

## 2020 Aquatic Vegetation Management Program

### Plunkett Reservoir

Hinsdale, MA

Prepared on: November 24, 2020  
Prepared for: Town of Hinsdale  
& Hinsdale Conservation Commission  
Lake Management Committee, 39 South Street  
Hinsdale, MA 01235  
[Hinsdaleconservation@gmail.com](mailto:Hinsdaleconservation@gmail.com)

---

In accordance with the existing aquatic plant management contract between SOLitude Lake Management and the Town of Hinsdale for Plunkett Reservoir in Hinsdale, the following document provides the 2020 survey and treatment results, and management recommendations for next season.

All management activities were consistent with the Order of Conditions (DEP# 181-86), and the License to Apply Chemicals issued by the MA DEP – Office of Watershed Management (WM04-0000075).

#### 2020 Management Program Summary:

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

#### PRE-MANAGEMENT SURVEY

On June 12th, a SOLitude Lake Management (SOLitude) Biologist conducted a pre-management survey at Plunkett Reservoir. The purpose of this survey was to document and analyze the distribution of aquatic vegetation species within the waterbody, specifically Eurasian watermilfoil (*Myriophyllum spicatum*) and curly-leaf pondweed (*Potamogeton crispus*), to determine the efficacy of previous management and provide treatment recommendations for the proceeding season.

Any non-native species were found in distinct patches within the reservoir. Eurasian watermilfoil was observed in a small, sparse patch near the inlet, and curly-leaf pondweed was observed in a large path just southwest of the island and southeast of the launch. Curly-leaf pondweed is typically found in deeper water than Eurasian watermilfoil (**Figure 1**).

#### 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 run in the Berkshire Eagle newspaper and the



town Conservation Commission and 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 three days.

A total of 2 areas equaling approximately 5 acres were treated with Tribune (diquat) herbicide. Herbicide usage depended on the presence of target vegetation. 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 lake (**Figure 2**).

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

### LATE-SEASON SURVEY

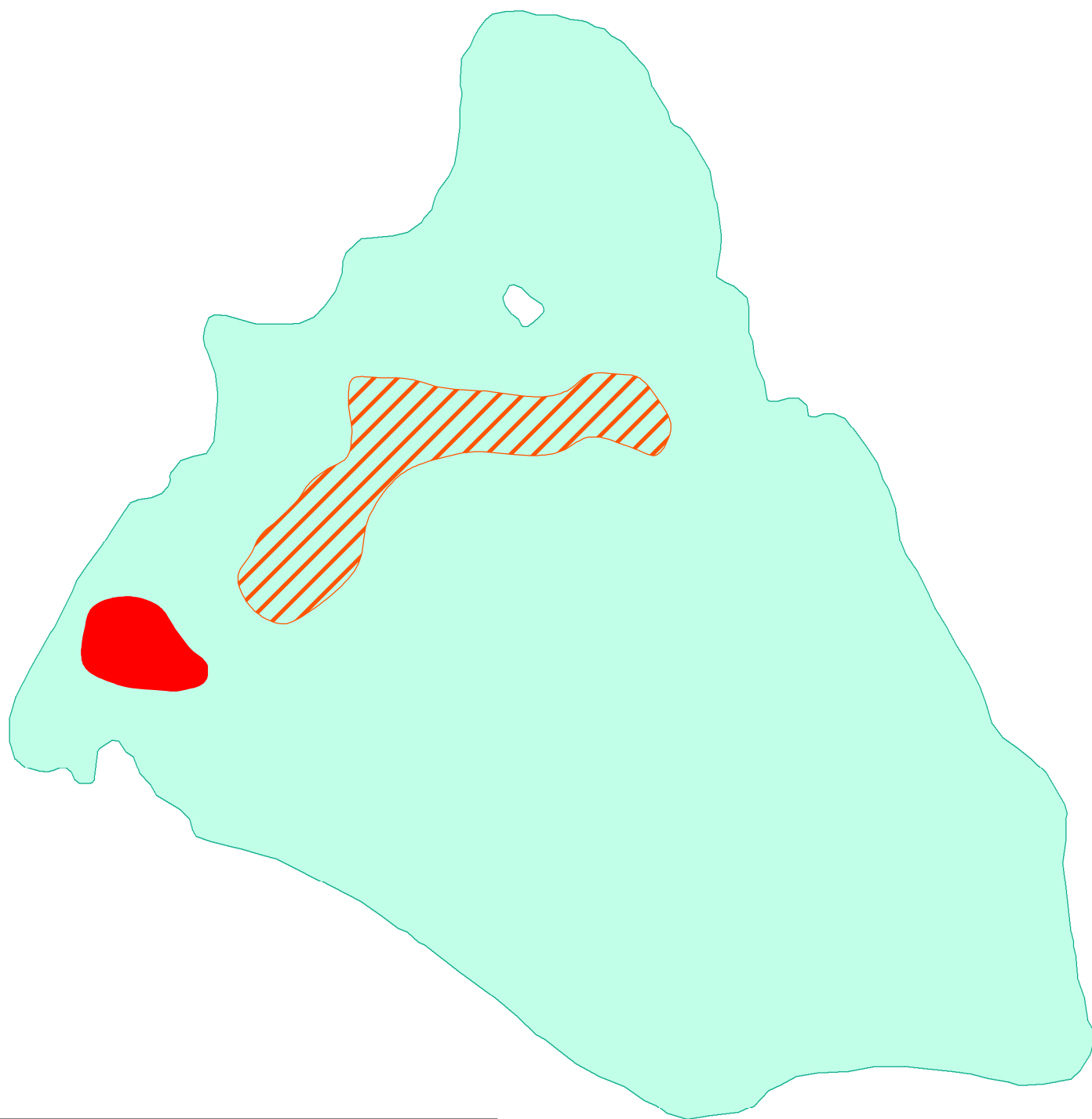
On August 12th, a SŌlitude Biologist performed a final, late-season survey to assess the overall management success and document the late-season aquatic vegetation assemblage. Low-growth Eurasian watermilfoil was observed near the inlet to the reservoir, likely late-season growth after the early-season treatment. An abundance of brittle naiad was growing throughout the shoreline, as seen in **Figure 3**. While brittle naiad has been documented in the reservoir in previous surveys at low densities, the abundance has continued to increase each year. This plant reproduces by both fragmentation and seed.

