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: 7/7/22, 8:00 AM

Observations / Notes: On July 7th, Senior Environmental Scientist, James Lacasse, Co-Owner and Aquatic Biologist, Colin Gosselin, and Field Assistant, Grace Adams, 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 warm and sunny.

Upon arrival, a brief interim survey of each pond was conducted using visual observation. The ponds were all surveyed in advance of treatment and conditions were similar to those of the pre-treatment surveys (see pre-treatment survey data sent previously). It was however noted that the invasive curly leaf pondweed, a colder water invasive species, is dying off naturally, as expected due to the high water temperatures. Photos 1 and 2 display the conditions at Grist Millpond, photos 3 and 4 display Carding Millpond, and the last two photos show Stearns Millpond.

While on-site, basic water quality was collected using calibrated meters. 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 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.

As planned, a treatment was conducted for the control of invasive water chestnut. Clearcast (imazamox), the approved herbicide under the Order of Conditions issued by Sudbury Conservation Commission, and the MA-DEP WM04 permit, was paired with a non-ionic surfactant. The mixture was applied to all water chestnut within the three ponds via foliar application using low-volume calibrated spray equipment. This methodology, which is approved under the Order of Conditions, 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. Grist Millpond was accessed by a crane provided by Astro Crane. 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. Carding Millpond was also treated by airboat, but did not require a crane as there is a suitable launch. While on-site, crew leader, Colin Gosselin, assessed the density and distribution of the water chestnut growth in Stearns Millpond. At that time, he made the decision to utilize a 12' wide jon boat in this pond, as it would allow for a more productive and effective treatment. While the airboat is necessary to access the water chestnut in Grist Millpond and Carding Millpond due to the density and cover of the water chestnut, the airboat also has a high powered fan which can flip the plants over. The density and distribution of the water chestnut in Stearns was accessible by a jon boat which would allow for more precise application without any plants flipping over. This approach will also be utilized during the follow-up treatment. Excellent coverage was achieved within all three waterbodies, and we anticipate great control from this initial treatment. While we are confident that we could launch an airboat at Grist Millpond, the only pond where the crane was necessary, we are still planning to use the crane for a short portion of the day during the follow-up treatment, to ensure a smooth launch and demobilization at Grist Millpond.

Prior to treatment, the required documents were sent to Sudbury Conservation Commission. Additionally, the shoreline of each pond was posted with neon orange signs noting the treatment and any affiliated water use restrictions. DEP signs were also placed at each waterbody.

We will notify you prior to the follow-up treatment, which is tentatively scheduled for July 19th, with a rain date of July 21st. The crane is booked for both of these days, and whichever day is not needed will be cancelled.

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

Pond	**Surface Temp (**℃)	**Surface DO (mg/L)**
Stearns Millpond	25.6	8.42
Grist Millpond	25.8	8.10
Carding Millpond	25.9	8.98

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Photos






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