



# Worcester Cyanobacteria Monitoring Collaborative

WCMC Results July 25, 2023				
Lake and Overall Risk	Phycocyanin Concentration (ug/l)	Particle Concentration (#/ml)	Cyanobacteria Density	Cyanobacteria Observed
Bell Pond	ND	118	none	
Burncoat Pond	200.47	3150	high	Dolichospermum (100%)
Coes Reservoir	21.40	416	low	Aphanizomenon (50%), Dolichospermum (50%)
Cooks Pond	54.17	105	none	
Ecotarium Pond	16.60	628	low	Dolichospermum (100%)
Elm Park Pond	110.63	4400	some	Dolichospermum (75%), Microcystis Debris (25%)
Farm Pond	ND	26	none	
Green Hill Park Pond	25.89	339	some	Dolichospermum (75%), Microcystis Debris (25%)
Indian Lake	19.21	267	some	Dolichospermum (50%), Microcystis (25%)
Jordan Pond	18.61	97	some	Aphanizomenon (50%), Dolichospermum (25%), Microcystis (25%)
Kiver Pond	8.47	974	none	
Leeseville Pond	13.97	138	none	
Lake Quinsigamond	24.25	291	some	Aphanizomenon (50%)
Little Indian Lake	37.25	821	some	Aphanizomenon (100%)
Manchaug Pond	ND	46	low	Dolichospermum (75%), Microcystis (25%)
Newton Pond	6.74	86	none	
Patch Pond	14.49	68	low	Oscillatoria (100%)
Patch Reservoir	16.13	347	low	Oscillatoria (100%)
Patch Reservoir (Breeze Dr)	18.24	440	Low	Oscillatoria(75%), Aphanizomenon (25%)
Salisbury Pond	12.53	262	low	Dolichospermum (100%)
Stevens Pond	ND	26	Low	Dolichospermum (100%)
Lake Ellie	ND	16609	None	
Crystal Pond	17.52	27	none	
Lake Chauncy	45.33	782	high	Aphanizomenon (25%), Dolichospermum (50%), Microcystis Debris (20%), Woronichinia (5%)
Lake Lashaway	8.14	77	none	
Previous Results for Lake's Not Tested this Period				
East Lake Waushacum	ND	21	none	Last Sampled 7/10



# 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 users 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.