Worcester Cyanobacteria Monitoring Collaborative

WCMC Results August 07, 2023

Lake and Overall Risk	Phycoyanin Concentration (ug/l)	Particle Concentration (#/ml)	Cyanobacteria Density	Cyanobacteria Observed
Bell Pond	ND	130	none	
Burncoat Pond	255	171	some	Aphanizomenon, Dolichospermum, Microcystis
Coes Reservoir	18	306	some	Aphanizomenon, Dolichospermum
Cooks Pond	ND	104	none	
East Lake Waushacum	ND	203	low	Dolichospermum
Ecotarium Pond	24	29	none	
Farm Pond	12	49	none	
Green Hill Park Pond	32	367	high	Aphanizomenon, Dolichospermum, Microcystis Debris, Woronichia
Indian Lake	56	651	high	Dolichospermum, Microcystis Debris, Woronichinia
Jordan Pond	43	211	some	Aphanizomenon, Dolichospermum, Microcystis
Kiver Pond	33	573	none	
Lake Quinsigamond	25	262	some	Aphanizomenon, Dolichospermum, Microcystis Debris, Woronichinia
Little Indian Lake	179	211	some	Dolichospermum, Microcystis
Manchaug Pond	36	42	low	Dolichospermum
Newton Pond	14	111	low	Aphanizomenon
Patch Pond	14	83	none	
Patch Reservoir	15	1301	low	Oscillatoria
Patch Reservoir (Breeze Dr)	16	1233	low	Aphanizomenon, Oscillatoria, Woronichinia
Stevens Pond	ND	906	low	Dolichospermum
Lake Ellie	29	141	none	
Crystal Pond	21	408	none	
Lake Chauncy	53	492	high	Aphanizomenon, Dolichospermum, Microcystis, Microcystis Debris, Woronichinia
Lake Lashaway	ND	248	low	Dolichospermum

Previous Results for Lake's Not Tested this Period

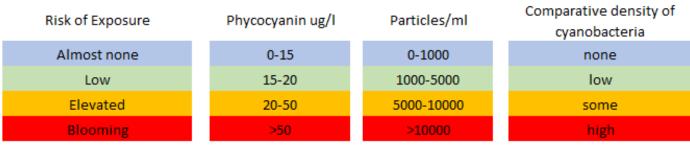| Lake and Overall Risk	Phycoyanin Concentration (ug/l)	Particle Concentration (#/ml)	Cyanobacteria Density	Cyanobacteria Observed
Elm Park Pond	111	4400	some	
Leeseville Pond	14	138	none	
Salisbury Pond	13	262	low	

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.