White Pond Water Quality Monitoring Program Update June 30, 2022

CURRENT WATER USE STATUS: SWIM AT YOUR OWN RISK/POTENTIAL FOR CONCERN

SUMMARY: Water sampling conducted June 28 shows a significant increase in the cyanobacteria *Microcystis,* which now account for 95% of the bloom forming cyanobacteria at all sampling sites across the pond. *Microcystis* is the genus primarily responsible for the production of the toxin microcystin. Accordingly, estimated microcystin toxin concentrations have increased somewhat in the pond, although they are still below the swimming closure standard of 8 parts per billion. The pond is currently posted as Swim at Your Own Risk.

Based on this weeks' sample results, it is possible that a significant bloom may emerge in the next 7-10 days. If so, this may necessitate that a No Swimming Water Use Advisory be issued. If this occurs, the town will notify the public via the White Pond Bloom Notifications (sign up at https://concordma.gov/3039/White-Pond-Watershed), News and Notices and social media, as well as posting signage at public access points to the pond.

Pond users should be alert for the possibility that a visible bloom may emerge. Avoid contact with any areas of visible blooms; keep pets and small children out of areas with visible blooms; and rinse off with fresh water as soon as possible after exposure.

Cyanobacteria Sampling and Bloom Status

The composition of all Bloom Forming Cyanobacteria (BFC) samples taken June 28 is now dominated by *Microcystis*. This indicates that *Microcystis* has now undergone its early season recruitment/seeding process, much like the genus *Dolichospermum* did several weeks ago when their numbers increased rapidly in the samples taken in early-mid June.

Given that this recruitment event has occurred so quickly (i.e, *Microcsytis* was not observed in the BFC samples on June 21), it is likely we may see visible surface accumulations of cyanobacteria within the next 7-10 days.

Due to the increased amounts of *Microcystis*, estimated microcystin concentrations have increased, especially in BFC samples taken near the town beach. If a bloom does emerge in this area, it is likely that microcystin concentrations in bloom material could exceed the MDPH swimming standard of 8 ppb. Estimated microcystin levels are lower in samples of whole lake water (WLW) across the pond.

Town staff will be alert to the possibility that a visible bloom may emerge in the coming 7-10 daysIf a visible cyanobacterial mat or scum becomes apparent, a No Swimming Water Use Advisory will be posted per Massachusetts Department of Public Health (MDPH) requirements. The next water sample will be taken July 5 and further decisions will be made based on the results of this sample, particularly estimated microcystin toxin levels.

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

This week, the primary A-Pod in the Thoreau's Cove area was replaced with a new A-Pod version optimized for this location. Other A-Pod units are being reconfigured to better trap harmful algae bloom (HAB) materials. There are currently four A-Pod units installed in the pond. A slight buildup of HABS is being observed in some units; these HABS are being trapped and removed.

Signage with QR codes has been placed on all A-Pod units. For those who are curious about the A-Pod technology, more information 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.