

Ashmere Lake
Hinsdale/Peru, Massachusetts
2020 Year-End Report

Report Prepared for:

Town of Hinsdale Lake Management Committee
& Hinsdale Conservation Commission
& Peru Conservation Commission

Report Prepared By:

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In accordance with the existing aquatic plant management contract between SOLitude Lake Management and the Town of Hinsdale for Ashmere Lake in Hinsdale and Peru, the following document provides the 2020 survey and treatment results, and management recommendations moving forward.

All management activities were consistent with the Order of Conditions (DEP# 181-77 Hinsdale; 260-014: Peru), and the License to Apply Chemicals issued by the MA DEP – Office of Watershed Management (WM04-0000074).

2020 Management Program Summary:

Received approved License to Apply Chemicals	04/02/2020
Early Season Survey	06/12/20
Herbicide Treatment.....	06/16/20
Interim Survey	07/14/20
Late-Season Survey.....	08/12/20

PRE-MANAGEMENT SURVEY

On June 12th, a SOLitude Lake Management Biologist conducted a pre-management survey at Ashmere Lake. As with previous years, the purpose of this survey was to document and analyze the distribution of target macrophyte species within the lake and to provide treatment recommendations, specifically regarding the extent of Eurasian watermilfoil (*Myriophyllum spicatum*), curly-leaf pondweed (*Potamogeton crispus*), and large-leaf pondweed (*Potamogeton amplifolius*) (**Figure 1**).

- Eurasian watermilfoil was observed in a single location in the southern basin: the northeastern cove/marina.
- Curly-leaf pondweed was documented in several locations in the north basin and only a single location in the southern basin. Curly-leaf pondweed was present in moderate to dense patches in the two eastern-most coves in the northern basin.
- Plant growth occurred out to approximately 15 feet.
- Common waterweed (*Elodea canadensis*) were observed consistently across vegetated areas of the lake.



- Consistent with previous years, low-growing pondweeds dominated the vegetation assemblage throughout the littoral zone areas, occurring at trace to moderate densities. Pondweed species included: Large-leaf pondweed (*Potamogeton amplifolius*), ribbon-leaf pondweed (*P. epihydrus*), clasping-leaf pondweed (*P. perfoliatus*), and Robbin's pondweed (*P. robbinsii*).
- Other native species observed: yellow waterlilies (*Nuphar variegata*), watershield (*Brasenia schreberi*), bladderwort (*Utricularia* sp.), and tapegrass (*Vallisneria* sp.)

HERBICIDE APPLICATION SUMMARY

An herbicide treatment for targeted nuisance and non-native growth was conducted on June 16th. Notification of treatment was sent to all direct lake abutters two weeks prior to the intended treatment date; a legal ad was placed in the Berkshire Eagle newspaper and both town Conservation Commissions as well as the lake management committee were notified.

Prior to treatment, the lake shoreline was posted with signs by the town, warning of the treatment and the subsequent, temporary water-use restrictions. For 24 hours following the treatment, the lake was closed for all activities. Per label instructions, irrigation was restricted for five days and domestic use was restricted for one week.

A total of 13 areas equaling approximately 40 acres corresponding to the areas of invasive and nuisance growth identified in the pre-treatment survey were treated with Tribune (diquat) and/or Aquathol-K (endothall) herbicides (**Figure 2**). Herbicide dosing depended on the type of target vegetation in each area. Treatment was performed using an Airboat equipped with a calibrated spray system, which applied a subsurface treatment to avoid aerial drift. GPS was used to provide and document real-time tracking of the treatment boat to ensure that the herbicide was evenly applied throughout the treatment areas.

No fish mortalities or significant non-target impacts to other aquatic organisms were observed or reported.

INTERIM SURVEY

An interim survey was completed on July 14th in order to assess the effectiveness of the treatment and assess the need for follow-up treatment. Based on observations made, the treatment was very effective within management areas and there was little to no nuisance growth present in the lake. As such, no follow-up treatment was recommended.

LATE-SEASON SURVEY

On August 12th, a Solitude Biologist performed a final, late-season survey to assess the overall management success and document the late-season aquatic vegetation assemblage. The littoral zone was systematically toured by boat, and macrophytes were identified to the species level where possible (**Figure 3**).

- Results of this survey revealed an overall reduction of target species. No curly-leaf pondweed was observed at this time. However, the nature of the survey combined with the curly-leaf life cycle may also factor into the reduced presence.
- Eurasian watermilfoil (*Myriophyllum spicatum*) was not observed during this survey.
- Brittle naiad (*Najas minor*) was not observed during this survey.
- Native vegetation was very similar to the early-season survey, with species such as large-leaf pondweed (*Potamogeton amplifolius*), and clasping-leaf pondweed



(*Potamogeton perfoliatus*), in trace patches. Additional species present included slender naiad (*Najas flexilis*), Robbin's Pondweed (*Potamogeton robbinsii*), bladderwort (*Utricularia spp.*), tapegrass (*Vallisneria americana*), yellow waterlily (*Nuphar variegata*), watershield (*Brasenia schreberi*), stonewort (*Nitella spp.*), and muskgrass (*Chara spp.*).

