Worcester Cyanobacteria Monitoring Collaborative

WCMC Results September 16, 2023

Lake and Overall Risk	Phycoyanin Concentration (ug/l)	Particle Concentration (#/ml)	Cyanobacteria Density	Cyanobacteria Observed
Bell Pond	ND	6	none	
Coes Reservoir	50	549	high	Aphanizomenon, Dolichospermum
Cooks Pond	8	154	low	Microcystis Debris
East Lake Waushacum	9	14	none	
Ecotarium Pond	ND	15	none	
Elm Park Pond	206	7325	some	Dolichospermum, Microcystis Debris
Farm Pond	ND	42	low	Dolichospermum
Green Hill Park Pond	83	1975	high	Dolichospermum, Woronichinia
Indian Lake	44	778	high	Microcystis, Microcystis Debris, Woronichinia
Jordan Pond	41	0	low	Microcystis, Microcystis Debris, Oscillatoria
Leeseville Pond	18	22	none	
Lake Quinsigamond	20	117	some	Aphanizomenon, Dolichospermum, Microcystis Debris
Little Indian Lake	233	3885	high	Aphanizomenon, Dolichospermum, Microcystis
Manchaug Pond	10	12	low	Dolichospermum, Microcystis
Newton Pond	ND	88	none	
Patch Pond	43	155	low	Dolichospermum
Patch Reservoir	29	333	some	Dolichospermum, Oscillatoria, Woronichinia
Salisbury Pond	53	2340	some	Microcystis Debris
Stevens Pond	ND	22	low	Dolichospermum
Lake Ellie	20	2409	none	
Crystal Pond	ND	126	none	
Lake Chauncy	25	294	high	Aphanizomenon, Dolichospermum, Microcystis, Microcystis Debris Woronichinia
Lake Lashaway	ND	229	low	Dolichospermum, Woronichinia

Previous Results for Lake's Not Tested this Period

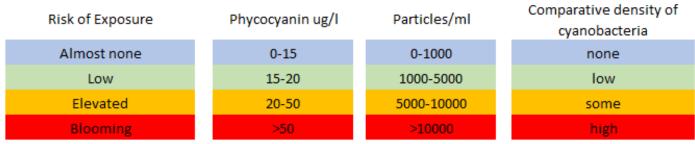| Lake and Overall Risk	Phycoyanin Concentration (ug/l)	Particle Concentration (#/ml)	Cyanobacteria Density	Cyanobacteria Observed
Burncoat Pond	105	2769	high	
Kiver Pond	36	1904	none	

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.