Worcester Cyanobacteria Monitoring Collaborative

WCMC Results June 26, 2023

Lake and Overall Risk	Phycoyanin Concentration (ug/l)	Particle Concentration (#/ml)	Cyanobacteria Density	Cyanobacteria Observed	Notes
Bell Pond	ND	11	none		
Burncoat Pond	No Data	1299	low	*Aphanizomenon*	*Overall exposure risk not rated due to insufficient data*
Coes Reservoir	16	380	high	*Aphanizomenon, Dolichospermum*	
Cooks Pond	11	255	none		
Ecotarium Pond	ND	102	none		
East Lake Waushacum	ND	10	none		
Farm Pond	ND	11	none		
Green Hill Park Pond	225	61	some	*Aphanizomenon , Dolichospermum, Microcystis Debris*	
Indian Lake	ND	68	some	*Microcystis , Microcystis Debris*	
Jordan Pond	23	45101	high	*Dolichospermum , Microcystis Debris*	
Kiver Pond	11	1675	some	*Microcystis*	
Leeseville Pond	16	309	none		
Lake Quinsigamond	ND	244	low	*Aphanizomenon, Dolichospermum*	
Little Indian Lake	26	1976	low	*Microcystis*	
Manchaug Pond	ND	18	low	*Microcystis Debris*	
Newton Pond	ND	100	some	*Dolichospermum , Microcystis Debris*	
Patch Pond	34	43	some	*Aphanizomenon*	
Patch Reservoir	9	98	low	*Aphanizomenon*	
Salisbury Pond	24	1203	some	*Micrcystis, Microcystis Debris*	
Stevens Pond	12	57	some	*Dolichospermum*	
Lake Chauncy	9	46	some	*Dolichospermum*	
Lake Lashaway	ND	21	some	*Microcystis Debris*	

Previous Results for Lakes Not Tested this Period

Elm Park Pond	134	8881	some	*Dolichospermum , Microcystis Debris*	Last sampled 6/12/23

Risk of Exposure	Phycocyanin ug/l	Particles/ml	Comparative density of cyanobacteria	
Almost none	0-15	0-1000	none	
Low	15-20	1000-5000	low	
Elevated	20-50	5000-10000	some	
Blooming	>50	>10000	high	*See reverse side for details*

Results are based on methods that are not certified by the Commonwealth of MA but are presented as recommendations so that lake users can make informed choices about their contact. We encourage people to use their best judgement, and "If in doubt, stay out!"

If you or your pet has been exposed to water that may contain cyanotoxins, rinse the areas with tap water immediately. If your pet has ingested scums or water containing cyanobcteria, contact your veterinarian as soon as possible.

Learn more at WorcesterMA.gov/WCMC

Interpreting WCMC Results

If you or your pet has been exposed to water that may contain cyanotoxins, rinse with tap water immediately. Do not let animals lick their fur. If your pet has ingested scums or water containing cyanobacteria, contact your veterinarian as soon as possible and see these CDC guidelines:

Cyanobacterial Blooms: Information for Veterinarians | Harmful Algal Blooms | CDC.

The WCMC is a group of volunteer community scientists that is developing ways to assess risk to cyanotoxin exposure using fast and low cost methods. These results are based on methods that are not certified by the Commonwealth of MA but are presented as recommendations so that lake uses can make informed choices about their contact.

We encourage people to use their best judgement, and "If in doubt, stay out!"

The WCMC does not measure cyanotoxins, instead the group uses four parameters to determine the **risk of cyanotoxin exposure**. These include **phycocyanin concentration**, **particle concentration**, **cyanobacteria density**, and the **cyanobacteria observed**. Each of the results are ranked and given a color to identify severity. The overall risk of exposure at each lake is determined by reviewing all four parameters together.

Risk of Exposure	Phycocyanin ug/l	Particles/ml	Comparative density of cyanobacteria
Almost none	0-15	0-1000	none
Low	15-20	1000-5000	low
Elevated	20-50	5000-10000	some
Blooming	>50	>10000	high

ND = Below detection limits

Risk of Exposure: Overall risk of exposure to cyanotoxins in the waterbody based on a holistic interpretation of the data collected.

Phycocyanin: Cyanobacteria-specific pigment concentration in the water. The more phycocyanin there is in the water, the more cyanobacteria are present. However, because different kinds of cyanobacteria produce different quantities of phycocyanin, the risk of toxin production is different for the same concentration of phycocyanin when there are different cyanobacteria present.

Particle Concentration: Particles include living and non-living materials and can be a proxy for overall turbidity of the water. High concentrations of particles in the water can be indicative of cyanobacteria blooms, but can also be the result of other factors such as non-living debris and sediment. The phycocyanin concentrations and cyanobacteria density help to interpret if particles are due to cyanobacteria or other sources.

Cyanobacteria Density: The ratio of cyanobacteria to other organisms in the sample. Higher densities can indicate elevated risk of exposure to cyanotoxins. Density results do not consider concentration, but in general, systems dominated by cyanobacteria are at higher risk for producing toxins.

Cyanobacteria Observed: Genera of cyanobacteria identified in the sample. Because different cyanobacteria have different levels of phycocyanin, observed cyanobacteria help determine the threshold of phycocyanin that is considered risky.