

## **Glen Echo Lake, Charlton, Massachusetts 2021 Year-End Report**

*Report Date:* December 22, 2021

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In accordance with the aquatic plant management contract between SOLitude Lake Management and the Glen Echo Improvement Association (GEIA), the following document serves to provide this year's management results and recommendations for next season.

All management activities were consistent with the Order of Conditions (DEP File #128-1073), and the License to Apply Chemicals (LTAC) issued by the MA DEP – Office of Watershed Management (#WM04-0000675).

### **Vegetation Surveys**

Two vegetation surveys were conducted at Glen Echo Lake this year. The first survey, conducted on June 24th, documented limited growth of non-native species consisting of several scattered beds of trace to sparse variable milfoil (*Myriophyllum heterophyllum*) along the northwestern shore and one isolated section in the southeast cove, as well as an area of trace fanwort (*Cabomba caroliniana*) near the spillway (See **Figure 1**). At this time, native growth of big-leaf pondweed (*Potamogeton amplifolius*) was observed in sparse to moderate scattered patches around many portions of the shoreline. Additional native species observed in trace to sparse abundance included Robbins' pondweed (*Potamogeton robbinsii*), ribbon-leaf pondweed (*Potamogeton epihydrus*) while moderate amounts of water-lilies were observed mostly in the northern end of the lake.

A post-management survey was conducted on September 7<sup>th</sup>. Excellent control of the variable milfoil was observed from the August treatment and a similar distribution of native species was observed at this time. Unfortunately, a significant increase in fanwort was observed during this survey. **Figure 3** (attached) shows the invasive aquatic plant assemblage in Glen Echo Lake at the time of the September survey.

### **Herbicide Treatment**

An herbicide application was performed by SOLitude Lake Management applicators at Glen Echo Lake on August 9, 2021. In accordance with the Order of Conditions for this project, written notification of the scheduled treatment date was sent to the Charlton Conservation Commission. Printed signs warning of the treatment and the associated temporary water-use restrictions were also sent to members of the Association for posting around the lake prior to the application. Treatment areas were determined based on the June survey augmented by resident observations



and observations made by the applicator on the day of treatment. Treatment areas were downloaded to a handheld GPS to ensure even application during the treatment. This treatment utilized an airboat equipped with onboard containment and a pump system for which to dilute herbicide with lake water before application. Flumioxazin and diquat-based herbicides were selected to control variable milfoil and fanwort, and dispensed through subsurface hoses in the treatment areas. Treatment focused particularly along the northern half of the western shoreline of the lake, as well as other spots along the shoreline of the entire lake (see **Figure 2**). Application followed all product labels and no adverse effects on non-target species were observed during or following the treatment.

### **Ongoing Management Recommendations**

Although treatment this year worked well on the milfoil, based on the increased extent of fanwort as observed during the September survey, we recommend treatment of these areas with the Sonar herbicide beginning early in the season. Since the fanwort was clearly mapped in September, it is not necessary to wait until significant growth appears but rather treat the known areas early while the emerging growth is most susceptible to the herbicide. Treatment will be conducted with the granular formulation which releases the product slowly over time.

Continued monitoring is also recommended and will be essential in identifying growth of milfoil and European naiad (*Najas minor*), both of which have been documented in this lake in the past (none was observed in 2020 or 2021). Treatment of milfoil, spiny naiad and any other developing areas of fanwort not identified this summer can be spot-treated with diquat and flumioxazin herbicides later in the summer.

