



FIELD NOTES SUMMARY

Customer: Glen Echo Lake Improvement Association, Inc. (Glen Echo Lake)

Site Location: Charlton, MA

Date: 10/6/22, 12:35 PM

Observations / Notes: On October 6th, Senior Environmental Scientist, James Lacasse, completed a site visit to Glen Echo Lake. The visit consisted of performing a survey and collecting basic water quality data. The survey was initially scheduled and started on October 4th, however upon starting the survey it was quickly realized that weather conditions were not favorable for the survey due to remnants of Hurricane Ian. Based on this, a call was placed to the Association and the survey was rescheduled for the 6th. Conditions during this visit were sunny with a slight breeze, overall near perfect survey conditions.

Upon arrival, a survey was conducted using visual observation paired with a standard throw-rake and handheld GPS/ArcGIS Field Maps, as applicable. Rake tosses were thrown throughout the littoral zone, paired with visual observations. When encountered GPS points were collected within ArcGIS Field Maps. This approach allows for accurate collection of invasive plant locations. Once the field data is collected, it can then be mapped within ArcGIS Online. Two invasive species were documented during the survey, which included fanwort and variable watermilfoil. Fanwort was the most prevalent invasive species documented, noted most problematic along the two "larger" western coves. It is important to note on the map that each dot represents fanwort found - the dots do not signify densities documented. The majority of the fanwort observed was found in trace to sparse densities. Many rake tosses included just one fanwort plant. There were a few small isolated patches that were observed that were moderate densities (along the northwestern and mid-western shorelines). There was no fanwort noted along or near the surface as it was found along the bottom or within the water column. Variable milfoil was found in a few areas within the northern coves. All of the variable milfoil found and roughly 30% of the fanwort was covered in epiphytic algae, which indicates that the plant is dying or decaying. The remainder of the fanwort population did not appear healthy (this could be impacts from treatment or timing of the season). The fanwort was documented at varying in heights/maturity, from small shoots to larger, more mature plants. It is common to notice regrowth in vegetation towards the end of the season when using contact herbicides as these products only provide temporary control.

Native species noted during the survey include large-leaf pondweed, waterlilies, ribbon-leaf pondweed, callitriche, thin-leaf pondweed, duckweed, snailseed pondweed, aquatic grasses, and bladderwort (two

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species: common bladderwort and purple bladderwort). There were also a few different algae species present: filamentous algae (benthic algae), chara (macro-algae), microscopic algae, and epiphytic algae (described above). The benthic algae was noted primarily in the shallow depths, primarily towards the northern half of the Lake. This was found on the bottom of the Lake or within the lower section of the water column. Chara was found throughout the majority of the littoral zone varying in densities on the bottom of the Lake. There was a microscopic algae bloom also observed throughout the Lake, visible within the water column and on the surface, specifically noticeable within the wind-blown areas. While the only true way to know if a bloom may be potentially harmful, no visual signs of cyanobacteria (swirling, etc.) were noted during the survey.

While on-site, basic water quality was collected using calibrated meters. 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 8'8", which illustrated slightly above average water clarity.

This late season survey has been extremely helpful in guiding 2023 management as immature fanwort was documented in trace densities in various areas throughout the Lake. The density and cover of the fanwort does not warrant an extensive treatment approach with Sonar (fluridone) and should continue to be managed using flumioxazin (commonly called by its trade name, Clipper). Based on the survey, we can anticipate more treatment areas in 2023, which should help with budgeting. Of course all 2023 management areas should be based on the 2023 pre-management survey, which is consistent with the approach historically taken by the Charlton Lakes and Ponds Committee.

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

Pond	Surface Temp (°C)	Surface DO (mg/L)
Glen Echo Lake	21.1	7.2

Photos



