



BIOLOGIST:
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 CALL/TEXT WITH ANY QUESTIONS!



FIELD NOTES SUMMARY

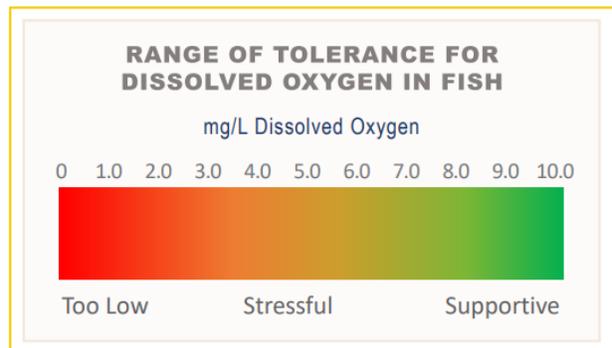
Customer: Town of Mendon
Pond Name: Lake Nipmuc
Site Location: Mendon, MA
Date: 6/22/23

On 6/22/23, and Aquatic Field Assistant, Grace Adams, Co-Owner/Senior Aquatic Biologist, Colin Gosselin, made a visit to Lake Nipmuc. 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
Variable Milfoil*	<i>Myriophyllum heterophyllum</i>
Waterlilies	<i>Nymphaeaceae</i>
Watershield	<i>Brasenia schreberi</i>
Bladderwort	<i>Utricularia</i>
Snailseed Pondweed	<i>Potamogeton bicupulatus</i>
Microscopic Algae	
Filamentous Algae	

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



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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)
24.7	8.94

As planned, and based on the previous pre-treatment survey, a treatment was conducted for the control of target nuisance/invasive plant growth. The liquid contact herbicide diquat, was applied using a treatment boat equipped with a calibrated sub-surface injection system. Captain XTR algaecide was mixed where necessary for filamentous algae control. This application methodology allows for even coverage within the treatment areas. The treatment was completed without issue. We anticipate plant die-off within just a few days to a few weeks.

Prior to the treatment(s), the shoreline was posted by town officials with neon pink signs noting the treatment, affiliated water use restrictions, and Water & Wetland contact information. The signs fulfill permit obligations for shoreline posting.

Additional Notes from the Biologist
Throughout the entire lake, there was a microscopic algae bloom, which had negative impacts on water clarity/visibility. In addition to the microscopic bloom, there were also patches of benthic filamentous algae. The north cove that was treated contained scattered patches of variable milfoil, as well as native bladderwort. The second cove, by Alicante Restaurant contained dense densities of both variable milfoil and bladderwort. The final two coves treated both contained moderate densities of variable milfoil. Along the shoreline and scattered in the middle of the lake were patches of water lilies and watershield. We recommend that the current algae bloom be monitored and potentially sampled to ensure the safety of Lake users.

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

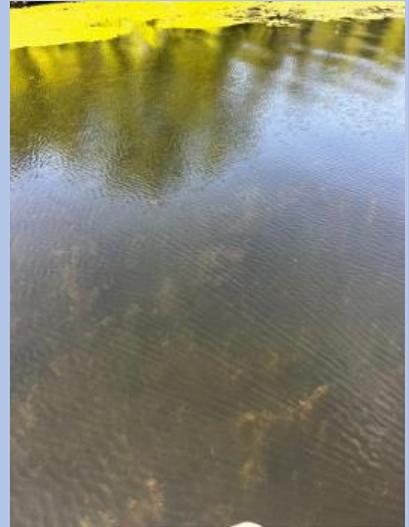


Photo 4



Photo 5



Photo 6