A greater abundance of native growth was observed within the reservoir when compared to previous fall surveys. Native vegetation included leafy pondweed (*Potamogeton foliosus*), muskgrass (*Chara* sp.), common bladderwort (*Utricularia vulgaris*), blunt-leaved pondweed (*Potamogeton obtusifolius*), Robbin's pondweed (*Potamogeton robbinsii*), thin-leaf pondweed (*Potamogeton pusillus*), large-leaf pondweed (*Potamogeton amplifolius*), waterweed (*Elodea* spp.), tapegrass (*Vallisneria americana*), and slender naiad (*Najas flexilis*) (see **Figure 4**). Large, nuisance patches of muskgrass were observed in the shallow, northern cove along Michaels Road and Plunkett Reservoir Road.

### MANAGEMENT RECOMMENDATIONS

Based on the results of the late-season survey, the treatment was largely successful at keeping the density of the target species down. Pre-management surveys should continue to be conducted in the spring for the documentation and the distribution of nuisance and non-native aquatic species, in order to best determine the timing for treatment and finalize treatment plans. SŌlitude recommends continuing with a similar management plan for Plunkett Reservoir in 2021, this method has proven to be effective in controlling the target species growth consistently. In addition, we recommend budgeting for a mid-season treatment to target the Brittle Naiad. This species grows in mid-late June-July and can grow in tall, dense patches, impeding recreational activities. We look forward to working with you again in the 2021 season.

