



# Worcester Cyanobacteria Monitoring Collaborative

## WCMC Results August 19, 2023

Lake and Overall Risk	Phycocyanin Concentration (ug/l)	Particle Concentration (#/ml)	Cyanobacteria Density	Cyanobacteria Observed
Bell Pond	ND	10	none	
Burncoat Pond	108	608	high	Aphanizomenon, Dolichospermum, Microcystis
Coes Reservoir	22	161	some	Aphanizomenon, Dolichospermum, Microcystis Debris
Cooks Pond	12	37	none	
Ecotarium Pond	12	308	low	Dolichospermum
Elm Park Pond	317	4346	some	Dolichospermum, Microcystis Debris
Farm Pond	11	42	low	Dolichospermum
Green Hill Park Pond	71	706	high	Dolichospermum, Woronichinia
Indian Lake	31	475	some	Dolichospermum, Microcystis, Microcystis Debris, Woronichinia
Leeseville Pond	ND	25	none	
Lake Quinsigamond	15	138	some	Aphanizomenon, Dolichospermum, Microcystis Debris, Woronichinia
Little Indian Lake	120	2571	high	Dolichospermum, Microcystis Debris
Manchaug Pond	9	32	low	Dolichospermum
Newton Pond	ND	49	none	
Patch Pond	18	43	low	Dolichospermum, Oscillatoria
Patch Reservoir	ND	58	low	Dolichospermum, Oscillatoria
Salisbury Pond	11	106	low	Microcystis Debris
Stevens Pond	ND	10	low	Microcystis
Lake Ellie	13	118	none	
Lake Chauncy	60	560	high	Aphanizomenon, Dolichospermum, Woronichinia
Lake Lashaway	12	265	low	Aphanizomenon

## Previous Results for Lake's Not Tested this Period

East Lake Waushacum	ND	203	low
Jordan Pond	43	211	some
Kiver Pond	33	573	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 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.