

Taylorsville Lake Questions and Answers on Algae Blooms

When was the last time Taylorsville Lake was tested?

September 22, 2013 and weekly monitoring started week of June 30. At the monitoring in June, we were at the low-risk level with ranges from 1,000 to 49,000 cells per milliliter. The low risk range goes up to 100,000 with low probability of adverse health effects including skin irritations and gastrointestinal illness.

What is the monitoring schedule for Taylorsville Lake?

Since the higher algae counts found in June, Corps personnel take water samples weekly and send to a private laboratory for analysis.

Who does the resulting from laboratory analysis?

CT Laboratories in Wisconsin. This laboratory specializes in harmful algae bacteria.

When were algae blooms first found in Taylorsville Lake?

In late 2012, the Corps tested for blue-green algae after visitors noticed a brown area on the lake. Results came back from the labs after the recreation season. Testing for blue-green algae continued in 2013 and in June, test results showed positive for low levels of the algae.

Can you see the algae blooms?

At this time, the blue-green algae cannot be seen with the eye and requires testing at the current level. If the cell counts increase during the recreation season, the blooms could grow and be visible.

What water quality tests are done and for what purpose?

- The Corps of Engineers Louisville District monitors the health of our lakes to ensure it is a safe and healthy resource.
- Bacteria samples are taken at all Louisville District lake beaches for human health and safety.
 - We look at dissolved oxygen content to determine and assess amounts of releases from lakes downstream (Corps lakes are flood damage reduction reservoirs)
- Some Corps Lakes are also used for water supply, so testing is done around intake structures. Taylorsville Lake is not a source for public water.

Is it safe to swim in the water?

Visitors must consider risks before participating in water-related activities. Blue-green algae are a type of bacteria present in all lakes, but during certain conditions can become concentrated at levels which can cause adverse health effects to people and pets. Children, pets, and individuals susceptible to illness or rash are most likely to be affected by blue-green algae. The current blue-algae levels are at the threshold. At this time, the algae levels are at an acceptable level but may cause health concerns.

What are the World Health Organization levels?

Low risk 20-000 to 100,000

Low probability of adverse health effects including skin irritations, gastrointestinal illness

Moderate risk Above 100,000

Moderate probability of adverse health effects including the potential for long-term illness based on the type of cyanobacterial species.

These levels are based on the cyanobacterial cell counts per milliliter.

Will the lake be closed to recreation?

Reservoirs with advisories or warnings are NOT closed. Boating and swimming are still permitted and businesses are still open. Visitors are encouraged to enjoy the lake, but be aware of the potential risk associated with primary body contact with the water.

Who is most susceptible to the algae?

Children, pets, and individuals susceptible to illness or rash are most likely to be affected by blue-green algae.

What are the symptoms of coming in contact with blue-green algae blooms?

Most produce skin toxins which may cause rash, nausea, diarrhea, vomiting, upper respiratory symptoms, and other flu-like symptoms. Some but not all blue-green algae blooms produce nerve and liver toxins, which are extremely dangerous.

What agencies does the Corps work with to assess water quality conditions?

Kentucky Division of Water
Kentucky Department of Parks
Kentucky Department of Fish and Wildlife
USACE - Louisville District Water Quality USACE
Louisville District Taylorsville Lake Project Office

Is this part of global warming?

We do not know. What we do know is lower water levels and higher water temperatures impact algae levels.

What does interagency cooperation accomplish in terms of assessing and improving water quality?

Interagency cooperation provides for better communication between different federal, state, and local governmental agencies, and non-governmental agencies all having vested interests and responsibilities for care of the environment, including our water resources. In order to protect our lakes and streams, a holistic watershed approach to development of best management practices is needed. Because

different agencies have different authorities and specific areas of focus, and because of the complexity and interdependency of all associated elements (urban development and infrastructure, agriculture, recreational interests, etc.), cooperation among all stakeholding agencies is needed for success. Cooperation allows for greater efficiency and less redundancy in effort to everyone's benefit.

How does a lake get "cleaned up" from an overabundance of nutrients or algae or bacteria?

The health of a watershed is related to many factors: environmental, human, global conditions, etc. Through natural processes, organic elements will break down over time. It is so critical that local, state and federal agencies work together to employ and educate farmers, counties, and generate interagency partnerships. There have been grant monies available for advancement of best land use practices. Equally critical are establishing and teaching about boundaries, erosion, farm ponding, conservationist policies. In the Salamonie area, there will be a model farm field trip where individuals and agencies visit a farm where appropriate methods for fertilization/ponding are used.

What does the Corps do to fix this problem?

It will take a cooperative interagency effort to develop and implement best watershed management strategies to address this problem. Improvement in water quality will require a rather extensive time period for system stabilization once in place. Getting one in place with

participation on the part of all parties involved (farmers, developers, cities, towns, municipalities, etc.) in itself will take some time.

How are the algae levels determined?

USACE bases decisions regarding HABs according to World Health Organization (WHO) guidelines.

The WHO guidelines are based on cell counts. While there are tests available that examine the amount of toxins produced, there aren't any widely accepted guidelines that establish safe levels of toxins for recreational waters. In addition, these tests can measure liver and nerve toxins but there aren't any tests that measure levels of skin toxins, which most BGA (blue green algae/cyanobacteria) produce.

Where can I find information on algal blooms?

U.S. Army Corps of Engineers, Louisville District Lake Conditions including Taylorsville Lake

<http://www.lrl.usace.army.mil/Missions/CivilWorks/WaterInformation/HABs.aspx>

U.S. EPA CyanoHABs

<http://water.epa.gov/scitech/swguidance/standards/criteria/nutrients/cyanohabs.cfm>

World Health Organization Guidelines

<http://www.epa.state.oh.us/dsw/HAB.aspx>

Ohio algae information

<http://www.epa.state.oh.us/dsw/HAB.aspx>

Indiana Blue-Green Algae

<http://www.in.gov/idem/algae/>

Where can I find information on if my family has been impacted by algal blooms?

First, seek immediate care if you feel you or your family have been impacted by algal blooms through your physician or care center. For information on impacts from algal blooms on the community, contact the Health Departments of Spencer, Nelson or Anderson counties.