Figure 1: Pre-Management Distribution of Invasive Aquatic Vegetation



**Legend**



Moderate patch of Eurasian Watermilfoil

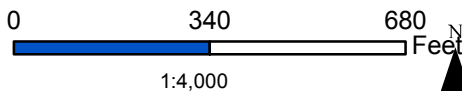


Moderate growth of Curly-leaf Pondweed

**Plunkett Reservoir**  
Hinsdale, MA

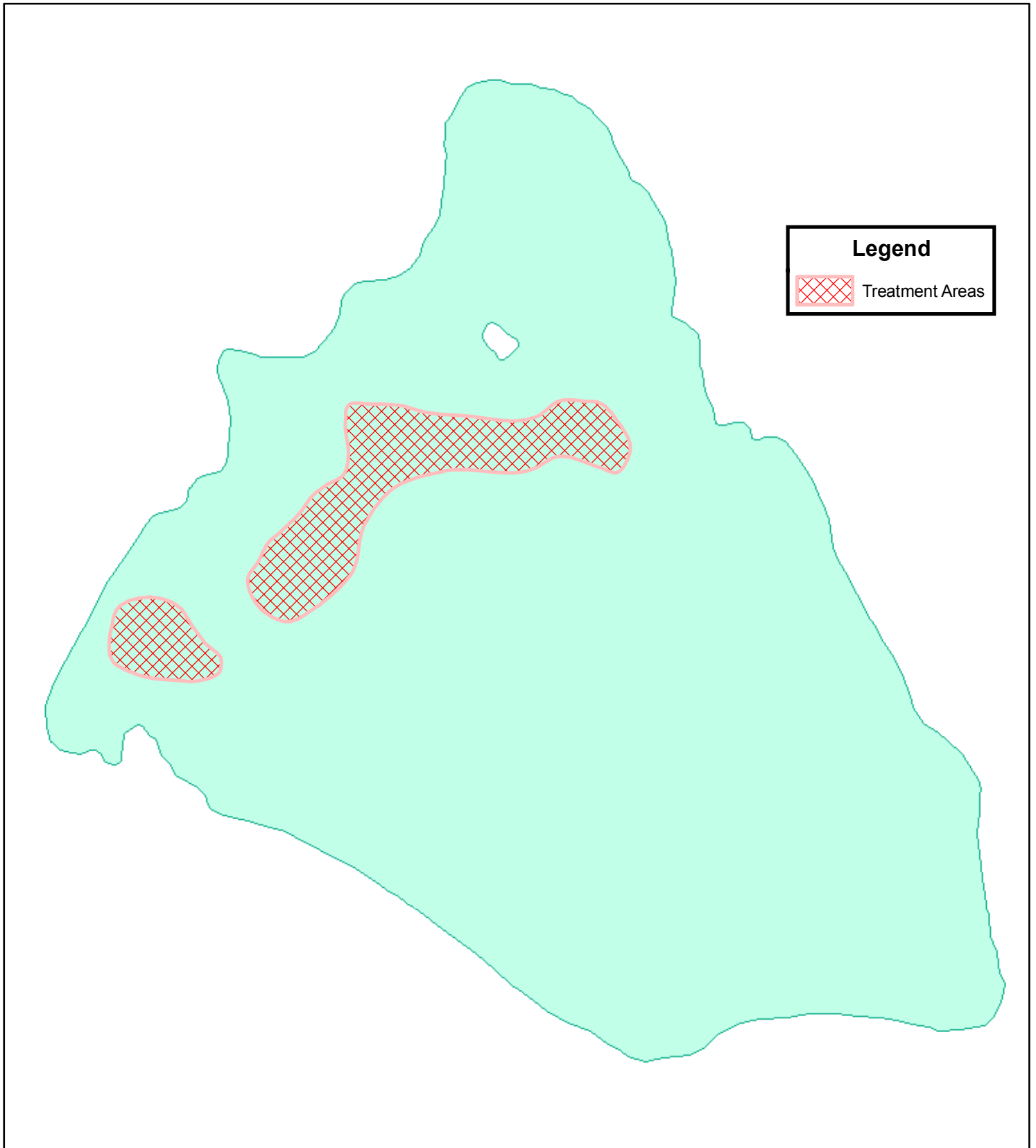


**Plunkett Reservoir**



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

