WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

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CALL/TEXT WITH ANY QUESTIONS!

FIELD NOTES SUMMARY

Customer: Hop Brook Protection Association
Site Location: Sudbury, MA
Date: 7/21/22, 4:32 PM

Observations / Notes: On July 21st, Senior Environmental Scientist, James Lacasse and Co-Owner/Aquatic Biologist, Colin Gosselin, completed a site visit to Grist Millpond, Carding Millpond, and Stearns Millpond. The visit consisted of performing a brief survey, collecting basic water quality data, and conducting a treatment at each pond. Conditions during the visit were sunny and hot.

Upon arrival, a brief interim survey of each pond was conducted using visual observation. Strips/lanes of dead/dying water chestnut were noticeably visible in all areas previously treated within all three ponds. This is consistent with what we'd hope to see following the initial treatment. As you'll see in the photos below, some of the water chestnut has already fallen from the water column, while much of it is brown/dead but has not fallen from the water column yet. The dead chestnut plants will eventually drop from the water column. Prior to this treatment, several live water chestnut plants were hand-pulled from each pond to confirm that seeds had not dropped. All pulled plants contained seeds, meaning we are still well within the treatment window.

While on-site, basic water quality was collected using calibrated meters. Similar to the previous events, the pH was between 6.9 and 7.1 for all three ponds, which is within a standard range for freshwaters and is considered neutral. The water temperature was consistent with other similar waterbodies we manage in the area and the water temperatures are generally higher than usual given the recent heat stretch and lack of rain. 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 generally to the bottom of all three ponds, this is consistent with our previous visit.

As planned, a follow-up treatment was conducted for the control of invasive water chestnut. Identical to the initial treatment, Clearcast (imazamox), was paired with a non-ionic surfactant. The mixture was applied to all live water chestnut within the three ponds via foliar application using low-volume calibrated spray equipment. This methodology allows for even coverage and distribution to the target

water chestnut, while limiting any non-target impacts. Weather was also closely monitored prior to treatment to ensure a treatment date without rain or high winds. Conditions for the treatment were perfect. While there was a very low chance of a thunderstorm, we were confident in the weather conditions as there's always a slight chance of a thunderstorm when the weather is as hot and humid as it has been. Grist Millpond was accessed by a crane provided by Astro Crane. The crane service showed up slightly late, around 8:30AM. This was lined up several weeks in advance of the treatment. The crane lifted the airboat into the pond, where it was then used for the treatment. Simultaneously while Grist Mill was being treated, a second crew was treating Stearns from a flat bottom jon boat. Stearns is accessible from a jon boat due to the lower density of water chestnut, which was further improved upon following the initial treatment. This made all areas accessible from this boat. We had planned this approach in advance following the conditions/outcome of the initial treatment. Following demobilization of the airboat from Grist Millpond via crane, the airboat was pressure washed using freshwater (brought from our shop/office) with a portable 40V battery operated pressure washer. The boat was also inspected for invasive species. Once that process had been completed, it was launched using standard methodology (truck and tailer) into Carding Millpond.

While the crane was setting up, all ponds were posted with neon posters noting the treatment and any affiliated water-use restrictions. The Sudbury Conservation Commission was also notified in advance of the treatment.

Overall, the weather conditions for both treatments were ideal. The results from the first treatment were desirable, and the second treatment was performed without issue. Excellent coverage was achieved during both treatments, and we are confident that the desired level of control will be achieved. You will continue to see browning of the water chestnut plants treated during this follow-up application. Following the browning, the plants will begin to fall from the water column.

We will notify you prior to the next scheduled visit, which will consist of the post-treatment surveys and post-treatment water quality collection. We will likely be stopping by the ponds over the next few weeks simply to confirm that the expected level of control has been achieved.

Please let us know if you have any questions at all.

Pond	Surface Temp (℃)	Surface DO (mg/L)
Stearns Millpond	27.5	8.82
Grist Millpond	27.8	8.39
Carding Millpond	27.9	8.94

Photos






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