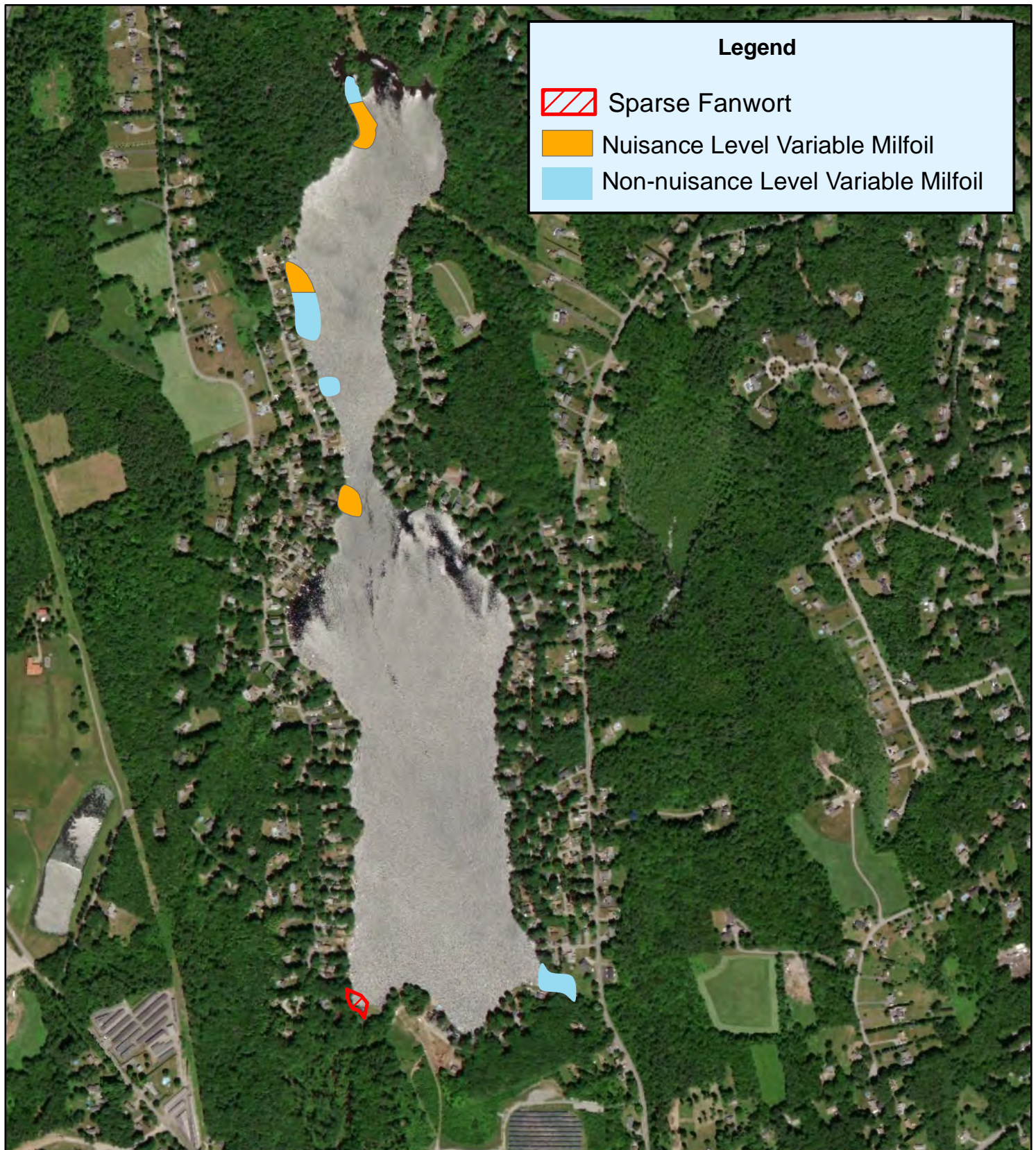
Native vegetation provides valuable habitat; however, we can also manage nuisance areas of native growth if it is adversely affecting intended recreational uses of the pond.

We enjoyed working with you this year and look forward to working with you again in 2022. If you have any questions regarding our 2021 management program or our recommendations for 2022, please do not hesitate to contact our office.