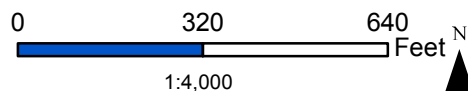
Figure 2 - 2020 Treatment Areas



**Plunkett Reservoir**  
Hinsdale, MA

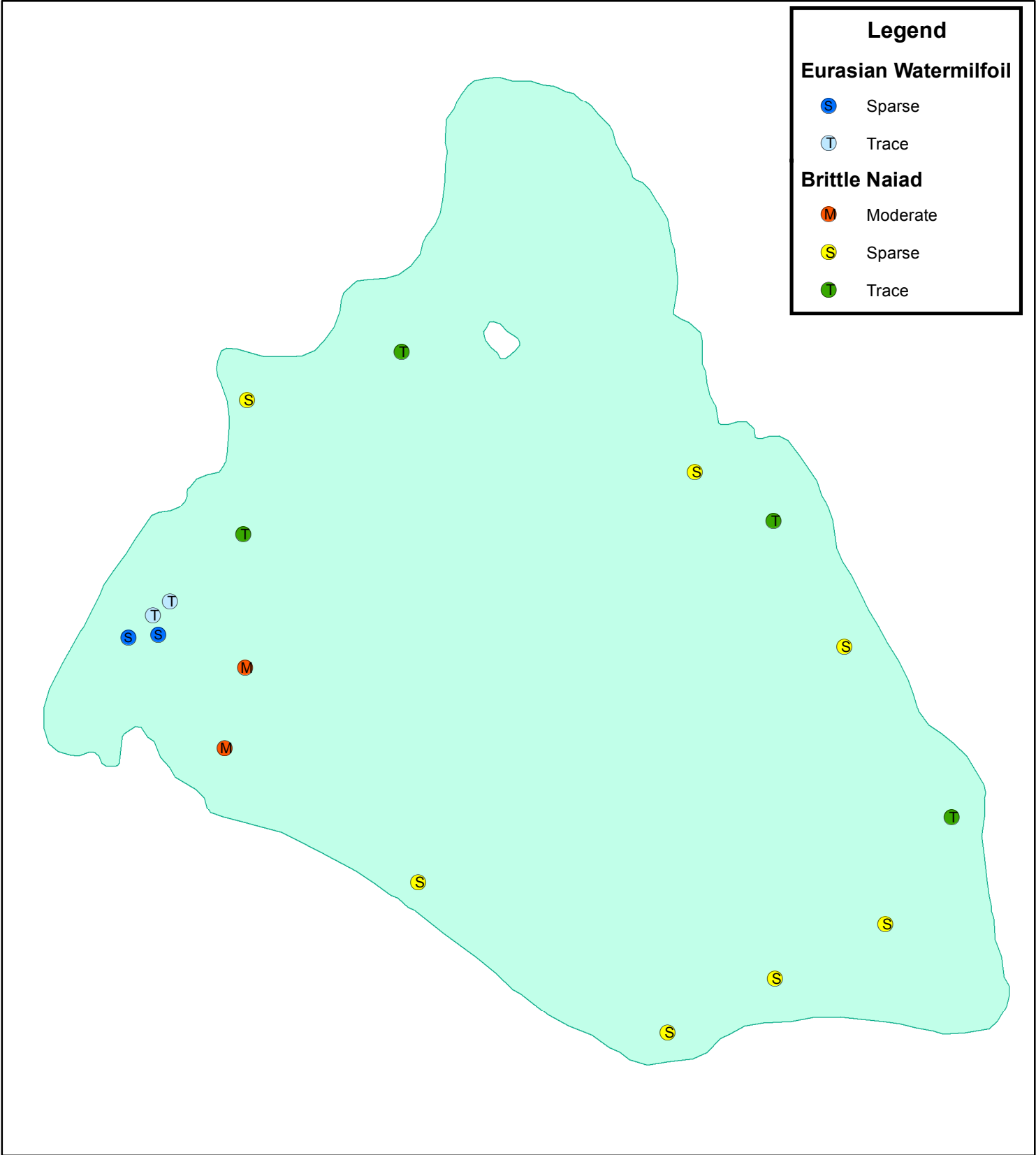


**Plunkett Reservoir**



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

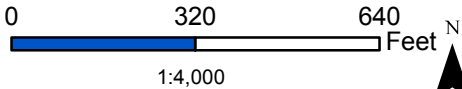
Figure 3: Post-Management Density & Distribution of Invasive Aquatic Vegetation



