

Algal Identification and Cyanotoxin Report

Company: Painted Hills Lakes	Water Body Name: Holiday Lake and Nebo Lake
Address: 4364 Rembrandt Dr. Martinsville, IN 46151	Surface Area: 107 acres (Holiday), 39 acres (Nebo)
	Average Depth: 18 feet
Contact: Ms. Tina Thrasher	Date Sample Collected: 5-12-2020
Phone: 812-650-2979	Date Sample Analyzed: 5-13-2020
Email: tthrasher6264@gmail.com	Analysis Performed By: C. Baird

Algae Identification and Cell Density Results

Sample ID: Nebo Ramp

Sample Depth: 0

Sample Type: Grab

Preservative: Live/Chilled

Identification	Division	Growth Form	Approximate Algal Cell Count (cells/mL)
<i>Phormidium sp.</i>	Cyanophyta	Planktonic	1,200
Total Estimated Cell Density (cells/mL)			1,200

Sample ID: Holiday Ramp

Sample Depth: 0

Sample Type: Grab

Preservative: Live/Chilled

Identification	Division	Growth Form Description	Approximate Algal Cell Count (cells/mL)
<i>Oocystis sp.</i>	Chlorophyta	Planktonic	100
<i>Cryptomonas sp.</i>	Cryptophyta	Planktonic	50
<i>Navicula sp.</i>	Bacillariophyta	Planktonic	100
Total Estimated Cell Density (cells/mL)			250

Algal Identification and Cyanotoxin Report

Sample ID: Clubhouse

Sample Depth: 0

Sample Type: Grab

Preservative: Live/Chilled

Identification	Division	Growth Form Description	Approximate Algal Cell Count (cells/mL)
<i>Oocystis sp.</i>	Chlorophyta	Planktonic	100
Total Estimated Cell Density (cells/mL)			100

Toxin Analysis Results

Toxin Analyzed	Sample ID	Concentration (ppb)	IDEM Risk Level
Microcystins	Holiday Ramp	Non-detect	1: low/no risk
Microcystins	Clubhouse	Non-detect	1: low/no risk
Microcystins	Nebo Ramp	Non-detect	1: low/no risk

Summary of Results

Algae ID and Density

As part of the consultation service provided, algae are identified and enumerated in the collected samples to monitor for presence and densities of known toxin- or odor-producing algae. At the time of sampling, potential toxin-producing cyanobacteria (blue-green algae) were detected in the water sample collected from the Nebo Ramp (at kayak rack) at a relatively low density of approximately 1,200 cells/mL. No toxin-producing cyanobacteria were detected in the samples collected from the Holiday Lake ramp or the Clubhouse dock. At the time of sample collection, filamentous algae was observed growing near the swimming beach and at a boat dock near the Holiday Lake boat ramp. This algae is a green, non-toxin producing alga called *Spirogyra*, and does not pose any health risks.

Algal Toxin Analysis

At the time of testing, microcystins were non-detectable at all sampling locations. These results place the water in both lakes under IDEM recreational use risk category 1 (<4 ppb, low or no risk of exposure).

Recommendations

Precautions

At this time, the results of toxin monitoring indicate that no water use restrictions need to be observed. Residents should remain observant if a bloom occurs. Monitoring will continue as scheduled and changes to water use precautions will be reported after each sampling event. If there is a noticeable green tint to the water or if any surface films/scums are apparent, it is advisable to prevent contact of any kind with the water until samples can be analyzed.

Algae Management

With algae densities sufficiently low and an absence of detectable toxins, an immediate treatment is not recommended or needed.

It is recommended to preventatively treat HAB species to minimize the risk of toxin production and exposure. In order to preventatively manage HABs it is recommended to set an action threshold for algaecide treatments. For Holiday and Nebo Lakes, the recommended action threshold density is 20,000 cells/mL. If the total of all HABs equal or exceed this measurement, a treatment would be strongly recommended. If toxins were present, a treatment would be deemed necessary.

Note: The data presented here pertain to water samples collected at the specified site on the collection date stated in this report. These data are used to determine whether algal species at a specific site are currently producing toxins, and if so, at what concentration. Results from a sample taken at a single point in time are not conclusive for predicting toxin production at any other point in time at this site.