



BIOLOGIST:
COLIN GOSSELIN
C: (508) 259-3153
COLIN@WATERANDWETLAND.COM

CALL/TEXT WITH ANY QUESTIONS!



FIELD NOTES SUMMARY

Customer: Hop Brook Protection Association

Pond Name: Stearns Millpond

Site Location: Sudbury, MA

Date: 6/30/23

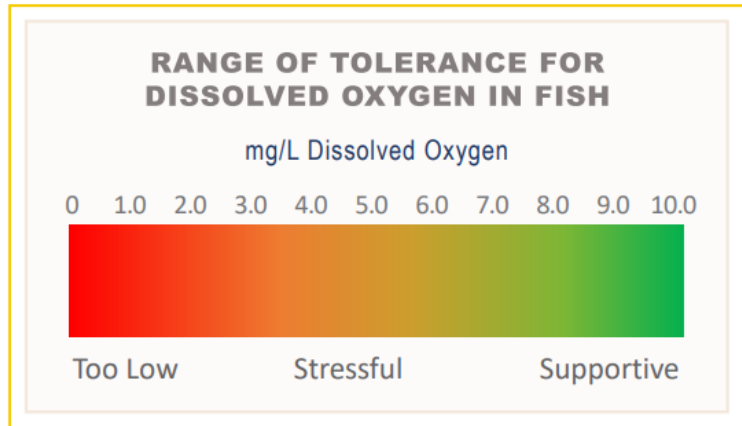
On 6/30/23, Aquatic Biologist, Scott Conrade, and Co-Owner/Senior Aquatic Biologist, Colin Gosselin, made a visit to Stearns Millpond. The following services were completed during the visit:

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
Cattails	<i>Typha</i>
Water Chestnut*	<i>Trapa natans</i>
Waterweed	<i>Elodea</i>
Duckweed	<i>Lemna</i>
Coontail	<i>Ceratophyllum demersum</i>
Watermeal	<i>Wolffia</i>
Common Reed*	<i>Phragmites australis</i>
Japanese Knotweed*	<i>Reynoutria japonica</i>
Yellow Waterlilies	<i>Nuphar variegata</i>
Curly-leaf Pondweed*	<i>Potamogeton crispus</i>

Water & Wetland, LLC
Upton, MA
(888) 4WETLAN(D)
www.waterandwetland.com

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:

Depth	Temperature (°C)	Dissolved Oxygen (mg/L)
Surface	25.3	8.81
1 Foot	24.8	8.43
2 Feet	23.7	7.43
Bottom	23.0	6.64

A treatment was conducted for the control of water chestnut. The liquid herbicide, Clearcast (imazamox), was applied using the most appropriate boat, equipped with a calibrated pump, which is used to target the water chestnut plants via foliar application methodology. This method allows for even and precise coverage. Weather was also closely monitored prior to treatment to ensure a treatment date without rain or high winds. The treatment was rescheduled from 6/30/2023 due to the previous forecast.

Prior to the treatment(s), the shoreline was posted with neon pink signs noting the treatment, affiliated water use restrictions, and Water & Wetland contact information. The signs fulfill permit obligations for shoreline posting. All required pre-treatment information and documents were also sent to Sudbury Conservation Commission.

Additional Notes from the Biologist

Upon arrival, water chestnut could be seen in various locations in low densities throughout the pond. Some of the water chestnut was covered and/or surrounded by duckweed and filamentous algae, thus hard to see. Elodea was also present in high densities throughout the pond and topped out throughout the majority of it. Additional, curly leaf pondweed was present and mature at the time of the visit. Stearns Millpond also has a large population of bluegill and other sunfish species, as well as, large mouth bass. This is typical of this type of ecosystem in the northeast; however, there were some large specimens observed during the visit. Along with the fish species, eastern painted turtles and snapping turtles were also observed in the pond. This treatment took more time than the other two ponds due to the lower density, thus seeking out patches, plants, and hard to find water chestnut mixed within other species.

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

