

**CURRENT WATER USE STATUS: SWIM AT YOUR OWN RISK/PET ADVISORY**

**SUMMARY:**

Water sampling conducted July 12 shows cyanobacteria and microcystin toxin results below state beach closure limits. The pond remains at Swim at Your Own Risk, due to the possibility that small wind-blown visible blooms and scums may accumulate temporarily at areas along the shoreline. These should be avoided when encountered. A Pet Advisory is also posted.

Water sampling will continue weekly to monitor cyanobacterial populations in the pond.

When water use advisories are issued, the town will notify the public via the White Pond Bloom Notifications (sign up at <https://concordma.gov/3039/White-Pond-Watershed>), as well as posting signage at public access points to the pond.

**Cyanobacteria Sampling and Bloom Status**

As is expected in summer months, the cyanobacteria population has increased in White Pond throughout July. Per Nancy Leland of Lim-Tex, who conducts the town water sampling program, the pond water column is now completely seeded with cyanobacteria.

The population of bloom forming cyanobacteria (BFC; mostly *Microcystis* and *Dolichospermum* in White Pond) has increased compared to last week's samples. Samples taken July 12 show that *Microcystis* now accounts for 95% of the bloom forming cyanobacteria at all sample locations across the pond. *Microcystis* divides more rapidly than *Dolichospermum* so when it is dominant, there is greater potential for a bloom to form rapidly.

Increases in the BFC population typically precede what will be observed in the whole lake water (WLW) samples by 7-10 days. At all samples sites, the amount of cyanobacterial biomass (*Microcystis*) is increasing, with growth rates increasing compared to last week. It is possible that *Microcystis* is at the beginning of log phase growth where populations may increase rapidly in the next week.

Estimated microcystin toxin concentrations remain low, well below the swimming closure standard of 8 ppb.

Pond water will continue to be monitored weekly.

Pond users who are interested in learning more about the sampling program can visit the White Pond Reports webpage <https://concordma.gov/3126/Bloom-Reports>. Two documents on this page provide more information about the sampling protocol and rationale being used in the White Pond water sampling program.

White Pond Monitoring Addendum Oct 29 2021

<https://concordma.gov/DocumentCenter/View/37187/White-Pond-Monitoring-Addendum-Oct-29-2021>

Evaluation of Size Structure in Freshwater Cyanobacteria

<https://concordma.gov/DocumentCenter/View/37186/Evaluation-of-Size-Structure-in-Freshwater-Cyanobacteria>

### **A-Pod HAB Trap update**

No visually apparent/significant scums were found in the A-Pods or pond over the past week, although the A-Pods are continuing to trap some amount of cyanobacteria.

Higgins Environmental measures phycocyanin pigment (PC, a surrogate measurement for cyanobacterial biomass) on a regular basis. Vertical profile data from deep hole sites had fairly consistent PC from one foot below the water surface to just above the sediment surface at 64 feet, indicating that the entire water column in deep sites is fully seeded with cyanobacteria. Dissolved oxygen was greater than 5 mg/L down to 45 feet. Water clarity (measured by secchi disk) was 16.5 feet at noon with no clouds and minor water turbulence. These data indicate cyanobacteria are likely actively reproducing and dying/being biodegraded as Dissolved Oxygen and water clarity have each dropped as water temperatures (biodegradation boost) and PC increased so far this year. These results are similar to the data from Lim-Tex for samples taken at deep sites in the pond.

Signage with QR codes has been placed on all A-Pod units. For those who are curious about the A-Pod technology, more is available at <https://blog.cyanos.org/2021/04/19/a-pod-hab-trap-and-removal-process-jonathan-b-higgins>.

All pond users are asked to stay away from the A-Pods and not disturb them. The floating fabric of the A-Pods can be easily damaged and is an important part of the cyanobacteria collection system.