WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

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CALL/TEXT WITH ANY QUESTIONS!

FIELD NOTES SUMMARY

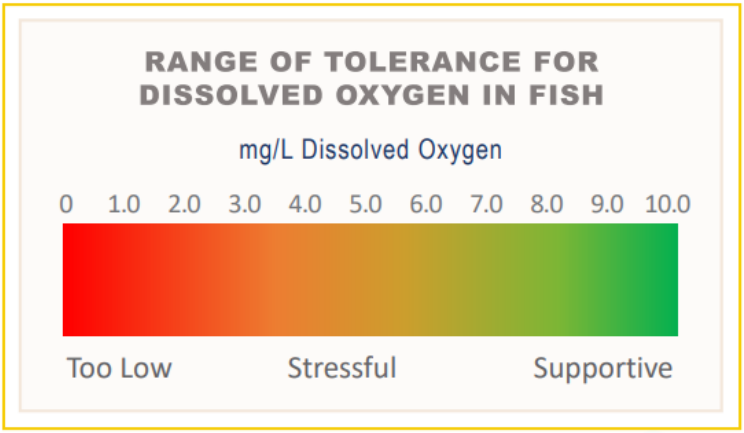
Customer: Town of Sharon – Lake Massapoag Advisory Committee
Pond Name: Lake Massapoag
Site Location: Sharon, MA
Date: 7/26/23

On 7/26/23, and Aquatic Field Assistant, Grace Adams, Co-Owner/Senior Aquatic Biologist, Colin Gosselin, made a visit to Lake Massapoag. The following services were completed during the visit:

Upon arrival to the site, a survey was conducted using visual observation paired with a standard throw-rake and handheld GPS/ArcGIS Field Maps, as applicable. Plants documented during the survey are documented in the table below. (*) denotes an invasive species. Invasive species are non-native to the ecosystem and are likely to cause economic harm, environmental harm, or harm to human health.

Species Identified	
Common Name	**Latin Name**
Benthic Algae	
Fanwort*	*Cabomba caroliniana*

While on-site, dissolved oxygen (DO) and temperature readings were collected using a calibrated YSI meter with optical sensor. Dissolved oxygen is the amount of oxygen in water that is available to aquatic organisms. DO is necessary to support fish spawning, growth, and activity. Tolerance varies by species, but the figure below provides a general range of fish tolerance (Source: epa.gov). Dissolved oxygen can be affected by many outside factors, such as: temperature, time of day, and pollution. Dissolved oxygen levels are typically lowest early in the morning. Healthy water should generally have concentrations of about 6.5-8+ mg/L.



Results from the visit are included in the table below:

Temperature & Dissolved Oxygen	
Surface Temp (°C)	Surface DO (mg/L)
30.1	7.92

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	5’ 2”

A Secchi disk is a disk with alternating black and white quadrants. It is lowered into the water of a lake until it can no longer be seen by the observer. This depth of disappearance, called the Secchi depth, is a measure of the transparency of the water.

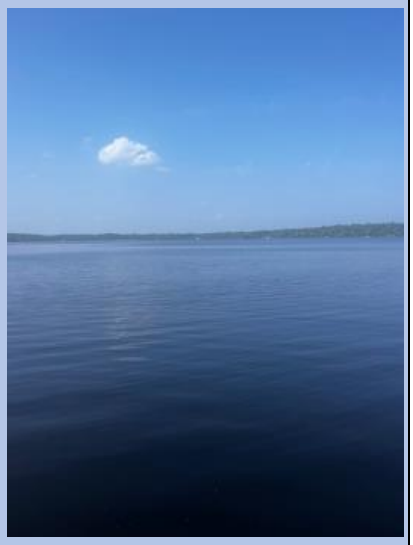
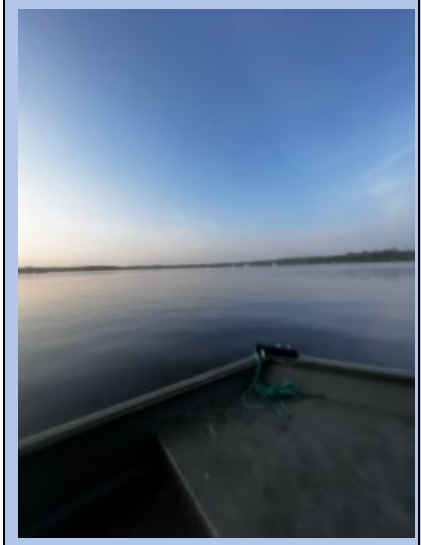
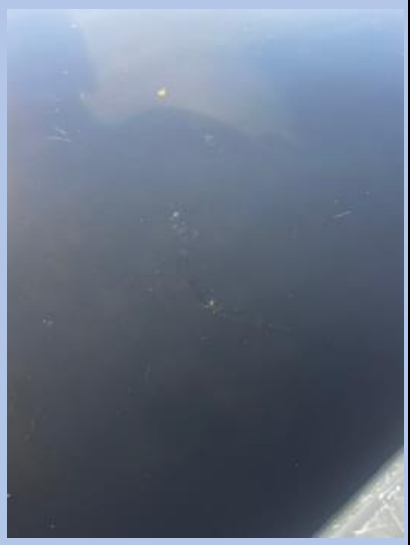
A treatment was conducted targeting phosphorus. Liquid aluminum sulfate and sodium aluminate were both applied at a 2:1 ratio according to the specified project dosing. A tanker(s) holding both the alum and sodium aluminate arrived on-site. The tanker(s) was staged at the edge of the water body (at the camp). The liquid alum and sodium aluminate were transferred to the treatment boat, which was equipped with onboard storage tanks, using hoses. The liquid products were then applied through a calibrated subsurface injection system. This application methodology allowed both products to be applied at the designated ratio of 2:1 and injected into the water column simultaneously. Both products were applied evenly throughout the designated project treatment area, which consisted of the deeper areas and avoided the shoreline.

Prior to the treatment(s), the shoreline around the cove was posted with neon pink signs noting the treatment, affiliated water use restrictions (which there were none), and Water & Wetland contact information.

Additional Notes from the Biologist
Logistically, the treatment commenced without issue. The tanker arrived on-time at the correct location. TRC Environmental staff was also on-site to collect the required water quality during the treatment. During the treatment, a fluctuation in pH was noted. (Please refer to TRC information for specifics). Out of an abundance of caution, the treatment was paused to allow for TRC staff to collect additional data and to adjust the treatment plan accordingly, if needed. After the pause, and consultation with the Town, the treatment re-commenced, and pH measurements appeared more stable. Upon departure, Water & Wetland took a final pH reading which was at 7.0, which is neutral. Prior to commencing treatment, we collected temperature and dissolved oxygen readings. The dissolved oxygen was sufficient to support the treatment. On Thursday, 7/27/2023, it was noted that there appeared to be a small fish mortality at some point post-treatment. TRC staff is collecting data. Water temperatures are high due to the recent weather patterns, so this alone can stress fish; however, we are working closely with TRC to discuss their data as

they get it. We did receive reports that the water is extremely clear following the treatment; other than the one beach area which may possibly be attributed to the high level of activity stirring up the settled floc.

As always, we will notify you prior to any upcoming visits, as applicable. Please feel free to reach out to us directly with any questions.

Photo 1	Photo 2	Photo 3
		
Photo 4	**Photo 5**	
		

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