- At the time of the survey, tapegrass, yellow waterlily, and Robbins pondweed were the most common species present throughout the lake.

MANAGEMENT RECOMMENDATIONS

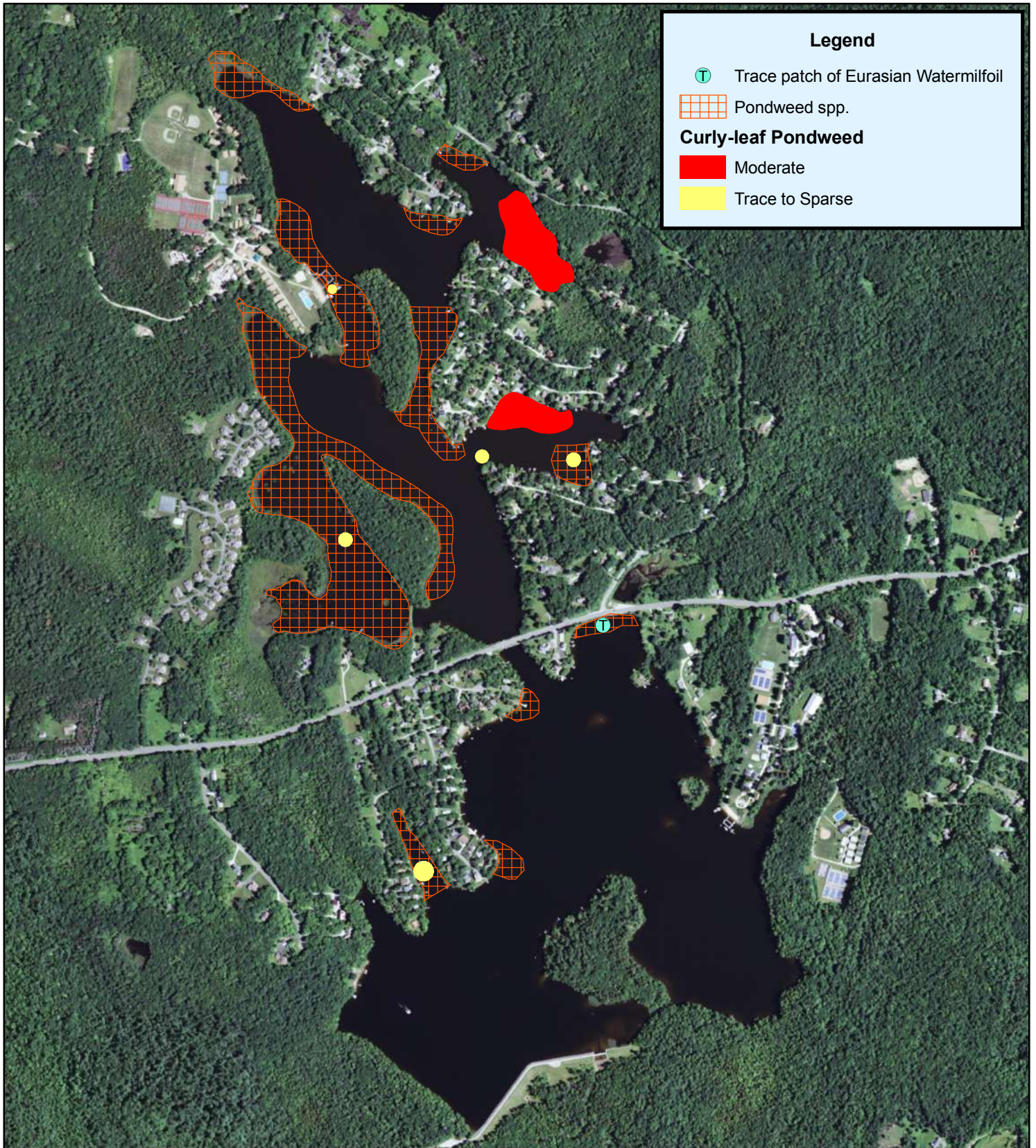
Based on the results of the interim and the late season survey, the target species, curly-leaf pondweed and Eurasian Watermilfoil were successfully controlled, and nuisance areas of pondweed were desirably reduced. Moving forward, we recommend commencing the herbicide treatment early in the growing season to reduce the overall amount of biomass to eventually decompose to the bottom of the lake.

