourism-related economic impact in the state.
- Travel to the eight Ohio coastal generated \$14.1 billion in 2016.
- Traveler spending supports 123,880 FTE jobs in coastal communities.
- More than \$1.8 billion in federal, state and local tax revenue is generated by travelers.
- Businesses and communities lose when customers leave early or cancel visits.
- Publicity about algae may prevent people from booking a trip in the first place.
- Because people believe blooms are widespread, publicity economically impacts areas where the blooms are not present.
- Economic impact of HABs is difficult to measure, as rainfall, events, and temperatures also impact the travel economy. Research regarding the economic impact of HABs elsewhere demonstrates economic losses.

1995-1999 HABs in the Florida communities of Ft. Walton and Destin resulted in restaurant and lodging economic losses of 32.3% (or approximately \$6.5 million per month).

In Texas, 2001 golden algal blooms created a 5% economic impact loss, and 57% fewer visitors.