



FOR IMMEDIATE RELEASE

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Ijams Nature Center Issues Health Advisory for Mead's Quarry Lake Due to Temporary Algal Bloom

(KNOXVILLE, TENNESSEE, 3/21/2024) — Mead's Quarry Lake at Ijams Nature Center is experiencing a temporary bloom of *Planktothrix rubescens*, a cyanobacterium that produces microcystin, a metabolite that can be toxic to people and pets when in large enough concentration.

Ijams has posted a Health Advisory at the lake to warn people and pets not to swim or ingest the water, scum, foam, or algae in the lake. This Advisory will be in place until the bloom dissipates and microcystin levels decrease.

P. rubescens strands give the lake a slight pink coloration. Ijams learned of the bloom from University of Tennessee Knoxville (UTK) students and faculty conducting water quality tests at the lake as part of a class.

The nature center is working closely with the Tennessee Department of Health and the Tennessee Department of Environment and Conservation (TDEC), which has verified the presence of high levels of microcystins and provided guidance on best practices for safety.

"Ijams is very fortunate to be able to collaborate with UTK faculty and state experts, who acted quickly to help us keep everyone safe," Ijams President/CEO Amber Parker said. "I'm thankful we have such knowledgeable and helpful scientific experts so close at hand."

Ijams is working to address the situation and will update information when microcystin levels are less than or equal to the state's Health Advisory levels, the Advisory is lifted, or there are any changes to the conditions of the lake.

The state-designated recreational water Health Advisory level for microcystin is 8 micrograms per liter ($\mu\text{g/L}$). Samples collected from the lake on March 5, 2024, showed levels between 10 and 28 $\mu\text{g/L}$, which is above the state-designated recreational water Health Advisory level.

Until the Health Advisory is lifted, people and pets should not swim, wade, or come into contact with water, and should seek medical attention if they or their family members are experiencing illness after swimming or playing in the water.

Microcystin can put individuals at risk of various health effects, including upset stomach, vomiting, and diarrhea. Exposures to concentrations of cyanotoxins higher than the state's guideline values could potentially result in more serious illnesses, including liver or kidney damage.

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Animals also may be vulnerable to adverse health effects of microcystins at these detected levels. Contact a veterinarian if an animal shows signs of illness.

If you, your family members, or your animals experience adverse cyanotoxin-related health effects, please contact the Tennessee Department of Health to report the illness. E-mail Waterborne.Health@tn.gov or call 615-741-7247.

Parker said *P. rubescens* is fairly common in deep lakes with defined thermoclines, which are transitional layers between warmer surface waters and cooler deep waters. The seasonal mixing of these layers is affected by warmer winters and unstable weather patterns, which create favorable conditions for this cyanobacteria to rapidly reproduce.

“The rapid changes in temperature we’ve been experiencing this year caused the lake, which is more than 75 feet deep, to transition quickly,” Parker said. “We expect that blooms of this particular cyanobacteria may become a more regular occurrence at this time of year due to climate change. Changes in aquatic systems such as this, extreme weather events, higher fire potentials, and earlier flowering of plants are all effects of increasingly warming temperatures. Thankfully, we expect this to be a short-lived event that will resolve itself before swimming season begins.”

For more information, please contact Amber Parker at 865-577-4717 ext. 1002 or aparker@ijams.org, or Jessica Rader, TDEC HAB’s Response Coordinator, at 423-714-6606 or Jessica.Rader@tn.gov.

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Following photos (4) by Brittany Zepernick, PhD, SEC Emerging Scholar, University of Tennessee Knoxville Department of Microbiology, Wilhelm Lab

1. Mystery_Bloom
2. Pink_Clumps_On_Surface
3. Pink_Clumps_On_Surface_2
4. Microscope_400X



Mystery_Bloom



Pink_Clumps_On_Surface



Pink_Clumps_On_Surface_2



Microscope_400X