While the initial treatment serves to address invasive species as well as some later emerging nuisance native species, we continue to recommend an interim survey and possible later season follow-up treatment to be conducted as needed based on conditions. As discussed with the Committee, the later season treatment if needed could be scheduled in a manner that would minimize disruption to the camps around the lake.

No treatment of the phragmites was conducted this year, but we will plan to survey its growth in more detail this coming year and recommend spot-treatment as needed later in the summer.

Pre- and post-management surveys should be maintained to document the distribution of nuisance and non-native aquatic species in addition to native macrophyte assemblage.

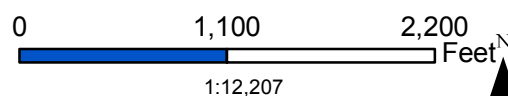
Figure 1: Pre-Treatment Density & Distribution of Submersed Aquatic Vegetation



Ashmere Reservoir
Peru/Hinsdale, MA

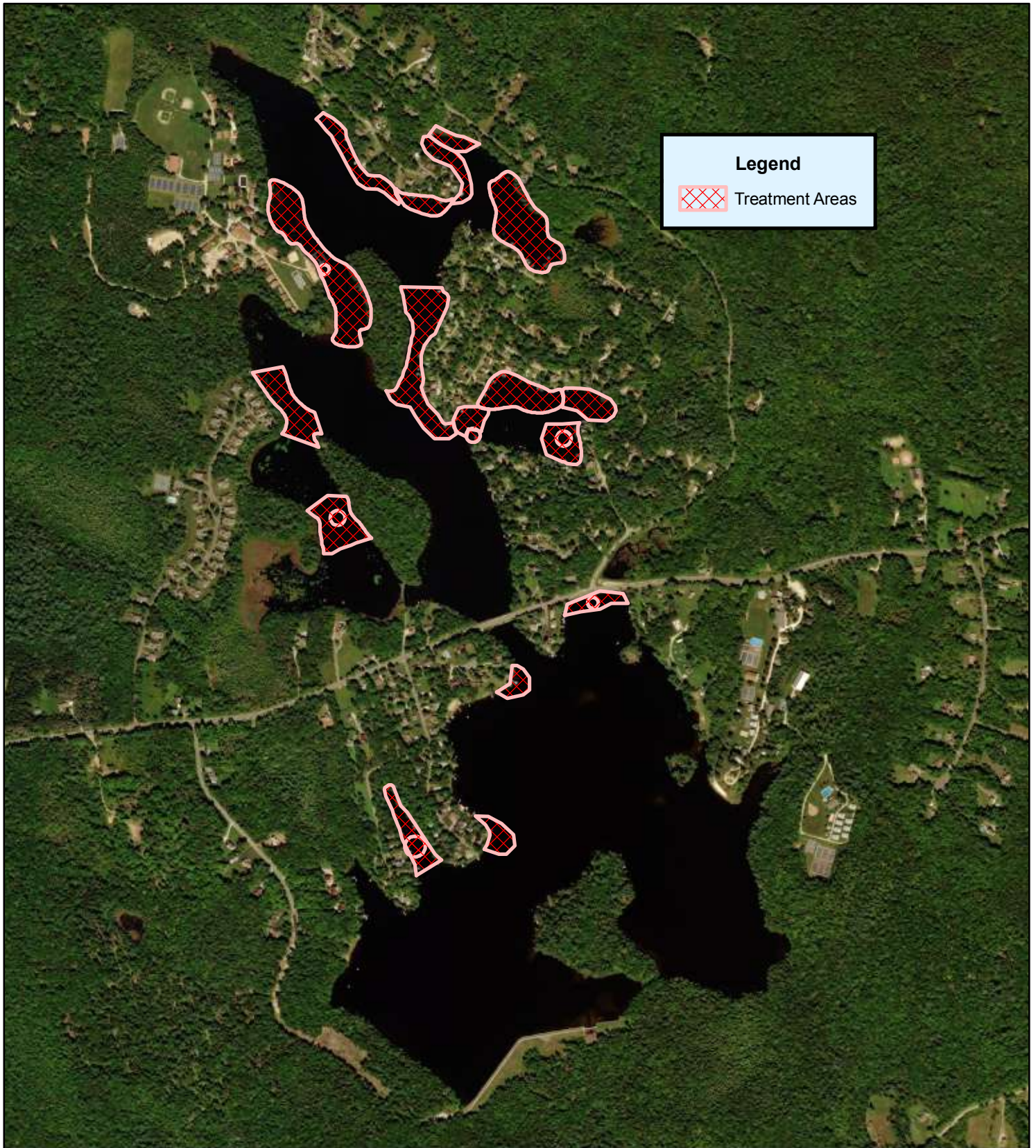


Ashmere Reservoir



Map Date: 06/12/2020
Prepared by: alm
Office: SHREWSBURY, MA

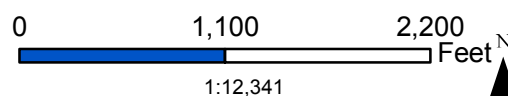
Figure 2: 2020 July Treatment Areas



Ashmere Reservoir
Peru/Hinsdale, MA

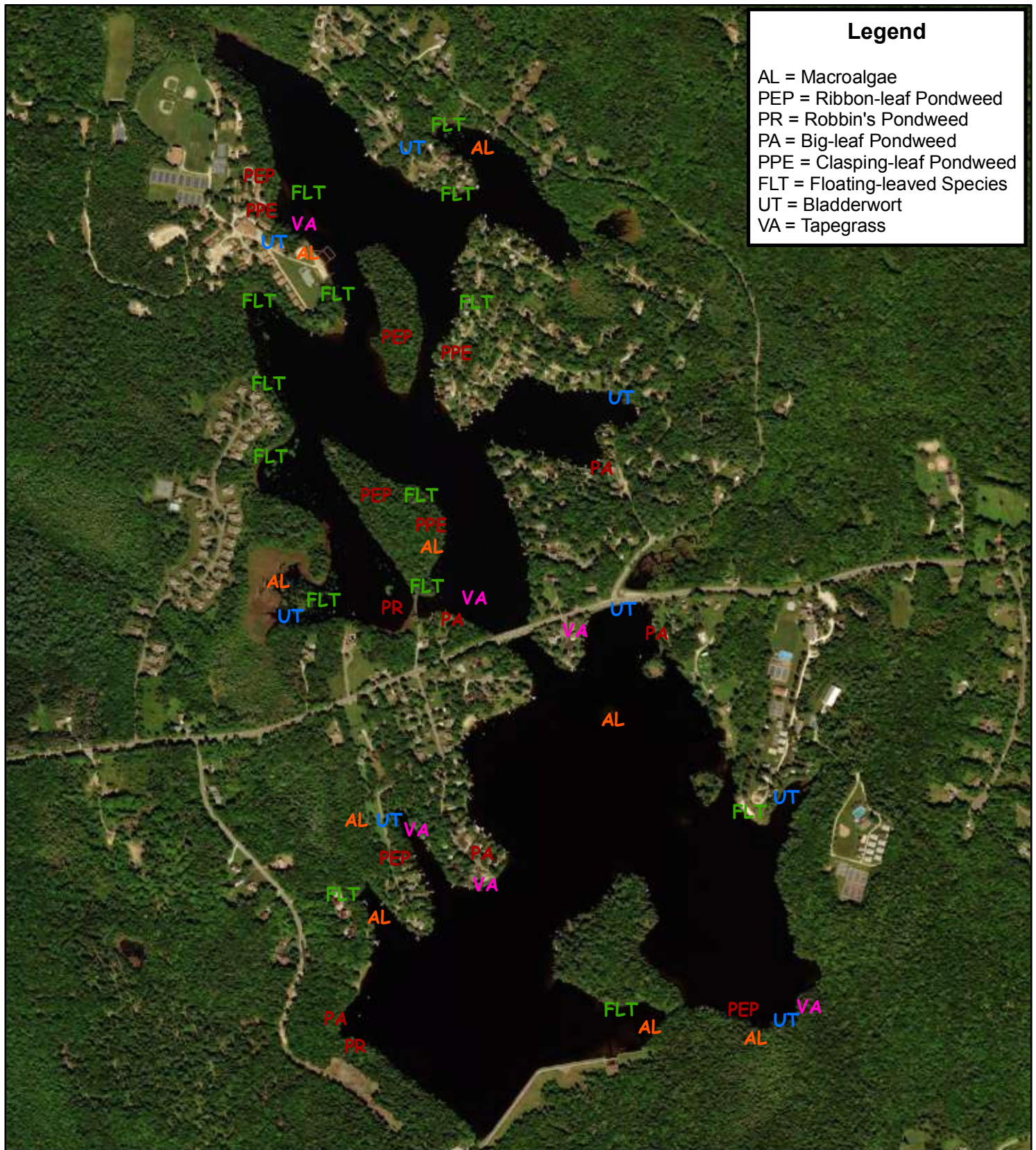


Ashmere Reservoir



Map Date: 11/24/2020
Prepared by: DM
Office: SHREWSBURY, MA

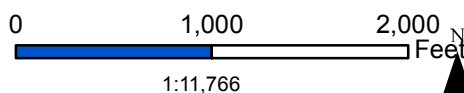
Figure 3: Post-Management Distribution of Submersed Aquatic Vegetation



Plunkett Reservoir
Hinsdale, MA



Plunkett Reservoir



Map Date: 11/17/2020
Prepared by: ALM
Office: SHREWSBURY, MA