

Hello Hess Lake Residents,

The U.S.G.S. a federal agency and EGLE, a state agency sampled Hess Lake in 2020 for Toxic Algae Blooms. Hess Lake is scheduled to be sampled again on June 28, 2021.

Please read the first document below from Amanda Bell of the U.S.G.S. and the second document from Alex Rafalski of EGLE on last year's result. Good to see both agencies working together for the benefit of Hess Lake Residents.

Bob Ripstra, Hess Lake Summer Resident  
248-680-9763

From Amanda Bell, U.S.G.S. 6/15/21,

The State of Michigan has selected waterbodies of high importance to study for harmful algal blooms (HABs) based on recreational or drinking water use. In the summer of 2020, USGS Upper Midwest Water Science Center (USGS UMid WSC) began work with Michigan Department of Environment, Great Lakes, and Energy (EGLE) and Department of Health and Human Services (DHHS) to enhance current monitoring and response in the State by conducting HAB sampling lakes across Michigan's lower peninsula to monitor for cyanotoxins. The objective of the study is to compare cyanotoxins in bi-weekly water samples to data from the Cyanobacteria Assessment Network (CyAN) application and sensor data to support development of HAB predictions at selected lakes in the state. Working with the MI EGLE and DHHS, the USGS UMid WSC was able to collect water samples from 12 lakes across Michigan during the summer of 2020. Samples were collected every 2 weeks from July 13th through September 25th. We found visible cyanobacterial blooms at least once in all 12 lakes during that time. Grab samples of these blooms were analyzed by DHHS and the results of those samples will be released by EGLE. Cyanotoxin analyses, including microcystin, cylindrospermopsin, anatoxin, and saxitoxin, of the 2020 summer samples from all the lakes are being conducted the spring of 2021 and results are expected to be available mid-summer of 2021. The summer of 2021, in addition to the bi-weekly water samples, we will be deploying small buoys on several lakes that will provide real-time data on the ambient conditions such as air and water temperature, solar radiation, turbidity, chlorophyll a and phycocyanin, that may indicate a forming algal bloom. These buoys will transmit data to a secure dashboard where we will be comparing the data from these buoys to the water samples to determine what environmental changes occur before, during and after a bloom. For more information please contact Amanda Bell at [ahbell@usgs.gov](mailto:ahbell@usgs.gov).

Regards,  
Amanda

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Amanda H Bell  
Supervisory Hydrologist  
USGS Upper Midwest Water Science Center

From: "Rafalski, Alexandra (DHHS)"  
Sent: Apr 14, 2021 8:12 AM

Hello Mr. Ripstra,

I am a toxicologist with the Michigan Department of Health and Human Services. I work with EGLE on harmful algal blooms (HABs). Aaron Parker forwarded me your question about if there is toxic algae in Hess Lake.

I reviewed the 2020 Hess Lake sampling data that Aaron provided. EGLE occasionally detected low levels (around 1 part per billion (ppb)) of microcystin (an algal toxin) in these samples. This means that there is the potential for toxic algae (cyanobacteria) to be present in Hess Lake. Last year, Hess Lake was one of 57 waterbodies in the state that we confirmed had cyanobacteria. What we know from sampling blooms across the state is that it is common that only areas with/near visible cyanobacteria

scums to contain microcystin. Also, the more scum that is present, the more toxins it will contain. I confirmed with EGLE that the water was free of visible scums when they collected samples last year, so that is likely why microcystin levels were low/non-detect. When we say “low” levels, I am comparing the levels to the EPA Recreational Guideline of 8 ppb.

Even though the microcystin levels measured in 2020 samples were low, when cyanotoxins are detected in a waterbody, we recommend that recreators should remain cautious and look out for cyanobacterial blooms on the lake. It is common for cyanobacterial blooms and their toxins to be localized or present in a small area. This means that you can swim and do other activities in the lake but avoid doing so (and keep pets out) in areas where you see water that has scums or mats, looks like spilled paint or pea soup, or has colored streaks. Visit the HAB Picture Guide at [https://www.michigan.gov/documents/egle/egle-wrd-swab-habs-picguide\\_694983\\_7.pdf](https://www.michigan.gov/documents/egle/egle-wrd-swab-habs-picguide_694983_7.pdf) for examples of the algae blooms to avoid.

We are unfortunately not able to predict if there will be visible cyanobacterial blooms on Hess Lake in 2021 or future seasons. It is important for people to familiarize themselves with what the blooms look like (see the HABs picture guide at link above) and keep people and pets out where they see them. From sampling blooms across the state, we have seen that a lot of these blooms are very short-lived (lasting maybe a couple days in one location). Areas that are not affected can be used, and other areas can be used when the bloom dissipates.

The presence of HABs in lakes is not unusual in the summer and fall and has been appearing in a growing number of Michigan lakes. Recreators should be on the lookout for the presence of visible cyanobacterial blooms or scums on any lake and avoid contact (and keep pets out) with water in affected areas.

Please let me know if I can provide any other information. Please feel free to share this email with others if that would be helpful or let me know if some other summary might be useful. We also have some general HABs info on our website [www.michigan.gov/habs](http://www.michigan.gov/habs).

Alex

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