



BIOLOGIST:
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 CALL/TEXT WITH ANY QUESTIONS!



FIELD NOTES SUMMARY

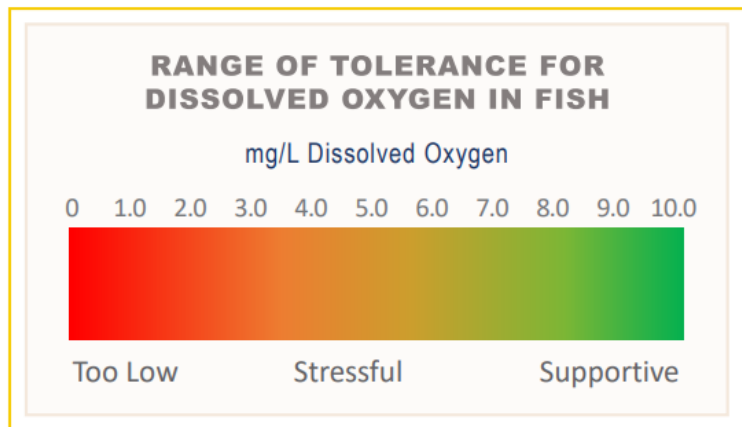
Customer: Town of Mendon
Pond Name: Lake Nipmuc
Site Location: Mendon, MA
Date: 9/18/23

On 9/18/23, 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>
Bushy Pondweed	<i>Najas flexilis</i>

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.



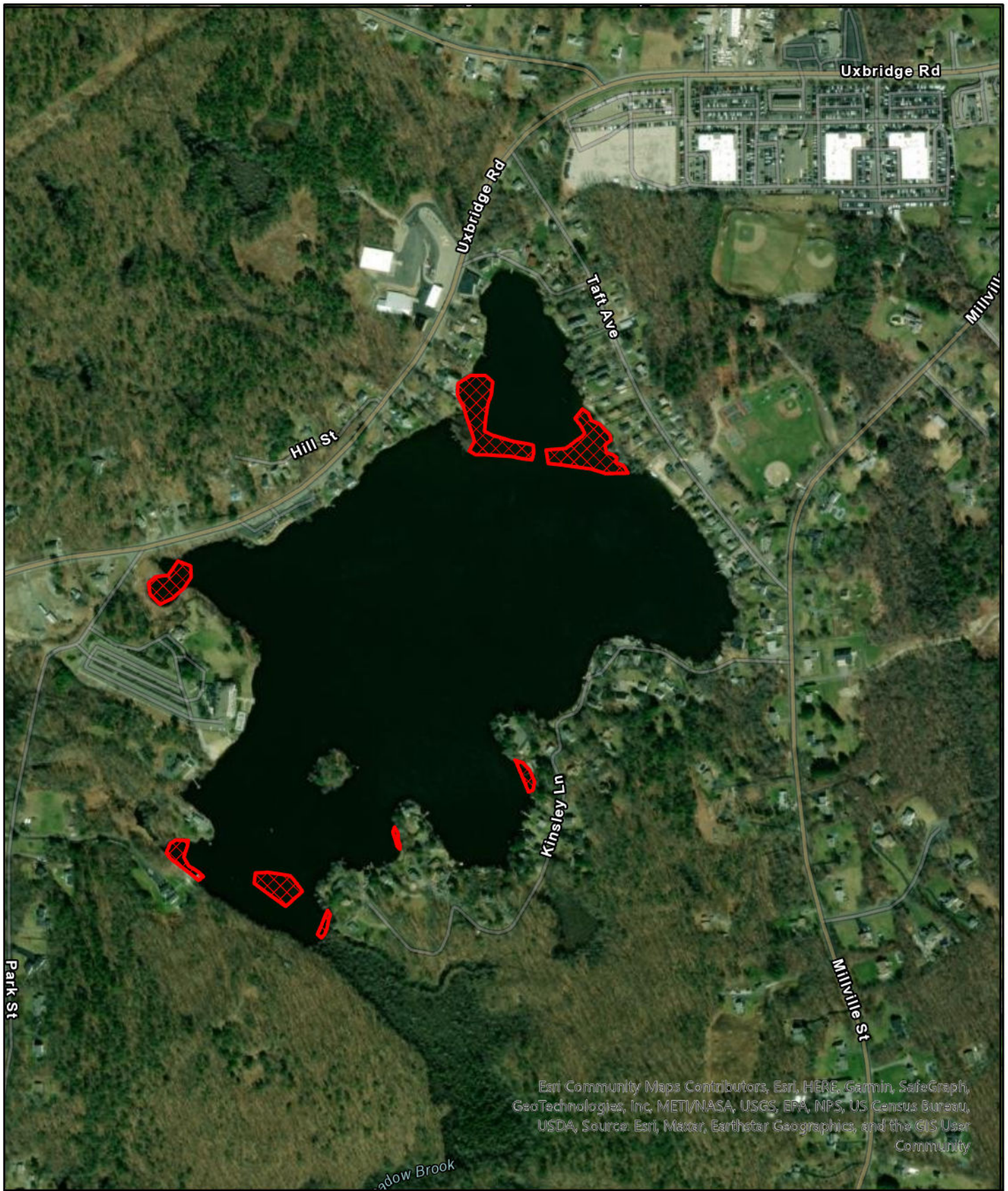
Results from the visit are included in the table below:

Temperature & Dissolved Oxygen	
Surface Temp (°C)	Surface DO (mg/L)
20.7	7.39

Additional Notes from the Biologist
<p>The purpose of the visit to Lake Nipmuc was to conduct a post-treatment survey. This survey is used to assess treatment efficacy and to guide future management, specifically management of invasive variable milfoil and nuisance bushy pondweed. In addition to these target species, the Association has requested treatment of native waterlilies. During this survey, we specifically assessed waterlily growth to determine if they reached densities which would warrant treatment. Lilies are a native species which provide valuable habitat and cover. As waterlilies over-take large areas, they have the ability to reduce biodiversity and oxygen transfer. During the survey, waterlilies were assessed to determine if they were at a density/cover anywhere in the lake, which would warrant treatment.</p> <p>Bob Sweet, Mendon Conservation Commission/Lake Nipmuc Association accompanied Water & Wetland during the survey. Conditions were rainy, but visibility was sufficient to complete the survey without issue. A small amount of variable milfoil regrowth was found near the outlet and in the cove near Alicante. This is not uncommon when treatment utilizes diquat, a contact herbicide. Small patches of bushy pondweed were also observed in low, non-nuisance densities.</p> <p>Waterlilies were present, but only in scattered, low densities (please see attached map). The lilies appeared to be present only in shallow areas where muck was present. While some of the lilies are around a few homes' docks, at the observed densities they provide valuable habitat and cover. Given all of the above, we do not recommend management of native waterlilies at this time. We do however recommend continued management of variable milfoil and nuisance bushy pondweed in 2024. Throughout the 2024 season, we will continue to monitor waterlily cover and densities.</p>

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.

Attachments: Waterlily Map



Nipmuc Pond
Waterlilies Map
Mendon, MA

Survey Date
 9/5/23
Map Date
 9/12/23