WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

BIOLOGIST:
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CALL/TEXT WITH ANY QUESTIONS!

FIELD NOTES SUMMARY

Customer: Hop Brook Protection Association
Waterbody: Stearns Mill Pond
Site Location: Sudbury, MA
Date: 9/8/22, 12:00 PM

Observations / Notes: On September 8th, Senior Environmental Scientist, James Lacasse, completed a site visit to Stearns Mill Pond. The visit consisted of performing a survey in addition to collecting basic water quality data and water samples. Conditions during the visit were sunny and calm.

Upon arrival, a survey was conducted using visual observation paired with a standard throw-rake and handheld GPS/ArcGIS Field Maps, as applicable. The overall health and conditions of Stearns Mill Pond had improved drastically since the first treatment. The Pond looked great as the treatments worked very well. Trace densities of water chestnut were observed, along the southeastern shoreline; in our estimation less than 20 plants remained in the Pond. Also noted during the survey were waterlilies, curly-leaf pondweed (invasive), elodea, coontail, duckweed, and watermeal. Elodea was the densest species documented. Filamentous algae was also noted in trace to sparse densities, both on the surface and on the bottom. There was a significant amount of open water documented, which was much improved from the pre-treatment conditions. The boat was properly cleaned and inspected prior to launching and upon demobilization.

The water temperature was consistent with other similar waterbodies we manage in the area, and the dissolved oxygen was sufficient to support fish and wildlife. Water clarity was also assessed using a Secchi disk. 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. The Secchi reading was 2’3”, to the bottom. Additional water samples were collected, preserved, and immediately transported to the lab for analysis. This will fulfill OOC compliance.

We will be issuing a year-end report later this year, which will include additional details, maps, water quality results and analysis along with 2023 recommendations. Please let us know if you have any questions at all.

Depth	Temperature (℃)	Dissolved Oxygen (mg/L)
Surface	20.1	8.2
1 Foot	20	8.0
2 Feet	20	6.0
Bottom	19.8	5.4

Secchi disk depth (feet)	2'3" (bottom)

Photos






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FIELD NOTES SUMMARY

Customer: Hop Brook Protection Association
Waterbody: Carding Mill Pond
Site Location: Sudbury, MA
Date: 9/8/22, 10:45 AM

Observations / Notes: On September 8th, Senior Environmental Scientist, James Lacasse, completed a site visit to Carding Mill Pond. The visit consisted of performing a survey in addition to collecting basic water quality data and required water samples. Conditions during the visit were sunny and calm.

Upon arrival, a survey was conducted using visual observation paired with a standard throw-rake and handheld GPS/ArcGIS Field Maps, as applicable. The water chestnut has significantly decreased in densities since the series of treatments performed over the summer. While eradication is never possible, a high percentage of control was achieved. Unfortunately, a large portion of the surface of the Pond is covered with native watermeal and duckweed, best seen in photos 3 and 6, with a closeup in photo 5. As noted above, water chestnut was greatly reduced but low densities were observed scattered around the Pond, largely in trace to sparse densities compared to moderate to dense prior to management. Chestnut was documented around the island, and along the western and eastern shorelines. An occasional trace to sparse patch of chestnut was found towards the middle of the Pond. This is where individual plants to very small, isolated patches were located. The southern coves significantly improved from the previous pre-treatment conditions. As noted above, a large portion of the Pond is covered with watermeal/duckweed, which is not impacted by the Clearcast herbicide, nor is a target for treatments. There were however a few areas of open water, including portions of the northwestern corner, middle/eastern-middle of the Pond, and within the southwestern coves. Other species notes included waterlilies, coontail, elodea, thin-leaf pondweed, and cattails, all native species. The most prominent species throughout the Pond included watermeal, duckweed, and coontail as these species were documented at moderate to dense densities. The coontail made traveling throughout the Pond very difficult as it was surfacing throughout the majority of the waterbody. Elodea, waterlilies, and thin-leaf pondweed were documented at trace densities. The southwestern coves were extremely shallow. Filamentous algae and epiphytic algae were noted, with filamentous algae being the primary algae documented. Filamentous algae was observed scattered on the surface mixed throughout the vegetation. It was primarily found on the surface, but occasionally documented on the bottom. Epiphytic algae was noted on a small percentage of the vegetation, which indicates that the plant is

dying/decaying. The gate was closed and locked while leaving the site. Prior to launching the jon boat and removing the jon boat, the boat was washed using a battery powered pressurized sprayer. It was also inspected prior to launching and demobilizing from the site.

