Worcester Cyanobacteria Monitoring Collaborative

WCMC Results October 02, 2023

Lake and Overall Risk	Phycoyanin Concentration (ug/l)	Particle Concentration (#/ml)	Cyanobacteria Density	Cyanobacteria Observed
Bell Pond	ND	33	None	
Burncoat Pond	57	2034	Some	Aphanizomenon, Microcystis Debris
Coes Reservoir	14	305	some	Aphanizomenon , Dolichospermum
East Lake Waushacum	12	17	none	
Ecotarium Pond	53	6	low	Dolichospermum
Elm Park Pond	132	0	some	Dolichospermum, Microcystis Debris
Farm Pond	9	23	none	
Green Hill Park Pond	61	442	high	Dolichospermum, Woronichinia
Indian Lake	52	995	high	Dolichospermum , Microcystis Debris , Woronichinia
Jordan Pond	ND	55	low	Microcystis
Kiver Pond	13	153	none	
Little Indian Lake	18	1191	none	
Manchaug Pond	9	11	none	
Newton Pond	ND	18	none	
Patch Pond	ND	108	none	
Patch Reservoir	14	262	low	Dolichospermum
Salisbury Pond	61	1062	some	Microcystis Debris
Stevens Pond	ND	4	None	
Lake Ellie	11	405	None	
Crystal Pond	ND	171	low	Microcystis Debris
Lake Chauncy	9	72	low	Aphanizomenon, Dolichospermum, Microcystis
Lake Lashaway	ND	46	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
Cooks Pond	8	154	low	Microcystis Debris
Leeseville Pond	18	22	none	
Lake Quinsigamond	20	117	some	Aphanizomenon, Dolichospermum, Microcystis Debris

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.