Figure 1: Density & Distribution of Target Vegetation


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**Glen Echo Pond**  
Charlton, MA



**Glen Echo Pond**

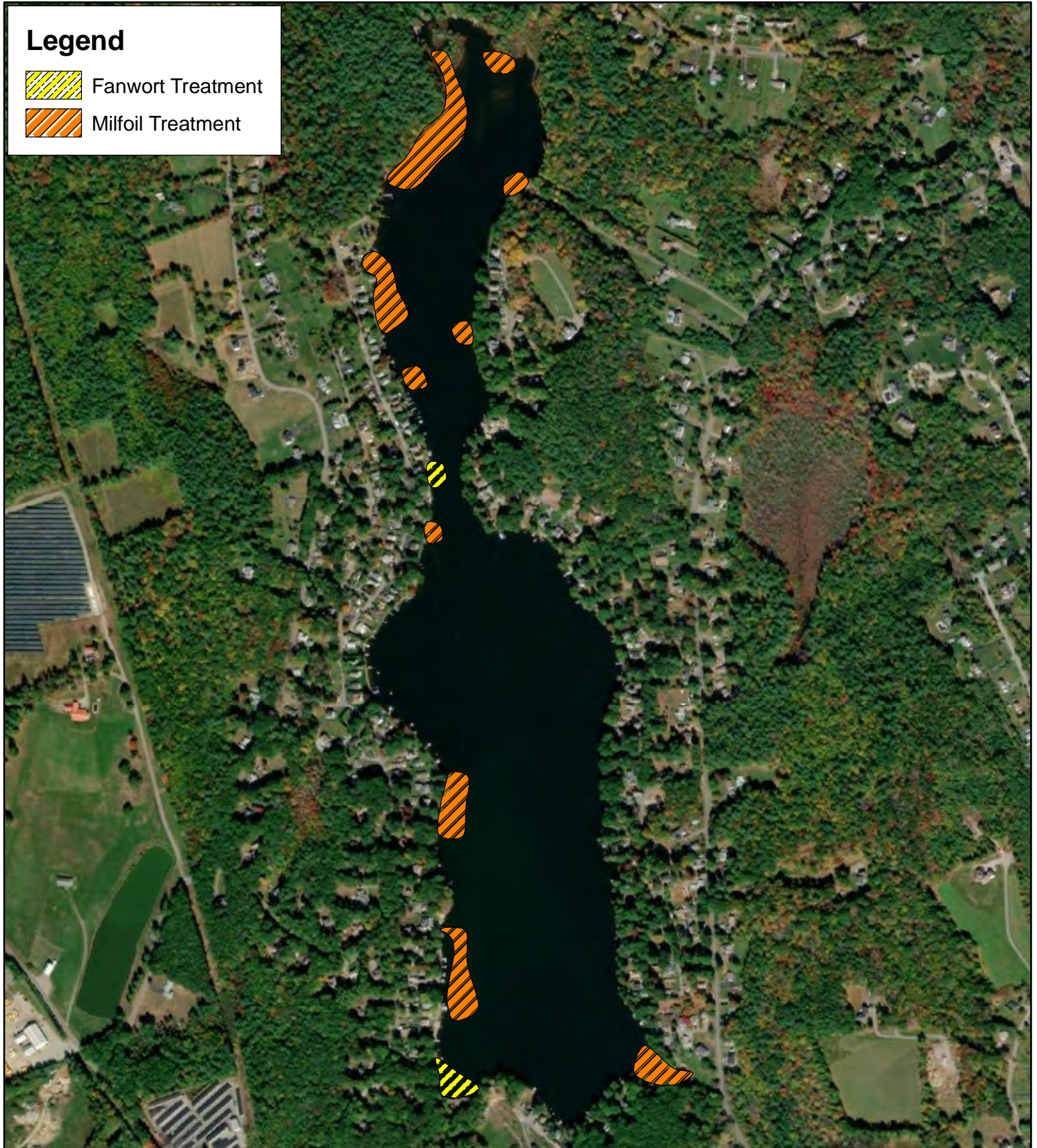
0 880 1,760  
  
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Survey Date: 06/24/21  
Prepared by: SC  
Office: SHREWSBURY, MA