**Plunkett Reservoir**  
Hinsdale, MA

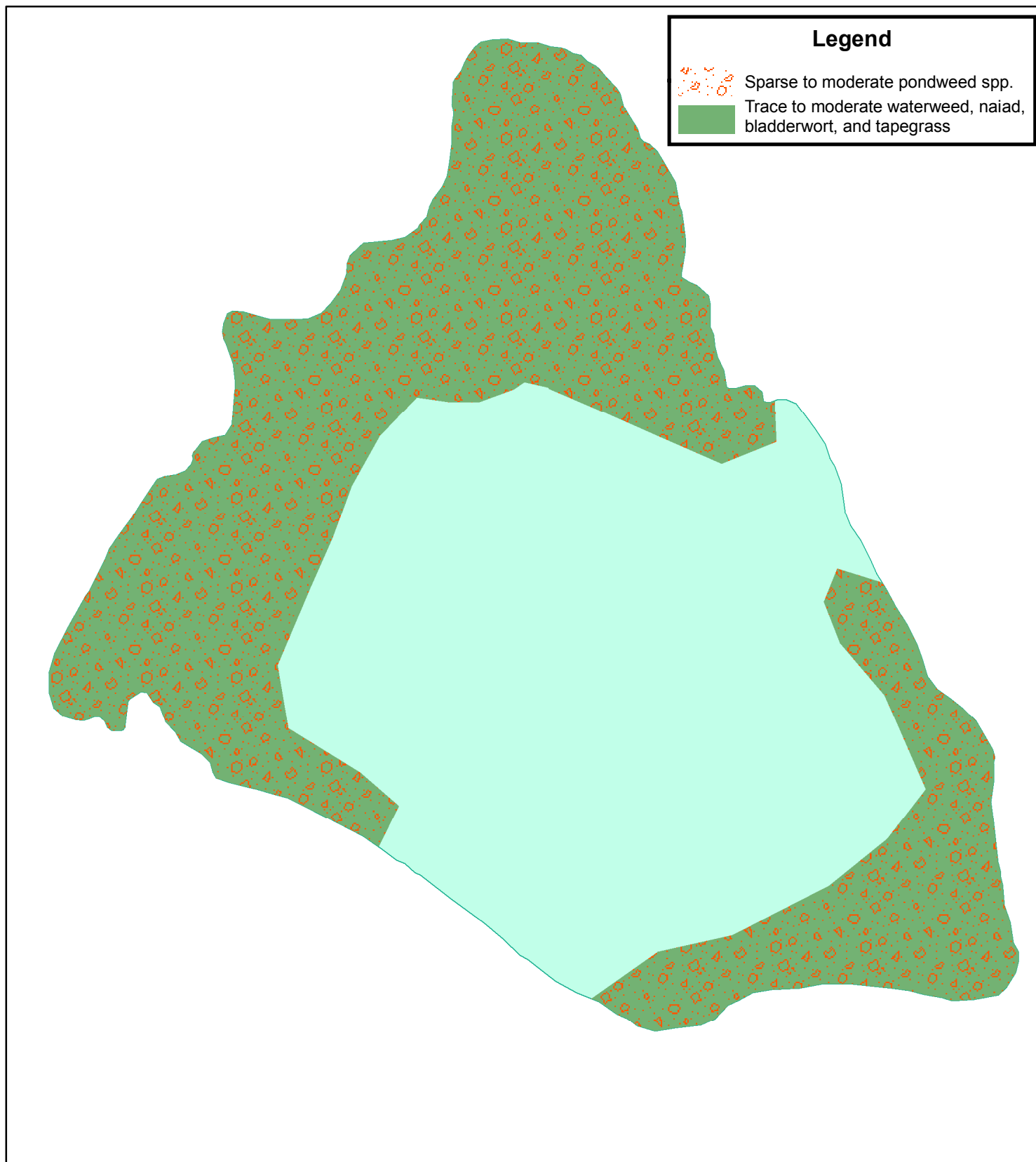


**Plunkett Reservoir**



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

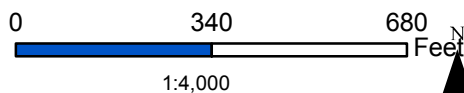
Figure 4: Post-Management Distribution  
of Native Submersed Aquatic Vegetation



**Plunkett Reservoir**  
Hinsdale, MA



**Plunkett Reservoir**



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