Harmful Algae FAQs

How do I know when it is safe to swim in the Highland Lakes or lower Colorado River?
LCRA conducts routine monitoring for harmful algae and their toxins, but it is not possible to test all areas of the lakes and river at all times. LCRA will share information at www.lcra.org/algae when toxins from algae are confirmed, but the lakes and river are natural water bodies and there is always the chance of coming in contact with bacteria or other toxins in the water. **People who enter the water do so at their own risk.**

What is LCRA's recommendation as to whether it's safe for my dog to play in the Highland Lakes?
The water quality throughout the Highland Lakes typically is excellent, but there are times when algae-producing toxins are present and can pose a danger to dogs. To reduce risk, LCRA recommends people do not let their dogs play in or ingest algae.

If I can't see any algae, does that mean the water is safe from algae toxins?
Some species of blue-green algae are planktonic, or free floating in the water column, while others are benthic, or occurring on the bottom of a waterbody. Algae blooms on the top of the lake are easily recognized, but benthic harmful algal proliferations (HAPs) can be hidden at the bottom of a lake where they may be difficult to identify. An area that looks "clear" of algal material can potentially contain toxins in the water. The main risk posed by these cyanotoxins is through ingestion. To avoid the risk of exposure, do not allow people or pets to drink untreated lake or river water even though it may appear not to have any algal material.

How do I tell the difference between "good" and "bad" algae?
The only way to know if algae is toxic is to collect a sample and send it to a lab for testing. Blue-green algae can sometimes be intermixed with other algae that do not produce toxins (i.e., green algae and diatoms). Species identification via microscopy and sometimes even DNA testing is required. However, just because a species of algae can produce toxins does not mean it is actively producing or releasing those toxins into the environment.

Will harmful algae be present every year?
It is impossible to predict if harmful algae will be an issue in Colorado River reservoirs in the future. LCRA is continuing routine monitoring and working with

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local, regional and global experts to gain a better scientific understanding of the drivers and dynamics for harmful algae growth.

Can LCRA come test the water by my house for algae toxins?
LCRA and the City of Austin conduct routine testing and monitoring of water in the Highland Lakes. Testing at additional locations is typically not available.

Results of LCRA testing are available on www.lcra.org/algae.

How can I test the algae and water near my house?
Specialized lab tests are required for algae toxin testing. See a list of labs able to test for cyanotoxins.

Testing for toxins requires specialized analysis, and not every test will detect every type of toxin. There are hundreds of known toxin variants based on chemical structure modifications of the parent toxin (WHO, 2021; chapter 2).

Can you eat fish that are caught in the Highland Lakes?
The Texas Department of State Health Services (TDSHS) monitors fish in the state for the presence of environmental contaminants and issues bans and advisories related to seafood and aquatic life. See the TDSHS website for fishing advisories and consumptive advisories.

What can be done about harmful algae?
There currently is no technology or method available that will solely target toxin-producing species of algae and eliminate them from large waterbodies such as the Highland Lakes.

It's also important to note that not all algae have the potential to produce toxins, and that algae are an important component of a healthy aquatic ecosystem.

Several environmental variables contribute to harmful algae growth:

- Warm water temperatures
- Water column stability (minimal turbulence, low flows, lack of rain)
- Abundant nutrient concentrations (nitrogen and phosphorus)
- Ample sunlight

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These environmental variables can be difficult to control. As temperatures rise, an increase in the frequency and magnitude of harmful algal blooms (HABs) and HAPs has been noted.

Nitrogen and phosphorous, two of the main building blocks of algae growth, are common ingredients in fertilizers and are present in wastewater. The more nitrogen and phosphorus in a waterbody, the greater the potential for harmful algae growth.

Reducing the ways fertilizers and wastewater enter the waterways can have a big impact on improving water quality and reducing harmful algae growth and abundance, even at the household level. Do your part. Practice good land management and ensure your septic system is up to code.

What is LCRA doing about harmful algae in the Highland Lakes?
LCRA is conducting routine monitoring for cyanotoxins in lakes Buchanan, Inks, LBJ, Marble Falls and Travis, and is sharing these results on www.lcra.org/algae. The monitoring includes testing both the water and algae material for cyanotoxins. LCRA also is collaborating with scientists and engineers at the local, regional and international level to study and better understand mechanisms contributing to harmful algae abundance and toxin production.

LCRA is also sharing information with residents and lake users about actions they can take to keep excess nutrients out of the lakes.

Are zebra mussels the reason harmful algae are now an issue in Central Texas?
There is no scientific evidence linking zebra mussels to recent harmful algae events in the Highland Lakes, but it is certainly possible their presence is influencing the growth and abundance of benthic algae species, some of which may be harmful algae species. A well-documented effect of zebra mussels is their ability to increase the clarity of the water they inhabit as a result of their filter feeding. Light penetration into water increases as clarity of water increases. If sunlight can reach greater depths of a waterbody once zebra mussels have invaded, then photosynthetic organisms such as benthic algae potentially have more real-estate in which to grow. Read this scientific paper to learn more about the concept of water clarity and benthic algae productivity.

In addition, zebra mussel feeding habits can move energy in the form of nutrients from the water column to the benthic, or bottom, areas of water bodies. Zebra

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mussels filter particles suspended in water to collect plankton to eat. The invasive mussels then excrete their waste, which gets deposited in the areas the mussels have colonized (i.e., often benthic regions). This translocation of nutrients could provide more energy for benthic algae to grow. Read this scientific paper to learn more about the influence invasive mussels have on nutrient cycling in lakes.