Figure 2: Treatment Areas



**Glen Echo Lake**  
Charlton, MA



**Glen Echo Lake**

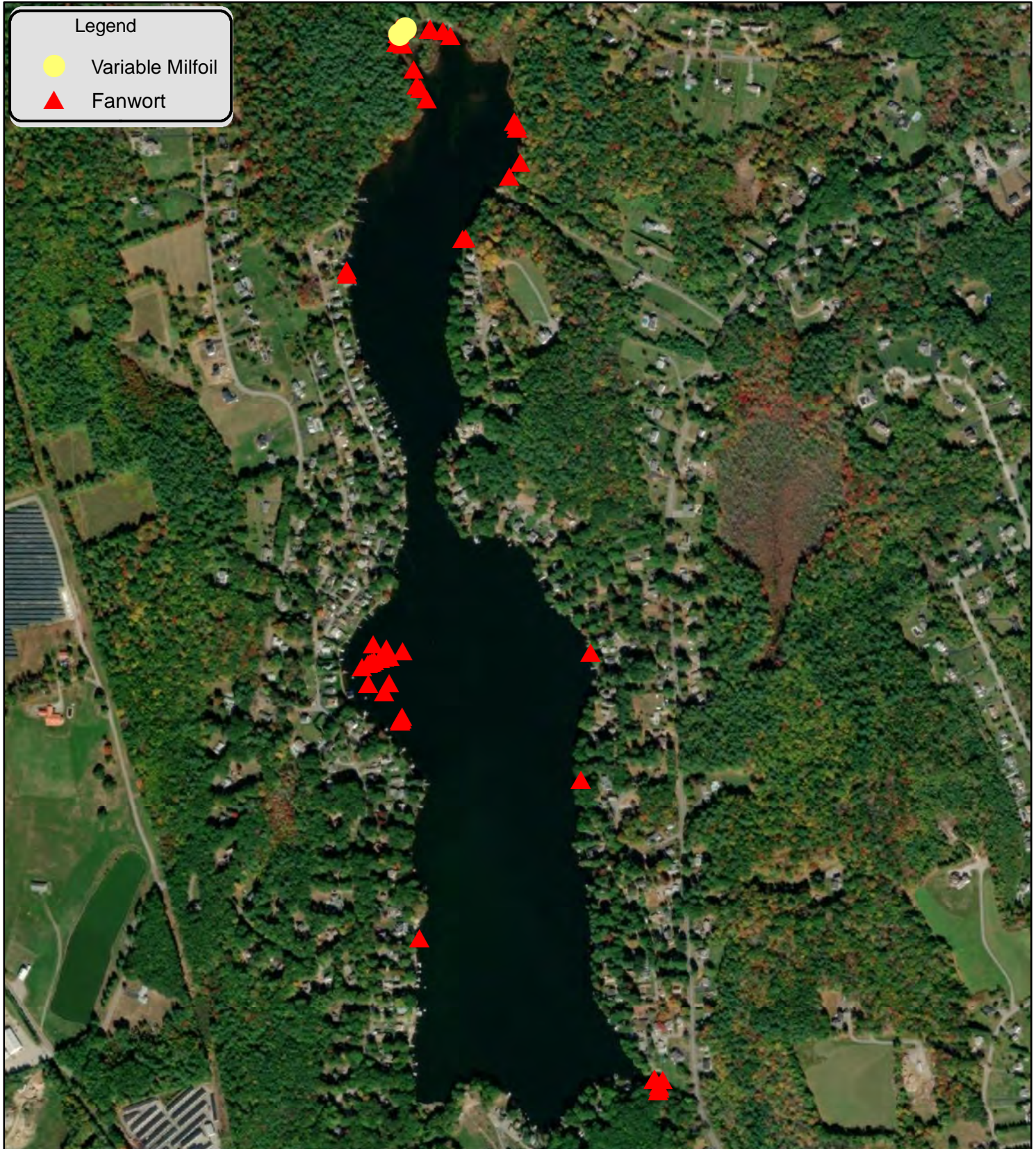
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Map Prepared on: 12/10/2021  
Prepared by: KV  
Office: SHREWSBURY, MA



Figure 3: Post-Management Invasive Plant Distribution



Glen Echo Lake  
Charlton, MA



Glen Echo Lake

0 770 1,540  
1:9,235 Feet



Survey Date: 9/7/21  
Prepared by: DM  
Office: SHREWSBURY, MA