The water temperature was consistent with other similar waterbodies we manage in the area, and the dissolved oxygen was sufficient to support fish and wildlife. Water clarity was also assessed using a Secchi disk. 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. The Secchi reading was 4'2" (to the bottom), which illustrates great water clarity. Water samples were collected and transported to the lab for further analysis, to fulfill OOC special conditions.

We will be issuing a year end summary report later in the year. This will include additional detail, maps, water quality results and analysis, along with 2023 recommendations. Please let us know if you have any questions at all.

Depth	Temperature (℃)	Dissolved Oxygen (mg/L)
Surface	22.5	9.83
1 Foot	22.3	9.41
2 Feet	22.2	8.32
3 Feet	22	7.54
4 Feet	21.4	6.92

Secchi disk depth (feet)	4'2" (bottom)

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Photos






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FIELD NOTES SUMMARY

Customer: Hop Brook Protection Association
Waterbody: Grist Mill Pond
Site Location: Sudbury, MA
Date: 9/8/22, 8:30 AM

Observations / Notes: On September 8th, Senior Environmental Scientist, James Lacasse, completed a site visit to Grist Mill Pond. The visit consisted of performing a survey, collecting basic water quality data in addition to collecting samples. Conditions during the visit were sunny and calm.

Upon arrival, a survey was conducted using visual observation paired with a standard throw-rake and handheld GPS/ArcGIS Field Maps, as applicable. Overall, the Pond has greatly improved since the series of treatments. The water chestnut population has significantly decreased as great control was achieved. Water chestnut was still documented, but at trace to sparse densities scattered around the Pond. Water chestnut was primarily documented against the shoreline, with a few small patches scattered throughout the middle of the western half of the Pond. The majority of the eastern half of the Pond was open water. A large percentage of the small areas of remaining water chestnut did not appear healthy looking, as the plants were no longer rooted (seen in photo 6), discolored in appearance, or covered in epiphytic/filamentous algae. Epiphytic algae on vegetation indicates that the plant is dying/decaying. Filamentous algae was primarily found in the western half of the Pond, in the proximity of dead water chestnut and dense watermeal/duckweed. This was typically found on the surface, although benthic filamentous algae was noted throughout the Pond, but primarily contained within the western point of the Pond. Other native species noted include Elodea, coontail, duckweed, watermeal, and ribbon-leaf pondweed. Duckweed and watermeal were the most prevalent and dominant species documented throughout the Pond. Duckweed and watermeal were observed as very dense throughout the western 2/3 of the Pond. This is best seen in photo 3. In photo 4, you will see some scattered water chestnut mixed within the duckweed/watermeal cover. In the eastern half, the duckweed/watermeal was more scattered at trace to sparse densities. Cattails were noted scattered around the perimeter of the Pond in sparse to dense densities. Also documented throughout the survey was floating fragments of water chestnut plants. The gate was shut and tied closed with the rope while leaving the site.

Prior to mobilizing and leaving Grist Millpond, our boat was washed with a battery powered pressure washer and inspected.

The water temperature was consistent with other similar waterbodies we manage in the area, and the dissolved oxygen was sufficient to support fish and wildlife. Water clarity was also assessed using a Secchi disk. 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. The Secchi reading was 5'10" (to the bottom), which illustrates excellent water clarity. Water samples were collected and transported to the lab for further analysis, which will fulfill OOC special conditions.

We will be issuing a year-end report later in the year which will include additional detail, maps, recommendations, and water quality analysis. Please let us know if you have any questions at all.

Depth	Temperature (℃)	Dissolved Oxygen (mg/L)
Surface	19.5	8.76
1 Foot	19.3	8.72
2 Feet	19.2	8.12
3 Feet	19	7.64
4 Feet	18.9	7.43

Secchi disk depth (feet)	5'10" (bottom)

Photos



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